RAT-TAILED RADISH

Raphanus caudatus, L.
Radis serpent.

Native of South Asia.—Annual.—The edible part of this Radish is not the root, but the silique or seed-vessel, which is gathered before it is fully grown. This, instead of being short and thick, as in other Radishes, is often twisted, scarcely as thick as a lead-pencil, and often 8 to 10 in. long. It is frequently violet-coloured, and somewhat pungent, like that of the Small or Forcing Radishes.

CULTURE.—This plant is extremely easy to grow. The seed is sown in May, where the plants are to stand, in a warm position if possible, and in about three months the plants commence to flower and yield pods or seed-vessels.

USES.—The fresh pods are eaten raw, or they may be pickled in vinegar.

In warm countries another kind of Radish, named the Madras Radish, is sometimes grown for its pods, which are used like those of the Rat-tailed Radish. They are almost the same shape as the pods of the common kinds of Radish, but far more fleshy and tender.

RAMPION

Campanula Rapunculus, L. Campanulaceæ.


Native of Europe.—Biennial.—Root white, spindle-shaped, and nearly ½ in. in diameter for 2 in. or more of its length; flesh white, very firm, but crisp; leaves sessile, rather numerous, long oval-spathulate, narrowed at the base, something like those of the Common Corn-salad, but more slender and a lighter green; flower-stems slender, hard, somewhat angular, sometimes branching, and bearing a few linear leaves; flowers lilac, bell-shaped, with five sharp-pointed divisions, and borne in long spikes; seed-vessels small, top-shaped, surmounted by the five teeth of the calyx; seeds oblong, flattened, light brown, and exceedingly small. They are the smallest of all kitchen-garden seeds. Their germinating power lasts for five years.
CULTURE.—The seed is sown in the open ground early in May, either broadcast or in drills from 8 to 10 in. apart. As it is extremely small, it is a good plan to mix it with a little fine soil or sand, in order to avoid sowing too thick. The first waterings should be given carefully, so as not to wash away the seed, which should not be deeply buried, but merely pressed firmly into the soil. If the seedlings come up too thick, they should be thinned out, and they should be frequently watered in hot weather. As plants sown early in the season are apt to run to seed, it is advisable to make a fresh sowing in June, using the same precautions. The roots may commence to be gathered for use in October or November, and they will continue to yield a supply through the winter; and in order that this may not be interrupted by severe frosty weather, a sufficient quantity of the roots should be taken up beforehand and stored in sand in a cellar or vegetable-house.

USES.—The roots and leaves are eaten raw as salad.

RHUBARB
Rheum, L. Polygonaceae.

The cultivated varieties of Rhubarb are generally referred by botanists to Rheum hybridum, Ait., a native of Mongolia. These varieties, however, are far from exhibiting any constant characteristics, and it is not impossible that some of them may have sprung, either directly or as the result of crossing, from the Rheum undulatum of North America, or even from other species.

The plant, as it is grown in gardens, is remarkable for its very large heart-shaped radical leaves, which measure over 2½ ft. in length and 2 ft. or more in breadth, and are borne on stalks which are rounded underneath and flat or channelled on the upper surface, about 2 in. in diameter, and from 1 ft. to 16 in. in length—dimensions which
Rhubarb

by special culture may be increased to nearly double the size. The flowering stems are large, cylindrical, hollow, and furrowed, and bear small, short, erect branches, covered with small greenish flowers, which are succeeded by triangular seeds with a membranous wing on each of the angles. The germinating power of the seeds lasts for three years.

CULTURE.—Rhubarb may be propagated from seed; but as, in this case, the plants are liable to exhibit much diversity in their habit of growth, the more common practice is to divide the root-stock of the plants which produce the thickest and longest stalks. The roots so divided are planted at the end of winter in good, moist, deep, very mellow, and well-manured soil, and about a yard apart in every direction. The stalks are not pulled for use until the spring of the year following that in which the roots were planted, and the same plants will continue to yield for four years at least, and sometimes for ten years or longer without the plantation requiring to be renewed. The only attention necessary is to keep the ground free from weeds, and to apply a good dressing of manure every two or three years. In order to increase the length of the stalks, a large bottomless flower-pot, a chimney-pot, or a small barrel with the ends knocked out, is sometimes placed over each plant in spring when the leaves are starting into growth. Striving to reach the light, the leaves naturally grow longer and the stalks at the same time become longer and more tender. The flowering-stems, which would otherwise exhaust the plants, should be cut off as they make their appearance. To force Rhubarb, the roots should be taken up with a ball and planted in a hot-house or a hot-bed.

The cultivation of this plant, as yet unpractised on the Continent, as far as we know, is of much importance in Great Britain and North America. Rhubarb will grow in many kinds of soil; but the richer and deeper it is, the finer will be the quality and size. The situation should also be moderately dry, or made so by drainage. It will grow in clay, peat, or the bog-earth of the Fens. We have seen it succeed remarkably well in mud cleaned out from a river. When the leaves get fairly into growth, they need plenty of food to keep them growing. The larger the leaves of one season the stronger will be the crown for

Stalks (1/2 natural size).
the next; hence the importance of rich feeding all through the growing season. It is a good plan, in small gardens, to plant Rhubarb near the depot for house sewage, so that it may be nourished with this as well as solid manure; 4 ft., at least, of a rich root-run should be provided for it. For new plantations the ground should be thoroughly trenched and manured. Its productive force should be kept up afterwards by an annual dressing, from 2 to 3 in. in thickness.

No plant is more easily increased and multiplied than Rhubarb; plants two or more years old seed freely if permitted to do so. Unless seed be required, however, they should not be allowed to do so, as seed-bearing weakens the crowns. The seeds ripen about the end of September, and may be sown at once in shallow drills a yard apart, or they may be sown in February. As soon as they are well up, thin the plants to 18 in. or 2 ft. asunder, according to the size of the kind and the intention of the cultivator. If intended to remain where they are, a yard apart is close enough—indeed, too close for some varieties. Some, however, prefer rows 2 ft. apart, and thinning the plants to 1 ft. only the first season; then in the October or February following fresh ground is prepared, and the Victoria transplanted at distances of from 4 to 6 ft. by 4 ft., and the Defiance 3 ft. by 18 in. or 2 ft. The best plan is to sow Rhubarb where it is to remain, as it forms immense roots that are easily broken,—and to break it is to injure it more or less. Nevertheless, a very common mode of propagating Rhubarb is by root division. The huge stool or fleshy root is sliced into as many portions as there are crowns to it with a sharp knife or spade, and each slice forms a new plant.

Gathering Rhubarb, and when to cease gathering, are matters which require more attention than they generally receive. In gathering, the proper method is to give the leaf-stalk a twist outward, and a sudden jerk down at the same moment. From want of attention to this, many tear off the crown with the base of the leaf-stalk. Again, too many leaves should not be gathered at once. If a plant have only a dozen leaves, do not gather more than six of them, and let these be the lowest. Some prefer Rhubarb when the leaves are freshly unrolled, others when they are half-grown, and others when they are fully grown. Of course there is great waste if the stalks be gathered before they have reached their full length. Rhubarb is at its best just when the leaf has reached full size. It can hardly be too old for preserving, and is seldom gathered till the end of August for that purpose. As to the time of ceasing to gather Rhubarb, it should certainly be not later than August if the gathering is to be annual: this leaves but little time for the last leaves to ripen good crowns for the next year's crop. All the leaves removed have doubtless been a loss to the plant: they did much to weaken and nothing to strengthen it; it is only the leaves left on that recoup it for its loss in those taken off. Hence the importance of rich food to replenish the plant, and time for the maturation of the later growth; and it need hardly be said that no weed must be permitted to grow at the expense of the Rhubarb-plants.

There are various ways of forcing this useful plant, which may briefly be divided into two distinct methods, No. 1 consisting of lifting the roots and placing them in arti-
RHUBARB

ficially heated structures; or No. 2, by covering the crowns where they are grown with pots or boxes, and applying fermenting material, composed of stable litter, leaves, etc., or, in fact, anything that will generate warmth enough to excite growth. There is much to be said in favour of both systems, for they are both good under certain conditions, and gardeners in private gardens, as a rule, find lifting the roots and placing them in heat the best plan for the earliest crops during December and January; for where heated glass structures are in use, a supply of Rhubarb may be procured without any additional outlay, or even occupying any space useful for any other purpose, as under stages, or in the boiler-shed, or, in fact, any position near the hot pipes. The roots may be placed on the floor, or in pots or boxes, and covered with soil, keeping it moist, and the crowns may be covered with hay, fern fronds, or litter, to blanch it. The only objection to this plan is that it weakens the crowns more than by forcing them in the ground, as the roots get very much mutilated in removal, so that if the quantity of Rhubarb roots is limited, it is preferable to adopt the plan of forcing the roots where they are grown. Procure the requisite number of pots with movable covers, and place them over the crowns; then cover them over with fresh stable litter, or a coating of leaves and litter mixed together. The leaves of deciduous trees are most useful for many purposes, as they can be used for forwarding crops of Rhubarb and then placed in pits or frames for supplying bottom heat for Cucumbers and other early crops. To have Rhubarb fit for use at Christmas, cover the crowns in the middle of November, and as soon as the first batch gets fairly started into growth, cover a few more pots in succession, until it comes on naturally in March, when any large tubs or boxes turned over the crowns to shelter from cold winds will forward the growth at least a fortnight before the crowns left uncovered. Rhubarb, unlike many other crops, is better when forced than from the open air, being more tender and succulent.

Market-Garden Culture. — Rhubarb forcing in market-gardens is very simple, and is done in hot-beds covered with hoops and mats. In making young plantations, the sets are sometimes planted about 18 in. apart each way: and, at forcing time, every other row, and the alternate plants in the row left, are lifted for forcing; old plantations, too, are cleared entirely for forcing. The leaves will be decayed enough to be raked off by the middle of October, by which time the first portion is usually lifted for forcing. For this purpose trenches are cast out, about 4 ft. wide and 2 ft. deep, and filled with fermenting manure. Over this a thin layer of common soil is placed, and in it the crowns, after being trimmed of some of their rougher roots, are planted. Over the crowns some loose litter is strewn, and then the beds are hooped over and covered with mats, over which another layer of straw or litter is placed during winter. In the outside covering, apertures are made at gathering time, and closed again when done. In February, if the weather be mild, the hoops and mats are commonly dispensed with. In some gardens excellent Rhubarb is produced in pits, with some heating material underneath, and some loose straw merely shaken loosely over the
roots. Some force Rhubarb in fruit-houses; the roots are packed closely together on the floors, a little leaf-mould or other soil is cast over them, and they are afterwards covered with mats, which remain on them until the stalks are fit to gather. Rhubarb forced in this way is not so good in colour as that produced in darker places, and which we see in the markets early in the season; but it is greatly superior to it in flavour.

Whole fields in Surrey are devoted to Rhubarb culture, but the bulk of it from London market-gardens is grown under fruit-trees—positions in which it grows well. In spring, when the produce is most wanted, the trees are leafless, and therefore they do not shade it much, but afford slight protection, and the produce comes naturally fit for use about a week sooner than from the open field. In making permanent plantations, divisions of the old stools are used, and they are planted in rows 2½ or 3 ft. apart, and from 2 to 2½ ft. asunder in the rows. No leaves are cut away from them the first year, but the space between the lines is planted with Lettuces or Coleworts. During the second season many stalks are not cut, but in the third year a fair crop is gathered. As soon as time can be spared in winter, and before the leaves begin to grow, the ground between the rows is dug over roughly, and a large forkful of rank litter placed over each crown. Under the litter the stalks come up clean, tender, and crisp—very much more so than if none were used.

USES.—The fleshy stalks are used for making tarts, pies, and preserves, especially in England and America.

The following are the principal varieties which are considered to be derived from *Rheum hybridum*:

**Early Red Tobolsk Rhubarb.**—A very early spring variety, and the best for forcing. Leaves rather small, heart-shaped, with short, blunt point, broadly waved at the edges, very glossy, and clear green. Stalks short in length, about two-thirds of the blade, smooth, and all red. Flowers abundantly, the flower-stalks green, thin, with erect branches.

**Hybrid Florentin.**—A cross between *Rheum officinale* and *Rheum Cultinianum*, remarkable for the great size of its leaves, often 3 ft. in length, as also its floral stalks, usually from 6 to 9 ft. high, and covered during summer with innumerable dark red flowers. Recommendable for its hardiness and the thickness of its leaf-stalks, which are round and without grooves, tinged red at the base, and blotched red for the rest. Not only a valuable vegetable, but also a highly ornamental plant.

**Hawke's Champagne.**—This has now become the favourite sort in the London market-gardens. Comes early into use. Stalks of a deep crimson colour, large, and of fine quality; leaves deep green, slightly pubescent, the younger ones having an almost heavy appearance.

**Mitchell's Royal Albert (Early Red).**—A very early variety, with thick long stalks of excellent flavour, equal in length (when
not drawn) to three-fourths of the length of the blade of the leaf, plentifully spotted with red over their entire surface, and more angular than channelled. Leaves heart-shaped, broad, with blister-like swellings on the upper surface, but not much crumpled; blade of the leaf light green and smooth. This variety flowers abundantly, and has a very thick, smooth, and very branching flower-stem, of a uniform green colour.

Myatt's Linnaeus.—A second-early sort, resembling Royal Albert, but a much larger and stronger grower. Stalks deep green, rounded, good in quality.

Myatt's Victoria.—A later kind than Royal Albert. Stalks red, very thick, considerably longer than the blade of the leaf, channelled underneath, and of good quality; leaves broader than long, heart-shaped or rounded, pointless, very wavy at the edges, very much crumpled, and a rather dark and glaucous green. This variety flowers very scantily.

Stott's Monarch.—A giant variety, greatly recommended by some for its fine quality, and excellent for preserving. Leaves heart-shaped, over 3 ft. long, and nearly the same in breadth, with a dark green, even-surfaced blade; stalks exceedingly thick, scarcely half the length of the blade, but 3 or 4 in. broad, and of a somewhat bronzy green colour. Flowers very seldom.*

The Rheum undulatum of North America is sometimes cultivated as a vegetable. This is a distinct and early species, and not so acid as other kinds. The leaves are light green colour, very wavy at the edges, rather long, heart shape, but almost blunt; stalks slender, about as long as the blade of the leaf, smooth, and green, except at the base, which is tinged with red; flower-stems very numerous, a uniform pale green, and with erect branches.

The other cultivated kinds of Rhubarb are grown for ornament or for medicinal purposes, but are not suited for the kitchen-garden. A description of them will be found in "Les Fleurs de Pleine Terre." The finest of them are Rheum officinale, H. Bn.; Rheum Emodi, Wall.; and Rheum palmatum, L., with its variety, Rheum p. Tanghuticum.

ROCKET-SALAD

Eruca sativa, Lank.; Brassica Eruca, L. Cruciferae.


Native of South Europe.—Annual.—A low-growing plant, with the radical leaves thick, oblong, and divided like the leaves of Radishes or Turnips into several segments, of which the terminal one is oval and much larger than the others. Stem erect, smooth,*

* Daw's Champion, see p. 773.
and branching; flowers rather large, white, or yellow, veined with violet; seed-vessels cylindrical, with three not very prominent ribs on each side; seeds brown, smooth, and somewhat flattened. Their germinating power lasts for four years.

**CULTURE.**—The seed is sown in the open ground from April to the end of summer, and in about six weeks or two months the leaves may commence to be cut. In spring or autumn fresh leaves are abundantly produced after cutting. In summer the plants run to seed rapidly. Frequent waterings are useful in keeping the leaves tender, and in modifying the flavour, which is very strong and somewhat like that of the Scurvy-grass. The young leaves are eaten as salad.

**TURKISH ROCKET**

*Bunias orientalis*, L. *Cruciferae.*

Native of Western Asia, but naturalised in France.—Perennial.—A hardy and very long-lived plant, with numerous, entire, long leaves, in shape something like those of the Horse-radish. Stem about 3 ft. high, very much branched; flowers yellow, and like those of the Mustard-plant; seed-vessels hard, very short, like those of the Chick-pea, but smaller. Their germinating power lasts for three years.

**CULTURE.**—This plant is as easily grown as the Chicory. The seed is sown in drills in autumn or spring, and the plants will continue vigorous and productive for several years.

**USES.**—The young and tender leaves and shoots are eaten either boiled or as salad. This plant has been highly spoken of as a kitchen-garden plant. It commences to grow very early in spring, when other fresh green vegetables are scarce, resisting both cold weather and drought well.

**ROSEMARY**

*Rosmarinus officinalis*, L. *Labiate*


Native of South Europe.—Perennial.—An under-shrub, common on the calcareous hills of the south of France and in the vicinity of...
the sea-coast. Stem branching, woody, with erect branches bearing an abundance of linear-obtuse leaves, of a lively green colour on the upper surface and silvery gray underneath; flowers axillary, forming long leafy clusters on the upper part of the stems, labiate, and of a gray-blue; seeds light brown, oval, with a large white hilum at one end. Their germinating power lasts for four years.

CULTURE. — The Rosemary does not require any culture. Tufts of it planted in good, well-drained soil, and, if possible, at the foot of a south wall, or on a slope with a southern aspect, will continue productive for many years without requiring any attention.

USES. — The leaves are used for seasoning.

RUE

*Ruta graveolens, L. Rutaceae.*


Native of South Europe.—Perennial.—A plant growing from 16 in. to 2 ft. high and forming a small round bush. Stem woody, very much branched; leaves all stalked, twice or thrice divided, and winged; divisions almost triangular, or, oval-obtuse; flowers large, with four yellow petals of a green colour, produced in short, corymbose, terminal clusters; seed-vessels rounded, four or five lobed; seeds black, crescent-shaped or kidney-shaped. Their germinating power lasts for two years.

CULTURE.—This plant is easily propagated in spring from seed, or from divisions of the tufts, which, as soon as they are well rooted, are planted out 20 in. apart in every direction in good and well-drained, rather than moist, soil, where they may live for many years without requiring any care. Cut the plants short every two or three years in order to promote the growth of young stems.

USES.—The leaves, which have an exceedingly strong odour, very disagreeable to most people, are sometimes used for seasoning. They are bitter and very pungent. In old cookery books Rue is frequently mentioned amongst the seasonings in common use.
THE VEGETABLE GARDEN

RUSH-NUT, or CHUFA


Native of South Europe.—Perennial.—A plant forming tufts of stiff, pointed, almost triangular, leaves, like those of most plants of the *Cyperaceae* family. Roots brown, very numerous, tangled, and intermixed with underground shoots, which are swollen into a kind of small, scaly, brown tubers, with white, floury, sweet flesh.

**CULTURE.**—The plant is propagated in April or May, either from the tubers, or from divisions of the tufts. The divisions so planted increase in size, and spread very much during the summer, and the tubers or “nuts” are gathered in October or November.

They may be easily kept all through the winter, if stored in a dry place, sheltered from frost, and in drying become sweeter and more agreeable to the taste than when eaten freshly gathered. The tubers are eaten raw or parched.

SAFFRON-PLANT

*Crocus sativus*, L. *Iridaceae.*


Native of the East.—Perennial.—A bulbous plant, with long, narrow leaves, like those of a Grass, glistening and dark green, with a white line running lengthways down the middle. Flowers violet, very long ovoid, and not much opened at the mouth; pistils extremely large, divided into numerous strips, and of a handsome orange or saffron colour. Their weight causes them to droop over the side of the flower, which produces a rather peculiar effect. The bulbs or corms are covered with brown, wrinkled coats.

**CULTURE.**—The Saffron-plant is not propagated from seed, although it occasionally bears some, but is always multiplied by means of the bulbs or corms. These are planted from June to August, in good, free, light soil, containing, if possible, a large
proportion of calcareous matter, and in a position well exposed to air and sunshine. The flowers bloom in September; they are gathered as soon as they open, and the pistils are picked off with the hand. The cultivation and preparation of Saffron require an enormous amount of manual labour, and, consequently, the plant is very little grown for economic purposes in gardens.

USES.—The pistils, when dried, are used for flavouring and colouring certain dishes. Saffron, being expensive in proportion to its purity, is often adulterated with Turmeric, which is obtained by pulverising old roots of Curcuma longa, an East Indian plant of the Zingiberaceae or Ginger family, and is of a deep yellow colour, with a slightly peppery and aromatic flavour.

SAGE

Salvia officinalis, L. Labiatae.


Native of South Europe.—Perennial.—A plant with an almost woody stem, at least at the base, and forming broad tufts seldom more than 14 to 16 in. high. Leaves very pale green, oval, toothed, very finely reticulated, and wrinkled; lower leaves narrowed into a stalk, upper or stem-leaves narrow and long pointed; flowers in heads of three or four, in terminal clusters, usually bluish lilac, sometimes white or pink; seeds nearly spherical, and of a blackish brown colour. Their germinating power lasts for three years.

CULTURE.—The Sage-plant is as easily grown as Thyme. The
seed is sown in spring or autumn, in rows or as edgings, which will last for many years without attention. Care should be taken, however, to have the plants in a well-drained and rather dry position, for the plant is a native of Southern Europe, and grows naturally on dry, calcareous hills. Nevertheless, it withstands our ordinary winters. The leaves are used for seasoning.

**SALSAFY, or VEGETABLE OYSTER**

*Tragopogon porrifolius, L. Composite.*


Native of Europe.—Biennial.—A plant with a long, fleshy tap-root, 6 to 8 in. in length, and 1 in. or less in diameter, with a yellow, rather smooth skin. Leaves straight, very long and narrow, half-spreading at first, afterwards erect, somewhat glaucous and gray-green, with a white line running through the middle; stem smooth, branching, 3 ft. or more high; flower-heads terminal, much elongated, swollen at the base, and contracted at the top at the time of blooming; florets violet; seeds long, generally curved, pointed at both ends, and with the whole surface furrowed and wrinkled. Their germinating power lasts two years for certain, and often continues longer.

**Mammoth Sandwich Island Salsafy.**

A valuable improvement on the Common Salsafy just described. The roots are thicker, shorter, grayer; the leaves larger and greener; the flowers larger and purple-red. Yields very little seed.

**CULTURE.**—The seed is sown in spring, where the plants are to stand, in drills 10 to 12 in. apart. If the weather is dry at the time of sowing, the drills should be watered a few times to assist the germination, which is always somewhat uncertain. The seedlings should be thinned out to about 4 in. apart in the drills, and the hoe and the watering-pot should be used when necessary. The roots may be gathered for use about October, and will yield a supply all through the winter. They are always finer and smoother if the ground has been well dug and prepared before sowing.
USES.—The roots are sent to table boiled, and the tenderest
leaves form a very good salad.

In some parts a yellow-flowered variety of Salsafy is grown,
which probably originated from a botanical species different from
*T. porrifolius*. This might be either *T. pratensis*, L., which is
common in meadows throughout the whole of France, or *T.
orientalis*, which is larger than *T. pratensis* in all its parts, and
consequently comes nearer to the size of the cultivated plant; or it
might be *T. Major*, Jacq., which in all respects, except the colour
of the flowers, resembles the Common Salsafy (*T. porrifolius*). It
appears certain, moreover, that *T. porrifolius* itself was first brought
into cultivation at a comparatively recent date.

**SAMPHIRE**

*Crithmum maritimum*, L. *Umbelliferae*.


Native of Europe, including Great Britain.—Perennial.—
Samphire usually grows on rocks or the steep sides of cliffs by the
seaside, but always above high-water mark of the
highest tides. It is a plant with a creeping
root-stock; the stems are
short and stout, finely
striated, and often
branched, the branches
being very widely forked.
The leaves are twice and
thrice divided into linear,
thick, swollen, fleshy seg-
ments. Flowers small,
whitish, in terminal
umbels; seeds oblong,
elliptical, yellow, flattened
on one side, and convex,
with three prominent ribs
on the other; remarkably
light for their size. Their germinating power is quite gone after
the first year. By the seashores the Samphire is gathered from the
rocks where it grows naturally, but it may be grown in gardens by
sowing the seed in autumn, as soon as it ripens, in good, light, well-
drained soil. It is advisable to cover the seedlings in the winter
with some protection from frost, to which the plants are rather
sensitive. It grows still better when planted in crevices at the bottom of a wall with a warm aspect. The leaves are pickled in vinegar and used as a seasoning.

**SUMMER SAVORY**
*Satureia hortensis*, L. *Labiatae.*


Native of South Europe.—Annual.—A small-sized plant, 8 to 10 in. high, with an erect, branching, herbaceous stem. Leaves soft, linear, slightly obtuse, and narrowed into a short leaf-stalk; flowers pink or white, borne in clusters of from two to five; seeds brown, ovoid, very finely granulated. Their germinating power lasts for three years. The seed of the Summer Savory is sown in the latter end of April, or in May, in good, warm, light soil; or plants may be forwarded by sowing in March in a hot-bed, and planting out in the open air about the end of May. In June the ends of the stems may be gathered for use; the plants then form branches, and continue to produce new shoots for several weeks. The leaves and young shoots are used for flavouring.

**WINTER SAVORY**
*Satureia montana*, L.


Native of South Europe.—Perennial.—A low-growing plant, spreading on the ground. Stems woody, at least at the base, slender, very branching, and from 1 ft. to 16 in. high; leaves narrow, linear, very acute, and slightly channelled on the upper surface; flowers white, pink, or pale lilac, in small axillary clusters; lower lip divided into three segments; seeds brown, triangular-ovoid in shape, and very finely shagreened. Their germinating power
lasts for three years on an average. The seed may be sown in spring or the latter end of summer, on the edges of beds of other vegetables, or in drills 14 to 16 in. apart. The plant is sufficiently hardy to withstand ordinary winters in the climate of Paris, provided it is grown in well-drained soil free from stagnant moisture. It requires no attention; but if the stems are cut down every spring to about 4 in. from the ground, a much more abundant supply of vigorous young shoots will be produced. The leaves and young shoots are used for flavouring, like those of the Summer Savory.

**SCORZONERA**

*Scorzonera hispanica*, L. *Compositae.*


Native of Spain.—Perennial.—This plant is cultivated as an annual or a biennial. It has a fleshy tap-root, resembling that of the Salsafy in size and flavour, but distinguished from it by the black colour of the skin. The leaves also of the Scorzonera are much broader than those of the Salsafy; they are lanceolate-oblong and pointed; the stem-leaves are sessile and are also of some breadth. Flowers bright yellow; seeds white, smooth, very long, blunt at one end and more or less pointed at the other. Their germinating power lasts for two years at least. The Scorzonera is grown in exactly the same manner
as the Salsafy. After the first year’s growth, the roots will continue to increase in size without becoming less fit for use, even though the plants may have produced some stems and flowers in the course of the summer. The roots are eaten boiled, like those of the Salsafy; the leaves also may be used as salad.

FRENCH SCORZONERA


Native of South Europe.—Annual.—Radical leaves sinuated, or cut into entire or toothed lobes, generally obtuse, and forming a rather full rosette 10 to 12 in. in diameter. Stems numerous, branching, smooth, bearing a few long, narrow leaves, which are clasping at the base and usually toothed; flower-heads terminal, largish, swollen at the base, and composed of yellow florets; seed brown, small, long, marked with four furrows and four prominent transversely notched ridges. Its germinating power lasts for five years. It is sown in drills like Parsley or Chicory, and the leaves are cut for use as small green salad, like Chicory. After being cut, the plants send out fresh leaves, and several successive cuttings may be made in the course of the season. In hot weather frequent waterings are serviceable. The young leaves are used as salad, especially in Italy.

SCURVY-GRASS

*Cochlearia officinalis*, L. *Cruciferae.


Native of Europe.—Perennial, but cultivated as an annual.—This plant has some resemblance to the Water-cress. Leaves rounded, numerous, shining, and dark green; radical leaves long-stalked and heart-shaped; stem-leaves sessile, oblong, and more or less toothed; stems numerous, bearing small white flowers; seeds small, oval, slightly angular, rough skinned, and red-brown in colour. Their germinating power lasts for four years. All the green parts have
SCURVY-GRASS

a strong acrid taste and a very tarry flavour. The seed is sown where the plants are to stand, and, if possible, in a cool, shady position. Scurvy-grass requires no special attention. The leaves are sometimes eaten as salad, but the plant is more usually grown for medicinal purposes, its anti-scorbutic properties being well known.

SEA-KALE

*Crambe maritima, L. Cruciferae.*


Native of Europe.—Perennial.—Leaves broad, thick, fringed, often twisted and cut at the edges into rounded segments, and a very peculiar glaucous green, almost the same on both sides of the leaf; stems stout, branching, from 20 in. to 2 ft. high; flowers very numerous, white, and broad, succeeded by seed-vessels which are almost spherical, a little less than ½ in. in diameter, white, rather hard, never opening when ripe, and each containing only a single seed. The germinating power of the seed declines rapidly after the first year.

The Sea-kale, which is found in the wild state on most of the sea coasts of Western Europe, is very little used as a vegetable in France, although it has been for many years extensively cultivated in England. The leaf-stalks of the plant are prepared for table use by blanching in a dark place, by which means tender shoots of an agreeable flavour and only a slightly bitter taste are obtained, whereas if grown exposed to the light they become intolerably acrid.

CULTURE.—Sea-kale may be propagated either from divisions or cuttings of the root or from seed. By the first-named method, in February or early in March, the roots of old plants are cut into pieces about 4 in. long, which are at once planted, where the crop is
to stand, in good, well-dug, and well-manured soil, and at a distance of 2 ft. 8 in. from one another in every direction, as the plants grow to a pretty large size. In the first year the young plants attain a certain degree of strength, and may be cut for use in the ensuing winter, if a supply is badly needed. It is better, however, not to commence cutting until the second year. In raising plants from seed, the seed is sown either in a seed-bed or where the plants are to stand. In either case, it should be sown as soon as possible after it ripens and without being shelled. When the young plants in the seed-bed have made four or five leaves, they are planted out permanently, at the same distance from one another as the cuttings of the roots above mentioned. In sowing where the plants are to stand, the seed is placed in holes or pockets, which also should be the same distance apart as the root-cuttings. These pockets should be well filled with compost, and the ground should be kept very free from weeds. The growing plants should be frequently watered until they have attained their full size. When they are sufficiently strong, and out of danger from the black flea (*Haltica nemorum*), all the seedlings in each pocket are pulled up except the strongest one, which is left to grow, and during the remainder of the year and the whole of the following years the plants are treated in exactly the same way as plants raised from root-cuttings. They will not be fit to cut for use until the spring of the third year, and after that they will continue to bear for eight or ten years.

In order to blanch Sea-kale, each crown of the plant is covered with an inverted flower-pot, care being taken to stop the hole in the bottom so as to entirely exclude the light, and the pot is also more or less covered with soil or dry leaves. If it is desired to force the plants, the pots should be completely covered with suitable manure, and in a few weeks the shoots will be sufficiently grown for use. In gathering them, there need be no hesitation in cutting them at some distance below the blanched part, as the root-stock has always a tendency to grow overground. Plants may also be forced in a hot-house, hot-bed, or any other place supplying artificial heat. For this purpose the plants are taken up entire, and replanted close to one another in fresh sand. As with plants grown in the open air, the shoots should be covered, either with more sand, or in any other way so as to exclude the light. Care should be taken to cover the plants with soil every year, to prevent the roots from becoming bared. In order to maintain the vigour of the plants, some shoots should be left uncut on each plant, and these should not be allowed to flower, as the plant would thereby be more or less exhausted for nothing. It is advisable to go over the plants every autumn and remove all dead leaves and weak and superfluous shoots, and also to spread some light soil or compost over any parts of the ground where the roots of the plants are becoming bared.
As the Sea-kale is a seaside plant, a little common salt, mixed with the soil, can hardly fail to be beneficial to its growth.

Like Rhubarb, the use of Sea-kale is at present almost confined to the English people at home and abroad. It has gone to America and the antipodes, but has not crossed the Channel! We speak of its general use—in a few gardens in France it may be seen, but they belong to those who have learned to care for the plant in England or who have English gardeners.

Forced Sea-kale fit for use can be had early in December, and by growing a sufficient number of plants a constant supply may be maintained till late in the spring. The stock of roots may either be grown from seed sown in the spring, or by selecting roots from plants lifted in the autumn to be prepared for forcing, which may be easily accomplished in any warm structure kept dark for blanching purposes. Seeds of Sea-kale may be sown in March or early April, in drills 9 in. apart, or broadcast upon beds 4 ft. wide, covering them with fine soil. When large enough, the young plants should be thinned out to several inches apart to afford ample room for growth. The following spring they will be large enough to transplant into a piece of ground deeply trenched and dressed with rotten farmyard manure. Some time in March lift the plants carefully with a fork, and plant them in rows 12 in. asunder and 9 in. plant from plant, i.e. when grown for lifting in autumn for forcing. But if to be planted to make stools for forcing in the open air—which may be done by covering them with hot manure and leaves—plant the rows 3 ft. apart and 2 ft. clump from clump. This will give plenty of room to cover the plants with heating material. Three or four plants may be placed in each clump, allowing 3 or 4 in. between each plant. Take care that the plants are 3 in. clear of the rims of the Sea-kale pots which are placed over them when ready for forcing. Where the plants are grown from roots or thongs, when lifted in autumn for forcing, the strongest should be selected; but where the stock of roots is scarce, thongs may be used about the thickness of a quill pen, when they will be strong enough to force the following spring. Cut the roots 9 in. in length, leaving the top or thick end level, and the thin end slanting about 1½ in., when it will emit a number of fibres. Tie the roots thus prepared in bundles, and lay them in some fine sandy soil, covering them 2 in. in thickness.

Ground intended for Sea-kale should be deeply trenched during autumn, and enriched by several inches in thickness of rotten manure. If ridged as the trenching proceeds, the ridges must be levelled down in spring before planting. Early in April is a good time to plant the roots or thongs; they will then be found to have formed crowns, and will be pushing out young fibres. Rake the ground level after levelling down the ridges, tread it firmly, and plant the sets in rows 12 in. asunder and 9 in. plant from plant. The ground will require to be frequently hoed between the plants during summer to keep down weeds and the surface open. Liquid manure will be found of great benefit to the plants during summer, and if at hand, a dressing of artificial manure may be given, for by feeding well during the growing season fine strong roots will be the result. As soon as frost kills the leaves in...
autumn the plants intended to be lifted for forcing should be taken up and laid in some light soil. Open a trench at one end of the plantation and lift the plants, with as many roots attached to them as possible. After taking off the thongs for next year's crop, lay the roots in some light dry soil, covering their crowns over with some dry litter to keep frost from them. Thus a few roots may be had during winter for forcing when required. From $55^\circ$ to $60^\circ$ will be heat enough, and the roots may be planted either in large flower-pots or boxes. If in pots, invert another the same size over the one in which the roots are planted. Thus circumstances and placed in the temperature just named, fine, crisp, well-blanched Kale will be produced. If required soon after being put in warmth, place a few barrow-loads of hot manure in the house, and on that set the pots. The warmth induces quick growth and superior heads. If in boxes, they should be deep enough for the roots to stand upright, and there should be depth for the Kale to grow to its full length before it reaches the lid of the box.

If more convenient, the roots may be planted in light soil in the Mushroom-house, covering them over with some light material to keep the crowns in darkness. Fine crops may also be grown upon ordinary hot-beds covered with frames and wooden sashes; if glass sashes are used, they must be covered with straw and double mats to exclude light and keep the temperature of the frames equable, *i.e.* about $60^\circ$. The roots may be planted in light soil or in pots placed upon the heated material, which should be covered with sifted ashes or some light material to keep down the rank steam. Where Kale is required in large quantities, a Cucumber or Melon-house with bottom heat at command will be found to be one of the best structures in which to produce it. Put a few inches of soil over the slates or boards forming the bottom over the pipes or hot-water tank; in this set the roots upright several inches apart, running some soil in between them, and water well, and as soon as the crowns show signs of growth, give another soaking, and cover them to the depth of $9$ in. or $1$ ft. with dry, sifted leaf-mould or cocoa-nut fibre. Thus treated, in a very short time the tips of the leaves will appear above the covering, when the Kale will be fit for use.

When forced in the open air, Sea-kale pots or boxes having wooden covers must be placed over the clumps of plants, and the pots or boxes must be covered with fermenting material, consisting of hot stable manure and leaves well mixed together. Care must be taken that the manure does not overheat, or the crowns will get scorched and the crop lost for the season. When planted in rows, if a covering of ashes or light loose soil is placed over the crowns from $9$ in. to $1$ ft. in depth just before the crowns start into growth in spring, the heads of Kale will grow up through the covering, and when uncovered the result is often a very superior crop, which, being late, is generally very acceptable, especially if, after a severe winter, other crops are scarce.

**SEA-KALE ON THE COAST.**—Between Calshot Castle and Leap, Hampshire, Sea-kale grows wild luxuriantly on the beach, just above high-water mark, and those who live close to the shore claim so much of it as is opposite their domain. In autumn, when the stems die down,
they cover each stool with shingle, to the depth of 18 in. or so, which answers two purposes: it keeps the crown from being trodden underfoot in winter, and when the Kale commences to grow in spring it blanches it. The shoots are ready for use about the middle of March. A good harvest is made of it when fit to cut, which is just before it peeps through the shingle. The latter is carefully removed by the hand, so as not to break the tender stalks, which turn out quite clean and well blanched. It is sent to Southampton and Cowes, where it finds a ready market. Although all the crowns are covered at the same time, they do not all come in at one time; for the cutting generally lasts three weeks. There is no reason why Sea-kale should not be grown on the coast in many places—that is, where any waste space is left above high water for its accommodation. Where any beach exists above high-water mark, seed may be sown in the following manner:—With a shovel open a trench 1 ft. deep, if shingly; but, if sandy, half that depth will do; sow the seed in it as you would Peas, but more thinly; then fill it up, which is all that is necessary until the roots are large enough to be transplanted, which, if the seed be sown in March, will be in the succeeding March. Take the roots up as carefully as possible, and plant them four in a 9-in. square, leaving a space of 3 ft. between the squares, and, if in lines, there should be a space of 6 ft. between the lines. When covering the crowns for blanching, the shingle may be heaped up over them in ridges along the lines. This Kale is generally well blanched, stout in growth, and in every way excellent; when cooked, the flavour is more delicate than that of ordinary forced Sea-kale, and it often produces stems 9 in. long, each of which weighs one pound, and some twenty ounces. The reason of its quality is the use of the clean shingle. There is too much direct use of manure in the common way of forcing Sea-kale, and used in a way, too, which can contribute very little to the nourishment of the plant. Manure is for the roots, not the tops. Therefore we prefer the clean forcing which is possible in any heated and darkened structure to the old way of piling fresh manure over the Sea-kale plot in the garden.

**Market-Garden Culture.** — Some growers raise Sea-kale plants from seed, but the majority propagate them from root-cuttings. It is, however, advisable once in every few years to raise plants from seed in order to infuse fresh vigour into the stock. The best way of increasing Sea-kale is from the trimmings or cuttings of the fleshy roots cut away from the plants when they are lifted for forcing. These thongs or roots, when removed, are thrown into a heap in a shed, there to remain until all the plantations that are to be lifted for forcing have been dug up and trimmed. The best of the trimmings are then selected, cut up into pieces about 4 in. long, and laid in a heap by themselves, and the remainder thrown away. In January beds are prepared for the cuttings, about 4 ft. in width, any length, and raised 6 in. higher than the surrounding level, to keep the Sea-kale roots healthy and free from damp. The cuttings are laid thickly on the surface of the bed and covered with soil. At planting time, which is in March, the beds are uncovered, when the roots will have formed several eyes, all of which are rubbed off, excepting the strongest top one.
Some growers do not cut the roots until planting time, but lay them on the beds as selected from the shed. In March, when the beds are uncovered, they select the best eye, then cut the roots at the required length below it, and rub off all other eyes, as in the previous case. The Sea-kale cuttings, being thus prepared for planting, are inserted with iron-shod dibbles into ground which was well manured and deeply dug or trenched in winter, levelled in February, and lines drawn along it 3 ft. apart and planted with Cauliflowers, keeping them at the same distance asunder in the rows. Between the lines of Cauliflowers other lines are drawn precisely in the middle, and in them are planted White or Green Paris Cos Lettuces 18 in. apart. In the rows occupied by the Cauliflowers, too, Lettuce-plants are inserted alternately. A Sea-kale plant is now placed alternately with the Lettuces and Cauliflowers, but in the same lines. The Lettuces are first ready for market, and are removed before they injure the Cauliflowers, which by the end of June are marketed, leaving the Sea-kale, which will be coming up strongly by this time, in sole possession of the soil. Some growers plant Sea-kale sets 15 to 18 in. apart amongst spring Cabbages, which are all removed before they can materially injure the Sea-kale. Others plant them between Asparagus ridges; but in this case they must all be lifted at the end of the first season, as is also the case when they are planted between fruit bushes and Moss Roses. Some market-gardeners who grow roots for sale plant their sets at 18 in. apart each way, and never intercrop the ground amongst them, but take great care of them; and, under such management, they get finer roots than those produced among other crops. No care is necessary among Sea-kale plantations throughout the summer and autumn, beyond frequently hoeing the surface soil, cutting away all flower-spikes, and rubbing off all small shoots that may chance to spring around the main one.

When forcing-time arrives, if the field is to be kept to yield what is termed "natural" Kale, i.e. without being forced in any way, every third row of roots is lifted as required for forcing, and thus the rows are left in pairs with a space of 3 ft. between them. The surface of the soil is then raked clean, and from this wide space the rows are earthed over to the depth of 6 in. to prevent the frost penetrating the ground amongst the crowns, and thus rendering it cold and late. The Kale begins to push about the second week in March, and, according to the position of the field and the nature of the soil and weather, a supply may be gleaned therefrom till the end of April. As soon as the point of a shoot of Kale is discerned above the ridge, the head is fit for cutting.

For early forcing, the very best crowns, and such as the leaves die away from earliest, are selected and trimmed, so that 4 or 5 in. of the main stem, with the crown on the top, only remain. These are then placed closely together in an upright position in a hot-bed prepared for starting them in, which, in the case of the earliest batch, consists of a manure-bed covered with frames and sashes, and a few inches deep of soil levelled within the frames for planting the roots amongst. A heat of 65° or 70° is kept up inside the frames, if possible, by applying hot linings of manure and by placing litter or mats on the surface over
the glass, which latter also keeps all dark and blanches the Kale. Sea-kale growers try to have a good cutting on Lord Mayor's Day; but this is considered too early for regular forcing.

Regular forcing commences about the first fortnight in November, and large trenches or beds, on which Cucumbers were grown during the summer, are cleared out and re-filled with hot manure, over which 8 in. of soil is placed, and therein the Sea-kale is planted thickly in lines across the bed, which are about 5 in. apart, and about the same space for a margin is left empty on each side. Amongst the roots, and all round the beds, rows of stakes are inserted, 18 in. of their length being left above the soil, after which some 6 or 7 in. deep of short litter is strewed over the whole surface of the beds, which are then covered over with mats supported on the ends of the stakes. Hoops and mats are often used instead of stakes. In about three or four weeks after the beds are made up cutting begins, when it is necessary to uncover the beds as the operation proceeds, drawing the short litter off the crowns to get at them, and replacing it as speedily as possible, as all the crowns are not fit to cut at the same time.

Beds for later crops are prepared on a well-sheltered plot of ground as near home and the manure-heap as possible. The ground is marked off into spaces either 4 or 5 ft. wide, with alleys 2 ft. wide between them. These spaces are used as beds, over which the soil from the alleys is placed, after finely breaking it, until the alleys are 20 in. deep. The Sea-kale crowns are then all lined into these beds as described in the case of earlier beds, and thus the beds are left uncovered until they are required for forcing; but, as a rule, two or more of them are always being forced, and others started to succeed them. As these beds have no bottom-heat, it is not necessary that they should be immediately covered, as in that case they, being incited at the bottom, would grow, no matter whether their crowns are cared for or not; but, in this instance, having no exciting agent, and being in a dormant state, they await the grower's convenience. In forcing them, the alleys between the beds are firmly filled with fermenting manure, and the beds being covered, as formerly stated, with short litter and mats supported on the upright stakes, all is finished. The Kale takes a longer time to push into growth by this means than when forced on a manure-bed, and it does not come quite so regularly. This method, however, has the advantage of less trouble and risk, and great convenience in keeping up a supply until it can be produced from the open-air beds, after which the forced roots are removed to a heap by themselves, or to the piggery, where their vitality is sure to be destroyed. If conveyed to a field at once, with the manure which formed the beds, and dug in, they would grow again, and prove a future annoyance.

There are only a few varieties of Sea-kale in cultivation:—

The Common, the young blanched leaves of which have a purplish tinge when they are exposed to the light.

The Lilywhite, the young leaves of which do not become purple, but change to green under similar conditions. In other respects the two varieties are identical.
The Feltham White, with large leaves, rumpled at the edge and 
large white ribs.

Lately a variety of Crambe Tatarica (?) has been advertised 
under the name of Ovidius, but it does not appear to be equal to 
the above varieties.

USES. — The blanched stalks are eaten boiled, almost in the 
same way as Asparagus. When properly cooked, they preserve 
all their firmness, and have a very fine and agreeable flavour, like 
that of hazel-nuts, with a very slight amount of bitterness.

SHALLOT

Allium ascalonicum, L. Liliaceae.

French, Échalote. German, Schalotte. Flemish and Dutch, Sjlot. Danish, 

Native of Palestine. — Perennial. — Although botanically very 
closely allied to the cultivated Onion, the Shallot, in its manner of 
growth, differs from it completely from a horticultural point of 
view. It is a plant which seldom produces seed, but has a pro-
fusion of leaves, and its bulbs, when planted in spring, speedily 
divide into a great number of cloves, which remain attached to a 
common disc, and in a few months become as strong as the parent 
bulb. It has been in cultivation from a very remote period, and 
there are now several rather distinct forms of it in existence. [It 
may be well to note that the plant commonly sent in quantities to 
the London market is not the True Shallot, but a small roundish 
Onion with a rich brown skin. The true Shallot has a pale gray 
skin, and is elongated in shape. — R.]

CULTURE. — The cloves are planted immediately after winter in 
good, rich, well-manured soil. Well-rotted farmyard manure suits 
the Shallot better than that which is fresh and strawy. It is still 
better, when possible, to plant the cloves in ground that was 
plentifully manured in the previous year. They should not be 
deeply buried, and the cloves of the Common Shallot should be 
placed about 4 in. apart. They may be grown either in beds by 
themselves, or on the edges of beds containing other vegetables. 
When the leaves commence to wither, about July, the tufts of 
plants are pulled up and left to dry for a few days, after which 
they are divided and the bulbs stored in a dry place. Those bulbs 
which are intended for planting may be left in the ground some 
time longer.

USES. — The bulbs, which keep for the whole year, are used as 
seasoning, and give a more delicate flavour than most Onions. 
The leaves are also eaten, cut when they are green.

True Shallot. — Bulb the size of a small Walnut, sometimes 
larger, pear-shaped, narrowed in the upper part into a rather long
point, and covered with a russet-coloured skin, of a coppery red colour in the lower part, shading off into gray towards the upper extremity, and often wrinkled lengthways. The outer skin is thick and tough. When the dried coats are taken off, the bulb is greenish at the base, and violet-coloured at the top. Leaves small, very green, and 10 to 12 in. long. This variety, which is somewhat smaller than the type or true variety, and produces a great number of cloves to each plant.

*E. Grosse de Noisy.*—Bulb the size of a small fig. This variety keeps well, and has a very thick tough skin. It does not multiply so much as the other kinds.

*E. Hâtive de Niort.*—This is somewhat larger than the True Shallot, which it very much resembles in other respects, but commences to grow sooner.

It is easy to perceive that these three forms are only slight modifications of the True Shallot.

*Jersey, or False, Shallot.*—Bulbs short, almost always irregular in shape, but sometimes perfectly rounded and broader than long, when they quite resemble a small Onion; skin coppery red, thin, and easily torn. The bulb, when stripped of the dried coats, is entirely violet-coloured, the tint being somewhat paler than that of the True Shallot. The leaves are distinguished by their very peculiar glaucous hue. The bulbs do not keep so well as those of the True Shallot, and commence to grow sooner in spring. The Jersey Shallot flowers and seeds pretty regularly, the seed exactly resembling Onion seed. Indeed, in all the characteristics of its growth, this plant resembles an Onion, amongst which it might be classed after the Potato Onion.

Another variety has been mentioned under the name of
Alençon Shallot, with bulbs still larger than those of the Jersey Shallot and likewise with glaucous foliage. There is also a variety of the Jersey Shallot grown with silver-white bulbs, mild, and agreeable in flavour, but difficult to keep. The Ghent Shallot and the Russian Shallot differ but little from each other, and resemble the common Jersey Shallot. They are vigorous-growing plants with rounded bulbs.

**SKIRRET**

*Siium Sisarum, L. Umbellifera.*


Native of China.—Perennial.—Authors generally concur in describing the Skirret as a native of China. It was introduced into France at a very early period, as it is mentioned by Oliver de Serres as a plant commonly cultivated in his time. He considered it to be a native of Germany, and to have been introduced from that country into Italy by the Emperor Tiberius. In any case the plant appears to have been more generally cultivated two or three centuries ago than it is at the present day.

It is a plant with numerous swollen roots, forming a bunch from the upper part of the neck, somewhat like Dahlia roots, but much longer and more slender. Leaves composed of large, shining dark green leaflets; stems 3 to 4 ft. high, channelled, smooth, usually produced in the second year, but often in the first; flowers small, white, in umbels; seeds brown, oblong, curved, often cylindrical, and marked with five longitudinal furrows. Their germinating power lasts for three years. Roots grayish white; flesh firm, very white, and sweet. The centre of the root consists of a woody core which, if not removed before cooking, is very detrimental to the root as a vegetable, and is not easily separated from the fleshy part.

**CULTURE.**—Skirret may be propagated either from seed, offsets, or divisions of the roots. The seed is sown in autumn or early in
spring. When the seedlings have made four or five leaves, they are planted out permanently, in good, moist, rich, well-manured soil, and will commence to yield abundantly in the ensuing autumn. As the plants delight in abundance of moisture, they should be plentifully watered all through the summer. Divisions of the roots or offsets of old plants are planted in March or April, and the plants raised in this way are treated exactly like those raised from seed. It has been asserted that the roots of plants which have been raised from divisions or root-cuttings have the core less woody than those of plants raised from seed. This, however, is only true when a careful selection has been made of the roots used for propagating. Plants raised in the same seed-bed differ very much from one another in the size of the woody core, and it is evident that, by means of a judicious selection, the best may be propagated to the exclusion of all the others. As the Skirret is a very hardy plant, the roots may be left in the ground all the winter, and only taken up as they are wanted for use.

USES.—The roots, which are tender, sweet, and slightly floury, are used in the same manner as Salsafy or Scorzonera roots.

SORREL

Rumex, L. Polygonaceae.

French, Oseille. German, Sauerampfer. Flemish and Dutch, Zuring. Italian, Acetosa.

Spanish, Acedera. Portuguese, Azedas.

Many species of Rumex are cultivated in gardens, all of which are perennial plants, and characterised by the acidity of their leaves. Of these, the principal varieties which are grown have sprung from Rumex Acetosa, R. montanus, R. scutatus, and R. Patientia, all of which grow wild in France. The garden Sorrels may be ranked among the plants which have been least modified by cultivation, as most of them are little, if anything, better than wild plants of the same species growing under favourable conditions.

COMMON SORREL

Rumex Acetosa, L.

Oseille commune.

Native of Europe.—Perennial.—Leaves oblong, hastate at the base, with long-pointed auricles directed downwards almost parallel with the leaf-stalk, which is long and channelled; stem hollow, striated, and often red; flowers dioecious, in terminal and lateral clusters; seeds small, triangular, brown, and shining. Their germinating power lasts for four years.

CULTURE.—The plant may be propagated by division of the tufts in March or April. This method is employed when, for
instance, it is desired to form edgings of male-flowered plants alone, as these are not liable to be exhausted by bearing seed. The more usual way is to raise the plants from seed sown in spring, in drills, and, if possible, in good, deep, moist soil. The seedlings, when strong enough, are thinned out to the distance of 6 to 8 in. from one another in the drills. In about two months after sowing, some leaves will be fit to gather. Some persons, when gathering, cut off the whole plant with a knife, but the Parisian market-gardeners, who are well skilled in the cultivation of this plant, always gather the leaves one by one, selecting only those which are fully grown: a more abundant and continuous supply is obtained in this way than by cutting off all the leaves, large and small, at the same time. A plantation of Common Sorrel will last for three or four years; when its productiveness begins to decline, new plants, raised either from seed or divisions of the tufts, should be substituted. The leaves are very extensively used, and are sent to table boiled.

**Broad-leaved French Sorrel** (*Oseille de Belleville*).—This is the most extensively grown variety of the Common Sorrel, and is almost the only kind cultivated in the vicinity of Paris. It differs from the type in the greater size and paler colour of its leaves, and comes very true from seed. The market-gardeners around Paris often have whole fields under this plant, and, by growing it under frames, keep up a constant supply of fresh leaves nearly all the year through.

**White Large-leaved Sorrel.**—Remarkable for the breadth and size of its leaves, which surpass those of the Belleville Sorrel. The old *Virieux Sorrel*, though an excellent, white, very early variety, is far
from equalling this, both as regards size of the leaves and productiveness.

The following kinds have also been recommended:—

Lettuce-leaved Sorrel.—A variety with broad, rounded, very light green leaves.

O. Blonde de Sarcelles.—This kind is distinguished from the Broad-leaved French Sorrel by having longer leaves, and the leaf-stalks entirely green, without any tinge of red.

All these varieties, in short, differ very little from one another, and, when propagated from seed, revert more or less to the Broad-leaved French Sorrel.

MAIDEN SORREL

Rumex montanus, Desf.; Rumex arifolius, All

Oseille vierge.

Native of South Europe.—Perennial.—Leaves oval-oblong, hastate at the base, almost smooth, rather deep green, with short auricles of an almost bluntly rounded or shortly pointed shape and directed outwards; leaf-stalks pink-coloured at the base; stem resembling that of the Common Sorrel; flowers dioecious, usually barren. The leaves of this species are rather larger than those of the Common Sorrel, and not so acid, and the plant is slow in running to seed. As it is dioecious, it may be employed, like the Common Sorrel, for making edgings, using male-flowered plants alone. Two forms of this Sorrel are distinct, viz. the Common or Green-leaved and the Crimped-leaved Maiden Sorrel; the leaves of the latter being larger, slender, very much crimped, and marked with small red spots on the midrib and larger veins at the lower part of the stem. The wild form of the Maiden Sorrel (Rumex arifolius) is often met with in France. It is especially common in the pine forests on the high mountain districts of Central and Eastern France from the Vosges to the Alps.

ROUND-LEAVED SORREL

Rumex scutatus, L.

Oseille ronde.

Native of South Europe.—Perennial.—Peculiar in appearance, and not to be mistaken for any other Sorrel. The stems are slender, mostly prostrate, with small gray-green rounded or heart-shaped leaves, bearing at their base narrow auricles, directed outwards; unisexual flowers are produced on the same plant, in spikes. The leaves are exceedingly acid. Its principal merit being its resistance to drought, it is usually grown as a summer crop.
In addition to the foregoing, another species (*Rumex alpinus*, L.) is sometimes grown in gardens under the name of Pyrenean Sorrel. It has soft, wrinkled, reticulated leaves, and is especially characterised by the width of the sheathing part of the leaf. As a table vegetable it does not appear to possess any quality in which it is not surpassed by the Patience Dock, or Herb Patience (*Rumex Patientia*), which see.

**WOOD-SORREL**

*Oxalis Acetosella, L. Oxalidaceae.*


Native of Europe.—Perennial.—This plant, which grows wild in woods and cool, shady places, is sometimes gathered and eaten as salad, the leaves being acid and similar in flavour to those of the Common Sorrel. It is not often cultivated, and if any one desires to have a few tufts of it in his garden, the best way is to dig them up where they grow naturally and transfer them to a cool, shady part of the garden. By cutting them frequently a continuous supply of tender leaves may be obtained, and the plants will also be prevented from seeding. If allowed to seed, they sometimes multiply to such an extent as to become troublesome weeds.

**Deppe's Wood-sorrel** (*Oxalis Deppei,* Lodd.).—Native of Mexico.—Perennial.—Roots fleshy, white, semi-transparent, and resembling small Turnips; leaves very long stalked, composed of four rounded very light green leaflets, each marked with a brown spot; flowers large, carmine-pink, green at the base of the petals.

**CULTURE.**—This plant is easily multiplied from the bulblets which grow in large numbers near the neck of the root. These are planted in April, in good light soil, either on the edges of beds or in rows 12 to 16 in. apart. The plants will continue growing until late in autumn without requiring any attention except watering in very dry weather. It is advisable to take the roots up before the approach of frosty weather, but if some of the plants can be conveniently covered with frames and, in this way, kept growing until November, they will produce much finer and larger roots.

**USES.**—The roots, which are tender and juicy, but very insipid, may be eaten. The leaves, used like those of the Common Sorrel, are a better table vegetable than the roots. They are tender, with an agreeably acidulous flavour, and, after being cut, the plant speedily sends out fresh leaves, which are fit for use in two or three weeks.
Soja hispida, Mœnch. Leguminosæ.

French, Soja. German, Soja-Bohne.

Native of China.—Annual.—In China the varieties of this plant are almost as numerous as those of the Kidney Bean are in Europe. There are dwarf kinds and also tall ones which, if not climbers like our tall Kidney Beans, at least trail for a considerable distance. Up to the present time, only one or two dwarf early varieties have been cultivated in Europe and considered of any importance for table use, and to the description of these we shall here confine ourselves. So far, it does not appear liable to be attacked by any insect, nor to suffer from any parasitical fungus, while its vigorous habit of growth, its great productiveness, and the richness of its beans in nutritive properties cause it to be justly esteemed as a valuable plant for agricultural and economic purposes.

Culture.—The Soy Bean is grown in exactly the same manner as Kidney Beans. It requires nearly the same degree of heat, and ripens at the same time as the mid-season varieties of these plants. All the pods on a plant, however, do not ripen together, those which set first being often full-grown and nearly ripe while the plant still continues to flower on the upper part of the stem.

Uses.—The beans are eaten, either green or dried, like Kidney Beans. The dried beans should be steeped in water for some time before they are cooked, otherwise they will remain almost as hard as they were when uncooked.

Common Yellow Soy Bean.—A dwarf thick-set plant, forming small compact tufts from 10 to 20 in. high, according to the richness of the soil and the time of sowing. Flowers very small, green or lilac, in axillary clusters, and succeeded by hairy pods, each containing two or three small beans, which are pale yellow when
ripe, and are scarcely larger than those of the Rice Kidney Bean; their germinating power lasts for two years. This variety ripens in three or four months after sowing.

Étampes Yellow Soy Bean.—This variety is not so early as the preceding one, but is far more productive. The plant forms branching tufts from 2 to over 2½ ft. high, which become laden with pods growing from the axils of all the leaves. The beans are much larger than those of the preceding variety, being almost as large as those of the China, or Robin's-egg, Kidney Bean, and sometimes a little more elongated. Their germinating power lasts for two years. This plant requires at least four or five months to complete its growth and come to maturity; however, in ordinary seasons, it ripens the greater part of its pods in the climate of Paris.

Podolian Soy.—A little over 18 in. high, erect, with medium-sized, dark green, much reticulated leaves; the pods numerous, curved, containing usually three black thick seeds. Much grown in Southern Russia, its principal merit is its earliness. The colour of its seed makes it less valuable for table use.

Very Early Brown-seeded Soy.—Earlier than the Podolian, with almost straight pods in large clusters, and brown seed. Like the Podolian, it ripens its seed in the climate of Paris.

SPINACH

Spinacia oleracea, L. Chenopodiaceae.


A plant of rapid growth, the wild form having arrow-shaped, pointed leaves, while in the cultivated varieties the leaves are
broader and rounder, and are remarkable for the thickness of the parenchyma. In cooking they lose nearly all their savour, but keep their green colour. When growing, these leaves form a rosette, from the centre of which the flower-stem makes its appearance more or less speedily, according to the variety. The Spinach, being dioecious, bears only male flowers on some plants and only female flowers on others. The seed, which, of course, is only found on the female plants, varies very much according to the variety, that of some kinds being armed with three very sharp points, while in other kinds the seed is round and without points.

CULTURE.—The seed is best sown where the plants are to stand, in drills 10 or 12 in. apart. It is advisable, in order to have a continuous supply, to make successional sowings every fortnight, or at least every month, especially in spring and summer, when the plants run to seed quickly. Frequent and plentiful waterings are indispensable to ensure an abundant growth and good quality in the leaves. The market-gardeners around Paris have for a long time preferred the Prickly-seeded varieties for spring sowings, reserving the Round-seeded kinds for late summer and autumn sowings. At the present day, however, we have Round-seeded varieties which are quite as hardy and as slow in running to seed as any of the Prickly-seeded kinds.

The first sowing for summer use should be made early in March, as a rule; but in warm soils and situations a small sowing may be made in February.

SUMMER SPINACH.—Owing to the Summer Spinach being so liable to run to seed, it is advisable to make small sowings often rather than to make large sowings at long intervals—as by the former plan a regular supply of fine young leaves is ensured, whereas in the latter case small tough leaves have often to be used in consequence of successional crops not being sufficiently advanced to give a supply. It is therefore obvious that a sowing should be made once a fortnight, or at longest every three weeks, during the summer months. These sowings may consist of the Round Spinach for the first two or three sowings, and the Flanders or the Lettuce-leaved varieties for sowing through the summer. These two last-named kinds are far superior, both in quality and cropping, to the Round Spinach. For summer sowings it is best to choose as shady and moist a situation as possible, to save watering, as well as to prevent the plants from running to seed too quickly. All Spinach seed is benefited by being soaked in water for a few hours previous to sowing, inasmuch as it germinates more quickly and the growth is often stronger. Sowing in drills is by far the best mode of sowing the seed, as then the crop is more easily kept free from weeds, and watering or mulching can be effectually done when desired, as well as rendering it much easier to gather the crop. The drills should be about 1 ft. apart, and the plants, after thinning, at least 6 in. asunder. The Lettuce-leaved and Flanders require even more room than this, if the produc-
tion of fine large leaves be aimed at. The last summer crop should be sown on a well-prepared border or quarter about the middle of July, in drills about 18 in. apart; this will yield a good supply of fine large leaves till October is out.

For the late or winter crop, prepare about the end of July a border or sheltered quarter; apply a good coating of thoroughly decayed manure, trench the ground well and cast it up into ridges, so as to expose as great a surface as possible to the influence of the atmosphere. Any dry day till August 10th or 12th cast down the ridges and pulverise with a steel fork, so as to sweeten and incorporate all together. Then draw lines 1 ft. apart and sow the hardy Prickly variety. As the plants advance, thin them out from 6 to 9 in. apart, and maintain a healthy and vigorous growth by constant surface stirrings in suitable weather: this, if attended to, prevents canker, and encourages the production of an abundance of fine leaves for use every day throughout the winter. Timely forethought should be taken to shelter a portion with a row of short stakes about 18 in. high, interwoven with fern, straw, evergreen branches, furze, heath, or other material, which should be neatly applied, and also made wind-proof. Thatched hurdles or frames, cheaply made of battens tacked together and thatched, might also be used for the purpose of protecting from frost. The last sowing, to supply leaves in the spring, generally consists of the Prickly variety. The time to sow this crop, however, depends upon the locality. If sown too soon, it runs to seed the same season, and is useless. To sow it late enough to have a crop of leaves without the plants throwing up their flowering stems is what has to be aimed at, and for this reason many sow twice for the winter crops. In some parts of Scotland and the north of England the middle of August is not too soon, while in the south it is not often safe to sow before the end of September; but a practical acquaintance with the climate and locality will generally be the best guide. This crop is often sown after Potatoes or Onions. The winter crop will generally afford a good supply of leaves till nearly the beginning of June, by which time the Round or Summer Spinach will be coming in in abundance.

A deep, rich, moist soil is necessary to grow good Spinach; and if liberal supplies of liquid manure be given to summer crops, a great advantage will be gained thereby. Some care is required in picking Spinach, especially in winter, when the growth is often not equal to the demand. Indiscriminate picking will soon ruin the crop; the largest leaves should therefore be taken first, and picked off singly, so as to avoid injuring the plants.

Culture for Market.—English market-gardeners seldom grow Spinach as a summer crop, as it “bolts” or runs to seed before many leaves have been gathered from it, and in that case it is by no means a profitable crop. The Round-leaved sort is that which is used for spring sowings, the first of which is made in February, a second about March 1st, and another sowing or two at an interval of three weeks or thereabouts, just as space and convenience permit. The latest spring sowings are made on a damp, cool piece of ground, provided such can be obtained, as, thus circumstanced, better leaves are produced in hot weather than on dry and warm soils. In July, if the weather
be moist, a sowing of the Round-leaved variety is usually made on a spare piece of ground for autumn use. Early in August a large sowing of the Prickly-seeded or the Flanders is made broadcast on fields or in rows about 8 in. apart. Some growers prefer the Flanders on account of its large fleshy leaves and hardy constitution, and it sells in the market better than the Prickly sort. By sowing in the first and last week of August and the middle of September, a succession of Spinach from October till May is easily kept up. Coleworts are frequently planted in a field of late Spinach, at 3 or 4 ft. apart. In damp winters a large proportion of the roots may die, but in ordinary winters they survive, and produce an abundance of large fleshy leaves in spring. No care is taken with this crop from the time of sowing till gathering, beyond hoeing and thinning once or twice. Spaces under fruit-trees are also covered with Spinach sown broadcast; and as the trees are not furnished with leaves, they do not shade the plants. Open fields are also often sown with Spinach in beds, which are covered by throwing soil over them from the alleys; on these beds Cauliflowers are also planted, at the usual distances apart. By the time the Spinach has come well up the Cauliflowers will have become well established, so that the Spinach, which as soon as ready is removed for market, does not injure the Cauliflowers.

USES.—The leaves are eaten boiled.

**COMMON SPINACH**

*Spinacia spinosa*, Mænch. ; *Spinacia oleracea* a, L.

Épinard ordinaire.

This form, which appears to come nearer than any other to the wild plant, is now very rarely cultivated, at least in France. It is distinguished by its rather narrow, pointed, arrow-shaped leaves, by having the leaf-stalks tinged with red, and the seed armed with sharp, horn-like prickles. It is not a kind to be recommended. The germinating power of the seeds lasts for five years.

**Large Prickly, or Winter, Spinach.**—Resembling the preceding kind in the seed, this variety is distinguished from it by the broadness.
of its leaves (which, however, are distinctly arrow-shaped) and by its great productiveness. When sown thin, it often forms broad spreading tufts, with numerous branches, plentifully covered with leaves and rather slow in flowering. This habit of growth is peculiar to the plant. The Round-seeded varieties usually form only a simple rosette, from which, at flowering time, one or more vertical stems issue, bearing from their earliest growth well-developed organs of fructification. These stems also are hollow at the centre and much thicker, being sometimes 1½ to 1¾ in. in diameter, while the stems of the Prickly-seeded kinds are seldom thicker than one's finger. This is a good, vigorous-growing, and hardy variety, and, as we have already observed, is preferred by the Parisian market-gardeners to all other kinds for spring sowings.

There is a Prickly-seeded variety with roundish leaves, which bears a tolerable resemblance to the Lettuce-leaved Spinach, and is known by the name of Épinard Camus de Bordeaux, or E. Rond à Graine Piquante. It is very clear that, of two varieties which are equally good in other respects, the preference will always be given to the Round-seeded kind, the seed being more convenient to handle and more easily sown.

**ROUND-SEEDED SPINACH**

*Spinacia glabra*, Miller; *Spinacia oleracea* β, L.

Épinard à graine ronde.

The opinion of botanists that the Round-seeded Spinach is a distinct species from the Prickly-seeded, appears to be well founded, as the shape of the seed is a very permanent characteristic in these plants. Horticulturally also, the two kinds are clearly different, the Round-seeded always growing more thick-set and forming more compact and less spreading tufts than the Prickly-seeded varieties. Their germinating power lasts for five years.

**Round-seeded Round-leaved Large Dutch Spinach.** — A good, vigorous, and hardy kind. Leaves arrow-shaped, large and broad, light green, crimped, especially while young, with blunt points generally slightly turned underneath. The leaf stalks are about as long as the blades of the

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*Image* Large Dutch Spinach.
leaves. Seed round. This form may be considered as the type of the Round-seeded varieties, which are improved modifications of it. At the present time, the Spinach which is most frequently sold under the name of Dutch Spinach, especially in Germany, is nothing but the Lettuce-leaved Spinach.

**Round-seeded Flanders Spinach.**—This is the best-known and most extensively cultivated Round-seeded Spinach. Its characteristics are almost the same as those of the true Dutch Spinach, but it is of somewhat greater size, and the leaves are rounder and less arrow-shaped. It is an excellent and productive variety, and may be sown nearly all the year round. When sown in autumn, it yields a very considerable crop in spring, and in this respect it and the following variety have a marked advantage over the Late-seeding Spinach, the growth of which is not so vigorous at the end of winter. The latter, however, in its turn, surpasses them in the summer months, when it yields a continuous supply of broad tender leaves, after the earlier varieties have entirely run to seed.

**Viroflay Giant Spinach.**—This variety, which is a rather new one, resembles the Flanders Spinach in the shape of its leaves and
in its habit of growth, but is of much greater size, as it is not unusual to see tufts of it measuring 2 to nearly $2\frac{1}{2}$ ft. in diameter, with leaves 10 in. long and 8 in. wide at the base. Like all extremely vigorous-growing and large-sized varieties, this requires a plentiful supply of nutriment, and is worthy of recommendation, being especially suited for well-manured and well-kept gardens.

**Lettuce-leaved Spinach.**—A very distinct variety, with oval leaves, which are rounded both at the base and the upper extremity, of medium size, spreading on the ground, and very dark green. Leaf-stalks short and stiff. The name of this variety does not convey a very accurate idea of its appearance, and it might, perhaps, be more appropriately styled the Sorrel-leaved Spinach, only that this name has been already applied to another variety which is now seldom met with in cultivation, and of which the leaves, with their short and partially violet-tinged stalks, very closely resemble Sorrel leaves, not only in shape, but also in their light, pale colour. The Lettuce-leaved Spinach is a rather productive variety, notwithstanding its low and thick-set habit
of growth. It answers well for summer and autumn sowings, and, when sown before winter, is one of the latest kinds to run to seed in spring.

**Victoria Dark Green Summer Spinach.**—Distinguished by its dark green glazed leaves, its lateness to flower makes it available during the whole summer. Like other late-seeding Spinaches, it forms a rosette of leaves flat on the soil.

**Savoy-leaved, or Curled, Spinach.**—A rather curious kind with fairly large, much crumpled, glossy dark green leaves. Early and productive, but rather prone to run quickly to seed.

**Late-seeding, or Long-standing, Spinach.**—We are indebted to M. Lambin, Secretary-general of the Soissons Horticultural Society, for our acquaintance with this excellent variety, which surpasses all others in the length of bearing. The plant forms compact tufts, with numerous dark green leaves somewhat more crimped and less rounded than those of the Lettuce-leaved Spinach, but yet resembling them more than those of any other variety. The leaf-stalks are very short, rarely exceeding the length of half the blade of the leaf. The distinguishing quality of this variety is, as its name indicates, that it runs to seed more slowly and later than any other kind. The difference of
time in its favour may be estimated at from fifteen to twenty
days at least, according
to circumstances, and is
especially marked in
spring sowings, which are
so often liable to run to
seed too soon.

Long-standing Catillon Spinach. — A
late long-bearing kind;
leaves medium-sized,
rounded, resembling those
of the preceding, but smoother; a very good variety for spring and
summer sowing.

NEW ZEALAND SPINACH

Tetragonia expansa, Ait. Mesembryanthemaceae.

French, Tetragone cornue. German, Neuseeländischer Spinat. Flemish, Vierhouk.
Danish, Nyseeland-k Spinat. Italian, Tetragona.

Native of New Zealand.—Annual.—Stems spreading, branched,
from 2 to over 3 ft. long, bearing numerous alternate thick, fleshy
leaves, resembling Orache leaves in shape; flowers axillary, small,
greenish, and without petals, succeeded by hard horned seed-vessels
somewhat like the Water Chestnut in shape, and of
an almost woody texture
in the interior, where the
seeds are enclosed. The
germinating power of the
seeds lasts for five years.
This plant is grown to
supply the place of the
ordinary Spinach during
the hottest months of the
year, or in dry, arid
localities where the ordinary
Spinach does badly. The
seed is sown, either in a
hot-bed or in the open
ground, where the plants
are to stand, in May, and
the plants will continue to
yield a supply of leaves during the whole summer, requiring
hardly any attention. The leaves are eaten boiled and minced
like ordinary Spinach.
STACHYS TUBERIFERA

STACHYS TUBERIFERA
Or Chinese or Japanese Artichoke.

A perennial, with creeping roots, quadrangular stems and opposite, oval, pointed, dull green, articulated, rough leaves; flowers in compact terminal clusters, seldom seen in European climates, and therefore not seeding. The plant is, however, very easily increased by the thickened ends of the underground stems. These rhizomes, of which the engraving gives a very good idea, are white, watery, and tender, and fine skinned. They are formed only late in the season when the vegetation of the plant has almost ceased and the stems begin to wither. They keep with difficulty and should be lifted only when wanted.

CULTURE.—Their culture is very simple. Their rhizomes are planted from February to April, in light soil about 1 ft. apart. No other care is required during summer than to keep the soil free from weeds and to water in case of protracted drought. The rhizomes may be lifted from October onwards. They are eaten fried, or as a salad, etc.

STRAWBERRIES

Fragaria, L. Rosaceae.


Several species of Fragaria have been introduced into cultivation at different times, and, either through the improvement of the wild forms themselves, or by being crossed with one another, have contributed to produce the diversified varieties which are now found in gardens. The number of these varieties has become so great, that it is absolutely impossible to mention them all in this work, and we have been obliged to make a selection comprising only those...
kinds which appeared to us most worthy of note, either as possessing in a high degree a combination of various good qualities, or as being specially adapted for some particular purpose. Earliness, productiveness, perfume, and fine flavour are qualities which every one will appreciate in a Strawberry, and it is according to the merit of varieties in these different respects that the amateur who grows them in his own garden for his own use will select the kinds of Strawberries which suit him best to plant. But the private gardener who forces them for an early crop, or the market-gardener who grows them on a large scale to supply the markets, must look for other qualities in the kinds which he takes in hand, especially if the fruit which he intends to sell has to be carried to a distant market. In the latter case, the property of bearing carriage without being damaged is one of such high importance that very often the possession of it is sufficient to decide the selection of the kinds which make their appearance in the markets.

All the varieties of cultivated Strawberries have in common the advantage of being remarkably early, and they supply the first fruit that ripens in spring. As the attentions which their culture requires vary to some extent according to the species from which the varieties have sprung, we shall give only some very general instructions on the subject. The germinating power of the seeds lasts for about three years.

CULTURE.—Almost all the varieties of Strawberries suffer from dry and excessively warm weather; it is therefore advisable to plant them in cool, moist ground, and in a position somewhat sheltered from the burning rays of the sun. If a little time is thereby lost, the produce, on the other hand, will be more abundant and more prolonged. The hardiness of Strawberries is such that they will withstand the winter without any protection from frost, but almost all the varieties are injured by an excess of moisture at that time of the year, and are liable to rot at the root if planted in badly drained ground. Once the warm weather has arrived, however, Strawberry plants, on the contrary, require to be plentifully watered, and it will generally be found advantageous to give them a good mulching with stable manure or straw, which, by preventing evaporation, will keep the roots cool and moist, so that the plants will not require to be so frequently watered.

USES.—The fruit, which is excellent and very wholesome, is eaten fresh, and is also used for preserves, etc.

**WILD, or WOOD, STRAWBERRY**

*Fragaria vesca*, L.

Fraisier des bois.

Native of Europe.—Perennial.—A herbaceous, stoloniferous plant. Leaves composed of three folded toothed leaflets, which
are hairy on the lower part; flower-stem erect, branching, hairy, a little taller than the leaves; divisions of the calyx reflexed after the flower has faded; hairs on the flower-stalks adpressed; fruit small, pendent, rounded or conical in shape; seeds prominent, and extremely small. This species is common in the woods of the whole northern hemisphere, and especially so in mountainous districts. It has seldom been seen in gardens since the introduction of the Red Alpine Strawberry. We must, however, mention some forms of it which have been preserved up to the present day in the neighbourhood of Paris, from an adherence to old practices in the first instance, and also because the fruit of the Wood Strawberry possesses a quite peculiar perfume and delicacy of flavour. In low-lying districts its season lasts hardly a month, but on the mountains, on account of the difference in the time of ripening at different altitudes, Wood Strawberries may be gathered from June to September.

**Fontenay Early Small Strawberry.**—A variety differing very little from the Wood Strawberry. It is a very early kind, ripening seven or eight days before the Red Alpine Strawberry. Fruit small, round, and dark red when very ripe. The plant is not a continuous bearer, and only produces fruit in spring.

**Montreuil Strawberry.**—A very distinct variety, with rather narrow, very light-coloured, folded leaves, which have a peculiar appearance. The plant is vigorous and productive. Fruit of a rather long, conical shape, but sometimes broad and of a cock's-comb form, and dark red when well ripened, which occurs somewhat late, namely, about the end of June or early in July. This variety is very productive, but it only bears once in the year. It was raised in the neighbourhood of Montlhéry by a horticulturist named Montreuil, in the early part of the eighteenth century.

The *Fraise Monophylle*, or *F. de Versailles*, which has only a single leaflet in each leaf, is another variety of the Wood Strawberry, raised by Duchesne, the author of the celebrated "Monographie du Fraisier."

**RED ALPINE STRAWBERRY**

*Fragaria alpina*, Pers.; *F. semperflorens*, Duch.

Fraisier des Alpes.

Native of the Alps.—Perennial.—A very different plant from the Wood Strawberry, and distinguished from it by the greater size of all its parts—the fruit, in particular—and especially by the property peculiar to it of producing flowers and fruit continuously all through the summer. The introduction of this Strawberry into cultivation is of no very distant date, as it was brought
into France from Mont Cenis by Fougeroux de Bondaroy, in 1754; but it speedily attained a very important position in horticulture, on account of its valuable quality of producing fruit at a season when all other varieties of Strawberries have long ceased bearing. The fruit has nearly the same appearance and flavour as that of the Wood Strawberry, but is generally larger, longer, and more pointed in shape. The seed also is perceptibly larger and longer.

**CULTURE.**—As this Strawberry reproduces itself exactly in every respect from seed, many gardeners are in the habit of raising it in this way instead of from runners, and they generally agree in the opinion that plants raised from seed are more vigorous and more productive than the others. In order to ensure a very pro-

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**White Alpine Strawberry.**—There are numerous varieties of Alpine Strawberry. One of the oldest known is the White-fruited kind, which differs from the ordinary kind
in the colour of the fruit, which is also not quite so acid. The plant is an equally continuous bearer.

**Janus Alpine Strawberry.** — A very fine variety of the Alpine Strawberry, characterised by the fruit being conical, large, and well shaped, and becoming almost black when perfectly ripe. It is very productive, a very continuous bearer, and highly worthy of recommendation in every respect. The variety comes very true from seed.

**Alpine Belle de Meaux Strawberry.** — A sport of the Red Alpine Strawberry, characterised by the large size of its fruit and the intense red colour of the whole plant. Not only the stems and runners, but the flowers themselves, are often tinged with red, and the fruit almost black when quite ripe. Produces abundantly during six months of the year, and comes quite true from seed.

**Bush Alpine Strawberry.** — This very distinct variety has the advantage of growing without producing any runners, which often make it troublesome to keep Strawberry-beds in order, and, on this account, it is peculiarly well adapted for planting as edgings. There is one form of it with red, and another with white fruit. Both are hardy, productive, and continuous bearers, and reproduce themselves from seed with hardly any variation. They may also be multiplied by division of the tufts.

**Red Alpine Duru Strawberry.** — Another improved variety of
Alpine Strawberry has been pretty much grown for some years past under the name of *Fraise des Quatre Saisons Améliorée Duru*. This is distinguished from the other varieties by the peculiar shape of the fruit, which is very long and slender; it is lighter in colour than the Janus Strawberry. The size of the fruit of the Alpine Strawberry might be much increased by a careful selection of seed-plants, but it must not be lost sight of that every increase in the size of the fruit is usually gained at the expense of their number or the continuous production which is the real and greatest recommendation of the Alpine Strawberry.

**Alpine Berger Strawberry.** — Comes very near the preceding variety, but has longer and thicker fruit. A vigorous grower and a very continuous bearer, producing, especially when young, much perfumed scarlet fruit.

**Meudonnaise Perpetual Strawberry.**—This variety, which formerly was rather commonly grown in the neighbourhood of Paris, but at present is somewhat neglected, is distinguished at first sight from all others by its rather light-coloured leaves, which have the peculiarity of being crimped or puffed in the middle, instead of being flat or folded in two, like those of most other varieties of the Alpine Strawberry. The fruit is large, conical, and very dark in colour when quite ripe. It ripens rather late.

**Schöene Anhalterin (Goeschke).**—A compact-growing Alpine Strawberry with red fruit, of no particular merit.
HAUTBOIS STRAWBERRY

Fragaria elatior, Ehrh.
Fraisier capron.

Native of Europe.—Perennial.—A stoloniferous plant, with folded, dull, dark green, and somewhat hairy leaves. Flowers usually dioecious through abortion; fruit a very deep red-violet. In some plants, the pistils only are developed, and in others the stamens, so that fructification will not occur with certainty unless both forms of the plant grow within a short distance from each other.

CULTURE.—The Hautbois, like most Strawberries, is almost always propagated from runners, which it produces in abundance. All the cultivated varieties of this Strawberry, being derived from a plant which grows wild in France, are perfectly hardy and easily grown; nevertheless, since the appearance of the large or Pineapple Strawberries which have now become so common, the Hautbois Strawberries have lost much of the favour which they formerly enjoyed. The peculiar and exceedingly strong flavour of their fruit is disagreeable to many persons, and they have not the advantage of producing a second crop in autumn, like the Alpine Strawberry. Any good well-drained soil suits them, and the plants may be left growing in the same place for several years, but it is necessary to plant male and female plants together in order to ensure complete fructification.

Common Hautbois, or Musky, Strawberry.—This variety exhibits all the characteristics of the species from which it is derived, with a vigorous habit of growth and abundant foliage. The fruit are very numerous, nearly spherical, slightly shortened at the point, elongated at the neck, and without seeds on the part next the calyx. They do not ripen until about the end of June, and are then of a violet or wine-red colour. The flesh is very solid, juicy, buttery, and melting, white or faintly yellow, or sometimes greenish, and with a very strong flavour, something like that of Black Currants. The leaf-stalks are very hairy, especially when young.

Belle Bordelaise Strawberry.—A plant of smaller size than the preceding kind, but more thick-set and compact in growth. Leaves of a light, almost gray-green; leaflets long oval, with well-marked veins and sharp, deeply cut teeth; flower-stems erect, well raised above the leaves; flowers large, pure white, with very round petals; fruit rather long, often conical, considerably larger than that of the Common Hautbois Strawberry, and ripening about the middle of June.
The following species are also worth mentioning:—

**Short-runnered Wild Strawberry** (*Fragaria collina*, Ehr.).—Resembles the common Wild Strawberry, excepting that the runners are not jointed; from the Alpine Strawberry it differs in not fruiting continuously. The fruit is more like that of the Hautbois than any other kind.

**Scarlet Virginia Strawberry** (*Fragaria Virginiana*, Ehr.).—Native of North America.—A stoloniferous plant, with long smooth leaves and small round fruit, very slender stalks, and deeply sunk, small and brown seed. It is an early and a hardy, but not continuous bearer. The fruit is very small, and rather light scarlet even when ripe.

**Chili Strawberry** (*Fragaria Chilensis*, Duch.).—Native of Chili.—A stoloniferous species, of compact growth, very hairy on all its parts. Fruit large, irregular in shape, orange-coloured and more or less hairy. The fruit ripens late, and varies in form and colour. Not very hardy, and succeeds only in seaside districts, especially in Brittany.

**PINE-APPLE STRAWBERRY**

*Fragaria grandiflora*, Ehrh.

Fraisier Ananas.

The origin of this large-fruited form of Strawberry is very obscure. At the time of its introduction into cultivation, about the middle of the eighteenth century, it was not exactly known how it originated. Moreover, two kinds of Strawberry have been known by this name—one, described by Poiteau, which is not the true Pine-apple Strawberry; the other, which is much more extensively grown, especially in England and Holland, appears to have produced, either by variation or perhaps from crossing, most of the large-fruited kinds known as “English” Strawberries. It is very possible that the Pine-apple Strawberry itself is the offspring of a cross between the Chili Strawberry and some other botanical species. The typical plant, as preserved in some collections, is of a vigorous and rather thick-set habit of growth. The leaves are rather like those of the Scarlet Virginia Strawberry; the flower-stems are stout, not very tall, and somewhat hairy, and the flowers are very large; the fruit is round or slightly heart-shaped, and of a pale pink colour, with a faint yellow or salmon-coloured tint; the flesh is very white and often hollow at the centre; the seed is brown, medium-sized, and not very deeply sunk.

From the seed of this Strawberry thousands of distinct varieties have been raised, and of these we shall now describe the best and most noteworthy.
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The varieties which are comprised under the name of Hybrid or Large-fruiteted Strawberries are far from presenting an identity of character, so that we shall not endeavour to give any general description of plants which exhibit so many points of difference from one another. To give some idea of the diversity which exists amongst them, we may observe that the colour of the fruit varies from white to blackish red, while the weight ranges from less than a quarter to over three ounces. The flavour also of the fruit, the size of the seed and the depth to which it is sunk in the surface of the Strawberry, the size of the flowers, the time of ripening, and the number of runners produced exhibit equally strongly marked differences.

CULTURE.—The Hybrid Strawberries like well-drained, deep, substantial soil, but they readily accommodate themselves to soils of various kinds, provided they are not brought into contact with stagnant moisture, which injures them more than anything else. Any kind of garden soil, by being moderately well dug and properly manured, can be brought to produce good Strawberries, unless the climate is excessively dry. The seed of Hybrid Strawberries is rarely sown except for the purpose of raising new varieties, and they are almost always propagated from runners—a method so prompt and easy that a better could hardly be desired. The runners are long, slender, bare, and cord-like branches, the swollen extremity of which bears a cluster of leaves, and from its under-surface speedily sends out roots and attaches itself to the soil at a short distance from the parent plant. The runners of the Hybrid Strawberries do not end with the rooting of the first cluster of leaves, but produce four or five joints in succession, each bearing at its extremity a cluster of leaves which grows and roots itself like the first, under favourable conditions. The runners begin to appear when the plant comes into flower, and continue to increase in length all through the summer, during which time the plant will also produce fresh ones, should the first have been cut off. About August, the earliest plants of the runners will be well rooted and strong enough to be planted out, either as edgings or in beds, each containing three or four rows of plants, which should be about 20 in. apart in every direction. Before planting, the ground should have been well dug, well manured, and covered with a good litter of manure or dead leaves. The young plants will begin to bear in the following spring, and the fruit will be more abundant and finer if all runners are carefully removed. As soon as the first fruit are formed, it is advisable to place a layer of long straw, or else slates or tiles, on the ground under the young fruit, to keep them from
coming into contact with the damp soil. When this is done, the fruit ripen sooner, and are always clean, even after heavy rain. A bed of Strawberry-plants usually continues to bear well for two or three years. In the second year, preparations should be made to replace the plants with new ones, so as to have the beds always in full bearing. The weakest runners and those produced latest in autumn may be transplanted into a nursery-bed, in order to be planted out in spring, but these must not be expected to bear fruit until the year after they are planted out. Strawberries are sometimes forced in hot-houses, but more usually in frames or pits heated by hot-water pipes. Plants for forcing are raised in pots and placed in artificial heat from the end of October until Strawberries begin to ripen in the open air. By pinching off the first runners of plants growing in the open air beyond the first joint, and rooting each of the young plants in a flower-pot filled with good soil, plants may be obtained sufficiently well grown to be repotted in autumn and forced in the ensuing winter. The same method may be employed to forward plants which are to be planted out in the open air. The varieties of Hybrid Strawberries which are best adapted for forcing are:—Princesse Royale, Marguerite, Vicomtesse Héricart de Thury, and La Constante; and, of English varieties, Black Prince, Keen's Seedling, and British Queen.

USES.—The fruit is eaten raw, and is also made into sweetmeats and preserves.

Albany (Wilson).—An early and productive variety. Plant of vigorous, compact growth; leaves dark green, with long, thin, hairy stalks; leaflets oval, sharply toothed; flower-stems numerous, erect; flowers small with narrow petals. Fruit small, rounded, or heart-shaped, dark scarlet-red, and very abundant; flesh red, juicy, but very acid. Ripens mid-season. Its acid flavour and small size disqualify it for table
use, but for cooking and preserving it is unsurpassed, superior even to the famous Vicomtesse Héricart de Thury.

**Van-Guard Strawberry.**—A very productive, vigorous, bushy plant, with large dark green leaves. Fruit medium-sized, but very numerous, globular or oblong in shape, of bright red colour; seeds almost projecting; flesh pink, fairly sweet, but not much perfumed. It bears larger fruit than any of the other early sorts. Its chief merits are its great earliness and its abundant and prolonged yield.

**Barnes’s White Strawberry** (*Bicton Pine*).—Plant of moderately vigorous, rather thick-set habit of growth; leaves rounded, dark, shining green, deeply and rather sharply toothed; veins very distinctly marked; leaf-stalks long, slender, and green; flowers numerous, small, and borne on short branching stems which are scarcely taller than the leaves; fruit round or conical, blunt, white slightly tinged with pink; flesh very white, not crisp, sugary, juicy, and a rather strong musky flavour; seeds half-projecting, red or brown. Fruit ripens mid-season. A very productive variety, especially notable for the white colour of the fruit. After fruiting, the plant remains remarkably compact and thick-set. It produces few runners, and these are short, stiff, and thickish, and bear the clusters of leaves closer together than the runners of most other Strawberries.

**Belle de Cours Strawberry.**—A vigorous sort, ripening late, with numerous conical dark red fruit; flesh rosy white, firm and sweet. A garden more than a market variety.

**British Queen Strawberry.**—Plant of medium height, and somewhat delicate; leaves oval, rather long; leaf-stalks hairy, often red; leaflets oval, nearly round, with very large short teeth; flowers very broad; flower-stems stout, usually taller than the leaves; pedicels inclined to be thick and hairy; fruit very large, oblong, often flattened, conical or square at the end, of a vermillion colour which is never very dark; flesh white, firm, very juicy, sugary,
highly perfumed, and very fine in flavour; seeds brown, rather projecting. This is certainly one of the best of all Strawberries as regards quality, and is especially to be recommended for stiff moist soils. It would, undoubtedly, be more extensively grown if it were hardier, and if its propagation was not rendered tedious and difficult from the circumstance of its producing very few runners, and these thin and slender ones.

**Carolina Superba Strawberry.**—Plant rather vigorous, hairy on all its parts; leaves dark green, shining on the upper surface; leaflets oval, folded or twisted, often spoon-shaped; flowers medium-sized, numerous; flower-stems rather stout, but scarcely taller than the leaves; fruit large, heart-shaped, short, and vermilion colour; flesh very white, melting, buttery, perfumed, slightly musky; seeds half-projecting. A very good and rather productive, but somewhat tender variety. Fruit ripens mid-season. Although coming near the British Queen Strawberry in other respects, this variety differs from it in producing stout, thick, hairy runners. These are not very numerous, and we have sometimes seen them flower in the same year, but such an occurrence is exceptional.

**Centenary Strawberry.**—A strong, vigorous plant; leaves broad, long stalked; flowers large, white, borne on very long stems. Fruit large, oblong, bluntly pointed, often cock's-comb shaped. A thick, well-coloured, glistening fruit with deeply sunk seeds; flesh pink, juicy and of good quality; ripens mid-season. Its chief merit is that with no special care it can produce as large and as beautiful fruit as those obtained at much expense with General Chanzy and other sorts famous for their great size. It therefore
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suits the private grower as well as the market garden.

Crescent Seedling Strawberry. — A fairly vigorous plant, bushy, dwarf; leaves dark green, with narrow leaflets; flower-stems numerous, short and slender, bearing numerous small flowers opening very early. Fruit abundant, medium-sized, heart-shaped, of a glistening red colour; flesh red, acidulated and perfumed. This kind may be classed among the earliest varieties, equaling in this respect the May Queen Strawberry, than which it produces larger fruit and for a longer time.

Docteur Morère Strawberry. — A very vigorous variety. Leaf-stalks and flower-stems rather hairy; leaves large, broad, and very dark green; leaflets broad, almost always folded on the midrib, slightly puckered and twisted, and with very large, rather deep and sharp teeth; flowers large, rather numerous; calyx very large; flower-stems stout, erect, often leafy. Fruit very large, short, very deep red when ripe, and rapidly diminishing in size; flesh pink, melting, sugary, juicy, and rather perfumed, but often hollow at the centre; seeds black and rather projecting. The flavour of the fruit somewhat resembles that of the Chili Strawberry. This variety is grown on a large scale in the neighbourhood of Paris for market supply.
Docteur Veillard Strawberry.—A medium-sized plant, with light foliage; leaf-stalks slightly hairy; leaflets large, oval, broad, much toothed; flower-stems stout, very branching, trailing; flowers medium-sized. Fruit fairly large, rounded or oblong, not very abundant; flesh red, perfumed, but pasty. A half-early variety.

Duc de Malakoff Strawberry.—Plant exceedingly vigorous, with large broad leaves of a deep, almost blackish green; leaflets oval, rounded, with very large short teeth; leaf-stalk, flower-stems, and runners very hairy, and often tinged with red; flowers large, pure white; flower-stems stout but inclined of a peculiar brown tint the colour of the flesh somewhat of the flavour to be short; fruit large and short, and when ripe; flesh yellow, something like of an apricot, juicy, melting, and with of the Chili Strawberry. This is a very productive and very hardy variety, and ripens mid-season.

Edouard Lefort Strawberry.—A new and very distinct variety, shaped liked the Hautbois Strawberry—a shape rarely seen in hybrid Strawberries. Plant vigorous, leaves numerous, upright; leaflets large, long, dark green, borne on hairy stalks; flower-stems tall and stout; fruit round at the end and tapering at the base, where it forms a neck bare of seeds for one-third the length of the fruit. The fruit is scarlet changing to dark blood-red. The flesh is red all through, and in this respect it differs from the Two-coloured Strawberry and the Deutsche Kronprinzessin, the only two
other long-necked varieties known to us, for both of these have white-fleshed fruit.

**General Chanzy Strawberry.**—Plant very vigorous; leaves large and dark green; leaf-stalks covered with an abundance of long hairs; flower-stems stout, erect, taller than the leaves, or partially so; fruit generally very large and long, narrowed at both ends, sometimes hollow at the centre, and of exceedingly dark red colour, which becomes nearly black when the fruit is fully ripe; flesh blood-red throughout, sugary, vinous, and sometimes perfumed to a surprising degree. This variety ripens rather late and continues bearing for a considerable time.

**Jucunda Strawberry.** —Plant very vigorous and thick-set; leaf-stalks tall; leaves medium-sized, light green, almost glazed; leaflets nearly round, with short and rather round teeth and well-marked veins; flowers medium-sized, very numerous; flower-stems stout, erect, often leafy, always very branching, and taller than the leaves; fruit very abundant, heart-shaped, of a bright vermillion-red colour, becoming darker when over-ripe, and sometimes slightly hollow at the centre; flesh red, juicy, rather perfumed, and not very sugary; seeds yellow, almost entirely projecting. Ripens half-late. The vigour and hardiness of this variety, the abundance of its fruit, their fine colour, and their capability of bearing carriage without injury, render it one of the most valuable kinds of Strawberries for market-gardens near large towns. It is in full bearing when the early kinds are on the decline.

**La Constante Strawberry.**—Plant of compact, thick-set growth; leaves short stalked; leaflets small, nearly round, dark, rather glaucous green, with large teeth, usually few in number, but long and sharp; flowers very numerous, small, greenish white;
General Chanzy Strawberry.

flower-stems branching, but very short, and almost hidden by the leaves. Fruit large, conical, rather short, and a rather deep scarlet colour when fully ripe; flesh pink or pale red, delicate in flavour, juicy, perfumed, and slightly deficient in sugar; seeds black, not deeply sunk. This variety is very highly to be recommended, as being productive, a very regular cropper, and taking up but little room.

Le Czar Strawberry.—A mid-season variety, vigorous and prolific; bushy, with large and rather twisted leaves; leaf-stalks long, red, and
slightly hairy; leaflets rounded; flower-stems stout, and rather short, bearing large, erect flowers. Fruit very large, egg-shaped, long and pointed, tapering and bare of seeds at the neck, of a glistening dark red colour, with seeds deeply sunk; flesh intense red, sometimes hollow at the centre, juicy and agreeable. Is much liable to suffer from drought, and when the needed moisture is not provided, the setting of the fruit, as also their size and good shape, is seriously endangered.

**Louis Gauthier Strawberry.**—A tall, robust, and leafy plant; leaf-stalks long, slender and slightly hairy; leaflets small, much rounded, bluntly toothed, and a shining dark green; flower-stems numerous, stout, long, erect or recumbent, bearing large flowers with rather twisted petals. Fruit very abundant, medium-sized or large, globe-shaped, or slightly flattened at the stem end, very regular in shape; seeds brown, half projecting, contrasting with the rosy white colour of the fruit; flesh, juicy, sugary, perfumed, and very good in quality. Half-early. Announced at first as a Large-fruited Perpetual Strawberry, it is not exactly that, for the second crop is only on the young runners in the autumn and is dependent on the season and cultivation. For productiveness, regular shape, and exquisite flavour it is among the best garden Strawberries, although the pale colour of the fruit may not appeal to every one.
Louis Vilmorin Strawberry.—Plant rather low and of medium vigour; leaflets oval rounded, shining green, with very large, rather blunt teeth; flowers broad, pure white; flower-stems very short and much branched, the branches often tinged with red and partially hidden by the leaves. Fruit heart-shaped, very regular, numerous, and very dark red in colour when ripe; flesh dark red, not very sugary, and somewhat deficient in delicacy of flavour and perfume, but very firm, juicy, and agreeable. A very hardy variety, bearing abundantly and long, and remarkable for the deep red colour of the fruit. Its runners are rather scantily produced, which hinders the speedy multiplication of the plant. It and the

American variety named Wilson's Albany are the best two kinds for preserving; the preserves which are made of them having more flavour and a better colour than those made of any other Strawberries, even of those which are the best for eating uncooked.

Lucas Strawberry.—Plant vigorous, second-early; leaves rather large, light green, shining on the surface; leaflets slightly oval, with very large, rather long teeth, which are sometimes very acute, and sometimes quite round; flowers medium-sized, with round petals, and very numerous; flower-stems stout but short, often hidden by the leaves. Fruit large, oblong, well-shaped, and rather dark scarlet in colour; flesh pale pink, juicy, sugary, and highly perfumed. A variety both productive and of the very highest quality.

Madame Meslé Strawberry.—Plant not very tall, but vigorous; leaf-stalks short, spreading, very hairy; leaflets large, rounded, undulating, deeply toothed; runners tinged red. Fruit very large, oblong, short, tapering, bare of seeds at the neck, of a beautiful brilliant vermilion-red; seeds half sunk; flesh pink, of excellent
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quality. Ripens half-early. The result of a cross between General Chanzy and Dr. Morère, it has inherited the delicate flavour of the latter, while it has the shape of the former. Great productiveness and large fruit give it a first place among those varieties suitable for field culture.

Marguerite Strawberry.—Plant medium-sized; leaf-stalks rather short and slender; leaflets long in comparison with their breadth, light green, very smooth on the upper surface, and with rather large sharp teeth on the margin of the upper half only of the leaflet; flowers medium-sized; flower-stems short, extremely branching, and almost trailing. Fruit very large, long, conical in shape, and vermilion-red in colour, even when the fruit is ripe; flesh pink, very juicy, melting, slightly deficient in sugar and perfume; seeds rather deep. A very productive, extremely early, long-bearing, good forcing Strawberry.

May Queen Strawberry.—Plant of medium vigour of growth, leafy, very like the Scarlet Virginia Strawberry in habit; leaf-stalks nearly smooth; leaflets of a very long oval shape, sharply toothed on the upper two-thirds of the margin; flowers medium-sized or small; flower-stems very branching, short, seldom rising above the leaves. Fruit medium-sized or small, short, blunt, rounded, and scarlet-red; flesh pink or pale red, acidulated, perfumed, and rather sugary; seeds deeply sunk. The fruit is very agreeable to the taste, especially as it ripens in the latter end of May.
before any other Strawberry, thus redeeming its sole defect of smallness.

**Napoleon III. Strawberry.**—Plant vigorous, with large, erect, dark green, shining leaves; leaf-stalks very hairy; leaflets large, nearly round, with broad, blunt teeth; flowers medium-sized, very round, in crowded clusters; flower-stems stout, leafy, rising well above the foliage. Fruit large, rather short, and vermilion-red; flesh very white, melting, well perfumed in warm seasons, sometimes a little hollow at the centre; seeds black, projecting. A hardy and productive variety, but ripening late, and liable to suffer much in dry seasons.

**Laxton’s Noble Strawberry.**—Plant vigorous, with large, broad leaves borne on slender stalks; flower-stalks numerous, very branching. Fruit abundant, spherical, or shortly conical, and a glistening scarlet; flesh red, juicy, sugary, perfumed, and agreeably acid. Excellent in quality, it is undoubtedly one of the most interesting varieties, not only for the garden, but also for the market, for, besides being as early, it is also very productive, and yields as fine fruit as the mid-season varieties.

**June Peach Strawberry.**—A rather bushy plant, with reddish, short, hairy leaf-stalks; leaflets rounded, slightly toothed, veined, dark green; flower-stems short, slender, very branching; flowers pretty large. Fruit conical, pale red; seeds deeply sunk; flesh pink, juicy, mellow, and perfumed. Ripens very late. Its chief merit is the high quality of its fruit, at a time, moreover, when the other sorts begin to lose in size and flavour.

**President Carnot.**—Plant of medium size; leaf-stalks long, strong, hairy, green; leaflets oval, slightly toothed, often folded;
flower-stems erect; flowers large, yellowish white petals, united at the base. Fruit a good size, oblong or globe, often cock's-comb shaped; not much coloured, hairy; flesh pink, sometimes hollow, pasty, but firm. Ripens mid-season. A very productive, but not much grown variety.

**Princesse Royale Strawberry.** — One of the oldest varieties raised in France. Plant of medium height, but very vigorous and robust; leaves smooth, shining, and clear green; leaflets long oval, with rather sharp teeth at some distance from the base; flowers very small, but very numerous; flower-stems stout, very branching, some of them taller than the leaves. Fruit very numerous, conical, generally well shaped, and of a fine red colour; flesh sugary and juicy, but somewhat hard in the centre. A very hardy, productive, and early variety. The fruit bears carriage well, and this, added to its other good qualities, accounts for the tenacity with which the Parisian market-gardeners have adhered to its culture, notwithstanding the introduction of new kinds superior to it in some respects. In the Central Market at Paris, the fruit of this Strawberry always command a higher price than those of any other varieties, except, perhaps, some choice kinds. They are especially esteemed for their fine colour and perfume.

**King of the Earlies Strawberry.**—Plant fairly vigorous, foliage light, pale green; leaflets much toothed; flower-stems numerous, slender; flowers large, and opening early. Fruit rather
large, globe-shaped or oblong, well coloured; half-early. This variety ripens at about the same time as May Queen, but bears larger fruit, resembling those of Vicomtesse Héricart de Thury. It is less vigorous and productive than most other very early sorts, and although raised a good many years ago, is little cultivated, at least in the vicinity of Paris.

**Richard Gilbert Strawberry.**—A robust plant, with shining, dark green, puckered leaves; leaf-stalks long, thin, green, and hairy; leaflets oval, toothed; flower-stems erect; flowers large, with broad petals covering each other. Fruit conical, flat, or broadened out into a cock's-comb when large; light red in colour; seeds yellow, well sunk; flesh firm, pink, juicy, rather acid, and very fragrant. Ripens late, and, being very productive, may be recommended for field culture; possesses also the merit of keeping long unpicked, and bearing handling and carriage well.

**Royal Sovereign Strawberry.**—Medium-sized plant, not very bushy, rather flat, but very vigorous; leaf-stalks long, very thin, hairy, slightly tinged pink; leaflets small, oval; runners very red; flower-stems stout and numerous, erect or recumbent; flowers large. Fruit abundant, large, oblong or flattened, bright scarlet-red; seeds yellow and prominent; flesh pink, juicy, acid; ripens very early. Much esteemed in England for garden culture as well as for forcing; in France it is hardy and productive, but very little grown, at least under glass.

**Sabreur Strawberry.**—A very distinct variety, easily known from all others by its violet-coloured runners and leaf-stalks.
Leaflets very long, with very large and deeply cut teeth; in colour a rather dark glaucous-green. The divisions of the calyx are deeply coloured, like the leafstalks. The flowers when about to fall change to red. Fruit ovoid, almost always regularly shaped, large, often very large, and of a crimson colour more or less deep according to the temperature of the season; flesh white, sugary, juicy, and rather perfumed; seeds very black and very prominent, giving the fruit a quite peculiar appearance. This variety is certainly one of the best that has been raised of late years. It does not produce fruit of the first quality, but it is early, hardy, highly productive, and continues bearing for a long time, being one of the earliest when it commences to yield and found still fruiting amongst the latest kinds. The runners are very abundant, and the variety is, consequently, one of the easiest to multiply.

Sensation Strawberry.—A vigorous and early variety; leaves broad, dark green; leafstalks short, thin, green; leaflets long oval, spoon-shaped, sharply toothed; flower-stems numerous, erect or recumbent; flowers of medium size, white, slightly yellow. Fruit abundant, medium-sized or large, oblong, blunt, a shining dark red when completely ripe; seeds yellow, prominent; flesh tender, pink, not very juicy, but perfumed and very good in flavour. Size is its principal merit, and the finest fruit is usually got from one-year-old plants, therefore replant at frequent intervals.
Sharpless Strawberry.—A vigorous plant, with erect leaves; leaf-stalks thin, green, and slightly hairy, leaflets rounded, sharply toothed; flower-stems short, stout, erect; flowers borne on long pedicels, very open and large, with petals united at the base. Fruit abundant, medium in size or large, short, often irregular in shape; flesh pink or red, juicy, but not very fragrant. Ripens early. Defective in shape and rather indifferent in quality, this variety is still much grown around Paris because of its hardiness and great productiveness.

Sir Joseph Paxton Strawberry.—Plant of medium vigour; runners slightly hairy; leaf-stalks and flower-stems rather more so; leaves fairly numerous, and dark shining green; leaflets large, oval, often puckered or twisted, and with large and rather deeply cut teeth; flowers broad, numerous, pure white; flower-stems moderately stout, and not always taller than the leaves; fruit conical or heart-shaped, well formed, and rather dark scarlet in colour. One of the best and handsomest of all Strawberries, and very productive. Ripens mid-season. In England this variety is more largely cultivated than any other by market growers. It is valued for its fine colour, large size, and firm flesh, which enables it to bear carriage well.
Souvenir de Bossuet Strawberry.—A low, almost dwarf plant, with dense foliage; leaf-stalks short, green, hairy; leaflets broad, rounded, veined, and slightly toothed; flower-stems short, flowers fairly large. Fruit abundant, large, heart-shaped, a beautiful bright red, turning to very dark red at complete maturity; seeds brown, half-sunken; flesh pale red, very juicy, sugary, agreeably acidulated. A very productive variety, its abundant foliage effectively protecting the fruit against the midday sun, but soon exhausted and producing in the end only small fruit.

Vicomtesse Héricart de Thury Strawberry.—Plant vigorous, not very tall, but leafy, erect, and dark green, indicating a robust constitution; leaflets oval, often narrow at the base, which is without teeth, the rest of the margin bearing rather deep, large, and usually rounded teeth; flowers medium-sized or small; flower-stems
stout, very branching, and generally taller than the leaves. Fruit conical or heart-shaped, and very dark red; flesh red, very firm, sugary, juicy, sub-acid, and well perfumed; seeds half-projecting. The fruit of this variety bears carriage well. It ripens early, and is produced very abundantly and for a long time. It is, consequently, grown on a large scale for market supply, not only in France, but also in England, and is a very suitable kind for forcing. The plant is one of those varieties from which, under proper treatment, a second crop may be most readily obtained in autumn.

Victoria Strawberry.—A strong, vigorous plant, forming broad dense tufts; leaflets very broad, nearly round, with very large, very blunt teeth, and of a rather dark, shining green colour; flowers numerous, medium-sized; flower-stems long, stout, very branching, and rising well above the leaves. Fruit large, very short, roundish, or slightly heart-shaped, of a pale vermillion-red, and with a very delicate skin; flesh pink, exceedingly juicy and melting, and fairly sugary and perfumed; seeds very deeply sunk. Though the fruit bears carriage badly, and does not keep well, it is pretty largely grown for the Central Market at Paris, on account of its earliness and its very great and long-continued productiveness. It is especially suitable for private kitchen-gardens.

Wonderful, or Myatt's Prolific, Strawberry.—Plant vigorous and of medium height; leaves numerous; leaf-stalks slender, rather hairy; leaflets medium-sized, nearly round, and a clear, slightly gray-green colour; flowers medium-sized, very numerous; flower-stems very stout and very branching, not always rising clearly above the leaves. Fruit long, usually flattened, almost always square at the end, and very dark crimson in colour; flesh white, very firm, juicy, very sugary, and highly perfumed; seeds black, small, projecting, and very numerous. A mid-season and very productive variety, continuing to bear for a long time, uniting great productiveness with good quality; but, owing to the rather dark colour of the fruit, not much in request in the markets.
Like all other fruit-bearing plants, the Strawberry has been the parent of so many varieties that it would be almost impossible to enumerate them all. Besides which, there are special works on this subject which treat of it far more fully than we could possibly do. We shall, therefore, in addition to the kinds already described, only mention some other varieties not yet very well known, but remarkable for their excellent qualities, some of which are employed for special purposes.

**Admiral Dundas.**—Plant vigorous, ripening late; fruit numerous, conical, dark red; flesh pinkish white, firm, sugary. A variety for the student rather than market uses.

**Belle de Paris.**—A very hardy and very productive variety. Fruit conical, large, bright red, ripening somewhat late; flesh white or red, sugary, and rather firm.

**Black Prince.**—Fruit small, round, becoming almost black when ripe. This is one of the earliest of all the Hybrid Strawberries.

**The Captain.**—A vigorous plant, with large, conical fruit, of a fine shining red; flesh pinkish white, fine and sugary. Produces but very few runners, and therefore very slow to increase.

**Commander.**—Flower-stems long and erect; fruit abundant, long shaped, scarlet, hairy; flesh firm, pink, juicy.

**Comte de Paris.**—An old French variety with handsome heart-shaped fruit of a dark red colour. Flesh red. A very productive kind, and well adapted for field culture.

**Dr. Hogg.**—Very much like the British Queen in habit of growth, but with larger fruit, of a fine scarlet red; flesh very solid, pinkish white, juicy, delicately fragrant.

**Dr. Nicaise.**—Remarkable for size rather than quality of fruit; flesh pale red.
Duke of Edinburgh.—Rather vigorous; fruit conical or heart-shaped, a very bright scarlet; flesh pale red, slightly acid, rather sugary and agreeably perfumed. A half-late variety, producing very large and very regularly shaped fruit.

Duke of Montrose.—A late sort, with pale green leaves and erect flower-stems. Fruit abundant, rounded or oblong; flesh very firm, red and juicy.

Eleanor.—A late variety; fruit oblong, very dark red; flesh pale scarlet, not very juicy, but sugary and fragrant.

Elisa.—Fruit medium-sized or small, of a rather pale vermillion red colour; flesh white. Bears for a considerable time; to be recommended for stiff soils.

Elton Improved.—Very vigorous, ripens late. Fruit heart-shaped, dark red, flesh red, sugary, juicy, rather sub-acid.
HYBRID STRAWBERRIES

**Gloire de Zuidwyck.**—A vigorous, productive, mid-early variety; fruit large, conical, deep orange or bright scarlet; flesh orange-coloured. Easily multiplied. Well adapted for market supply, its fruit keeping well.

**Hohenzollern.**—Plant vigorous, with large round leaves; fruit numerous; top-shaped, sometimes irregular, of a slightly coppery red colour; ripens late; flesh dark red, very juicy, but not very sugary.

**Kaiser Nikolas von Russland.**—A vigorous plant, with large leaves and large flowers. Fruit very numerous, heart-shaped, with sometimes the end remaining green; flesh white, not very juicy, but perfumed. Very productive.

**Keen's Seedling.**—A very good old variety. Fruit medium-sized and of excellent quality. It is one of the best of all kinds for forcing.

![Gloire de Zuidwyck Strawberry](image)  ![Keen's Seedling Strawberry](image)  ![La Chalonnaise Strawberry](image)

**Koenig Albert.**—A compact, vigorous, very productive kind. Fruit medium-sized or large, very short, flattened, light red; flesh very tender, juicy and sugary. Its runners produce sometimes a second crop. The fruit travels badly, and is easily injured.

**La Chalonnaise.**—Fruit highly perfumed and delicate; flesh white. One of the best Strawberries grown, but rather delicate.

**La Grosse Sucrée.**—Plant of thick-set growth, hardy, and vigorous, bearing rather abundantly and half-late; fruit large, of an elongated heart-shape, and of a bright shining red colour; flesh pinkish white, very melting, abundantly juicy, and very sugary.

**Latest of All.**—Very late, ripening only in July. Fruit pretty large, oblong or knobby, not much coloured, green at
the end; flesh very firm, pink, juicy, and of good quality. In hot weather the fruit harden, become sour or are spoilt by mildew.

**Leader.**—A bushy, vigorous plant. Fruit very numerous, ripening late, large, oblong, hairy, rather soft; flesh not very juicy, acid, with a thick core.

**Petit Pierre.**—Very productive, ripening mid-season. Fruit medium-sized or small, but very numerous, long conical, lustrous, firm; flesh very red, juicy, and of excellent quality.

**Princess Dagmar.**—A tall, vigorous plant, flower-stems rising well above the foliage. Fruit fairly abundant, medium-sized, oblong, blunt, deep red, very firm, ripening late and in succession; flesh pink, juicy, sub-acid, but of good quality.

**Sir Charles Napier.**—A very fine fruit, often flattened and broadened into cock's-comb shape; flesh firm, pink; a very good, vigorous kind, ripening in mid-season, often grown for the market.

**Sir Harry.**—A very fine variety, and really very rare, although many think they have it. Fruit large, heart-shaped, and of a bright red colour; flesh solid, juicy, sugary, and of a pale pink colour. Ripens half-late. This variety does not continue bearing long, and produces few runners.

**Weisse Dame.**—Low growing, with large leaves, pretty early, producing sometimes an abundance of oblong pink fruit; flesh tender, juicy, and very sugary.
Many years ago a cross made between some Pine-apple Strawberries produced a variety called "Bon Henry," from which kind, on being crossed in its turn later on with some large-fruited sorts, several new varieties were raised, among which were the "St. Joseph," the first really interesting Large-Fruited Perpetual Strawberry.

**St. Joseph Strawberry.**—A bushy, rather dwarf, and trailing plant; leaf-stalks short, green, hairy; leaves rounded, with well-defined teeth, bluish, somewhat glaucous green; flower-stems not numerous, developing in succession, short, with medium-sized, well-staminated flowers. Fruit medium-sized, heart-shaped; seeds small, numerous; flesh white, or rosy white, juicy and perfumed. Inferior as it is to many of the hybrid large-fruited sorts,
it produces an abundance of fruit during the whole summer up to the first frosts, an advantage which is not to be underrated. The fruit, if not so large as Dr. Morère or Noble, are of very fair size, and considerably larger than the finest Alpine Strawberry.

The varieties Rubicunda and La Constante ficonde may be considered as altogether identical with the St. Joseph.

Jeanne d'Arc Strawberry.—A variety raised a little later than St. Joseph, somewhat more vigorous and with rather larger fruit but resembling it in all other respects.

Saint-Antoine de Padoue Strawberry.—A much more vigorous
LARGE-FRUITED PERPETUAL STRAWBERRIES

variety than the St. Joseph, taller and denser in growth. Leaves broad, slightly hairy; leaflets oval, toothed; flower-stems tall and stiff, flowers large. Fruit large, conical or cock's-comb shaped; seeds yellow, numerous and prominent; flesh very rosy, juicy and sweet. This fine variety is the result of a cross made between Royal Sovereign and St. Joseph. It is a more vigorous plant and produces larger fruit than the St. Joseph, though perhaps not so continuous a bearer, as it has usually ceased to produce by the end of July, until it starts afresh in the second half of September or early in October. It stands the heat and drought much better than the St. Joseph.

La Productive. —
Plant vigorous, tall; leaves light green; leaflets long, toothed, rather hairy, and often four together on one stalk, which is seldom the case with the other varieties; flowers medium-sized, and very early. Fruit, large, oblong, blunt, bright red, rather hairy; seeds projecting, except on the neck, which is long, smooth, and shining; flesh pink, very juicy and very sweet. The result of a cross between St. Joseph and Edouard Lefort, it is intermediate between the two. Its fruit is very like that of Edouard Lefort and its foliage like that of St. Joseph, without the blue tinge of the latter, and with the above-mentioned peculiarity of four leaflets being often borne on one leaf-stalk, which distinguishes it from all other Perpetual Strawberries. It is perpetual like the St. Joseph, the runners, almost as soon as fairly started, throwing up a flower-stem which bears fruit towards the end of summer. The first flowers appear very early in spring, and the first fruits ripen with those of the early varieties.
The Vegetable Garden

TANSY

Tanacetum vulgare, L. Composite.


Native of Europe.—Perennial.—A plant forming a clump of very permanent growth. Stems annual, erect, rounded, usually not branching, and about 3 ft. high; leaves oval oblong, but very much divided and very deeply cut into narrow segments, which are also divided into exceedingly slender toothed lobes; flower-heads small, numerous, in compound, terminal, and rather crowded corymbbs; florets deep yellow; seeds small, long, almost conical, with five prominent grayish ribs. Their germinating power lasts for two years. Two varieties of this plant are in cultivation—namely, the Common Tansy, which is the same as the wild plant, and a curled-leaved variety, the leaves of which, in addition to the ordinary use, may also be employed for garnishing, like those of the Curled Mallow.

Culture.—The Tansy, like the Wormwood, demands no cultural care, and a plant or two of it growing in the corner of the garden is usually sufficient for all requirements. It is generally multiplied by division in spring or autumn. By cutting off the flower-heads as they appear, the production of leaves is prolonged in the latter end of summer and in autumn.

Uses.—The leaves are used for seasoning, etc.

GOLDEN THISTLE

Scolymus hispanicus, L. Composite.


Native of Southern Europe.—Biennial.—A plant with a white and rather fleshy tap-root. Radical leaves oblong, usually variegated with pale green on a dark green ground, very spiny, and narrowed at the base into the leaf-stalk; stem very branching, from 2 to 2½ ft. high, furnished with sessile, decurrent, and very spiny leaves; flowers of bright yellow, in sessile heads of two or three flowers each; seeds flat, yellowish, surrounded by a white scarious appendage. Their germinating power lasts for three years. The seed is sown in March or April, in well-dug soil, in the same...
manner as Salsafy, and the plants are afterwards treated in exactly the same way as Salsafy-plants. The roots may commence to be taken up for use in September or October, and will continue to yield a supply during the winter. The roots are eaten like Salsafy. They are often 10 to 12 in. long, and nearly 1 in. thick.

**TARRAGON**

*Artemisia Dracunculus, L. Compositae.*


Native of Siberia.—Perennial.—A plant with numerous branching stems, bearing lanceolate entire leaves, which, like all the green parts of the plant, possess a very delicate, aromatic flavour, on which account they are very extensively used for seasoning. The flowers are white, in no way striking, and always barren, so that the plant must be propagated by division of the tufts or from root-cuttings. According to old horticultural books, the plant formerly produced fertile seeds, and if such was the case, it might be hoped that some day such seed may again be regularly obtained from it, but at present it does not usually produce any, and the seed which is offered for sale from time to time only produces plants which resemble the Tarragon in all its botanical characteristics (*Artemisia Redowskii*), but entirely
destitute of flavour. The Tarragon-plant flowers frequently, and the flowers appear to be well formed. Some fertile seeds might be accidentally produced, and if these were carefully gathered and sown, a regularly seeding variety might be raised; but if from any cause there should be a difficulty in multiplying Tarragon-plants by division, an excellent substitute may be obtained by growing *Tagetes lucida*, a Composite plant, which, although belonging to a quite different genus, possesses in its green parts almost exactly the same flavour as the true Tarragon.

**CULTURE.** — Being a perennial, the Tarragon requires no particular attention. It is advisable, however, in severe winters without snow, to cut down the stems and cover the necks of the plants with a litter of manure or withered leaves, as, although originally a native of Siberia, the cultivated Tarragon-plant is somewhat liable to suffer in very frosty weather.

**COMMON THYME**

*Thymus vulgaris, L. Labiata.*


Native of South Europe.—Perennial.—A very small dwarf shrub with slender, stiff, branching, woody stems, bearing small triangular leaves, more or less deep green in colour on the upper surface and gray underneath. Flowers small, labiate, lilac-pink, in round or ovoid terminal clusters, which lengthen after flowering. The germinating power of the seeds lasts for three years.

**CULTURE.**—Thyme is usually planted as an edging in well-drained soil in a warm position. It may be propagated by division or cuttings, but is generally raised from seed, which yields vigorous plants. The seed is sown in April, either where the plants are to stand or in a seed-bed, from which the young plants are planted out in June or July, about 4 in. apart. It is advisable to re-make Thyme edgings every three or four years.
COMMON THYME

USES.—The leaves and young shoots are very often used for seasoning.

Two varieties of this plant are cultivated, namely, the Narrow-leaved, which has small gray leaves and is very aromatic; and the Broad-leaved Winter, or German, Thyme, a somewhat taller and stronger plant, with larger leaves, a little more bitter than the other variety. The seed also of the Broad-leaved kind is one-third larger.

Besides these, the Lemon Thyme (Thymus citriodorus, Pers.), a small under-shrub with trailing branches, the native country of which is unknown, is sometimes cultivated. Its flavour is very delicate and agreeable. Sometimes, also, especially in country places, the Wild Thyme, or Mother-of-Thyme (Thymus Serpyllum, L.), is used for seasoning. This is a native perennial plant, with a very slender creeping stem, bearing small oval-rounded leaves and erect terminal clusters of pink or violet-coloured flowers.

TOMATO, or LOVE-APPLE

Lycopersicum esculentum, Mill.; Solanum Lycopersicum, L. Solanaceae.


Native of South America.—Annual.—The Tomato is a branching plant with a flexible stem, requiring artificial support to enable it to grow erect. The stem is thick, often woody, swollen, especially at the joints, and covered with a green skin which is rough to the touch. The leaves are pinnate, with oval-acuminate leaflets, which are slightly toothed on the margin, grayish on the under-surface, and often spoon-shaped or even with the edges rolled upwards. Flowers yellowish, in axillary corymbns; fruit large fleshy berries, variable in shape and colour; seed white, kidney-shaped, very much flattened, and shagreened or rough on both sides. Its germinating power lasts for four years.

CULTURE.—It is only in the south of Europe that the Tomato can be perfectly grown without the aid of artificial heat. In the climate of Paris, the seed, for an ordinary or main crop, is generally sown in a hot-bed, about the latter end of March. The seedlings are pricked out into another hot-bed three weeks or a month afterwards, and are finally planted out about the end of May, from
20 to 32 in. apart, according to the variety. As soon as the plants have grown from 16 to 20 in. high, each of them should be supported either with a single stake, or with a series of stakes fastened together and forming a kind of trellis, upon which the branches of the plant are tied. The latest varieties would be all the better for being planted at the foot of a wall or other shelter with a warm aspect. In these varieties, too, it is advisable to limit the production of the fruit to a certain number by pinching off all the late flowers. It is also a good plan, sometimes, to pinch some of the shoots; but that should be done with discretion, so as not to leave the plant too bare of leaves. Under this mode of culture, the earliest varieties will commence to yield fruit in the course of August, and produce them all through the autumn. When frosty weather approaches, any fruit that are full-grown but not yet coloured may be cut off, branches and all, and stored in a dry room, where they will duly ripen. Ripe Tomatoes may be obtained as early as the latter end of April by means of forcing. In this case the plants are grown entirely in hot-beds. The first sowings are made in September, but more usually in January. The seedlings are pricked out, and also permanently planted out in hot-beds, always under the same conditions, four plants to each light. As the plants require a good deal of heat, the beds should be surrounded with linings of manure, which can be renewed at pleasure. Plants thus formed are usually not allowed to bear more than two branches, which are attached horizontally to a wire or a strong cord running from one end of the bed to the other, and as near the glass as possible. Until the fruit is formed and commencing to ripen, other plants are usually grown in the hot-beds along with the Tomatoes, thus utilising the heat and also the space which is not yet filled up by the principal crop.

In Great Britain of late years the culture of Tomatoes has spread very much, though far from, as yet, being able to meet the demand for the fruit. The climate is one of the worst possible for Tomatoes, yet, notwithstanding, our gardening resources and skill are such that much excellent fruit is grown. To raise it, however, is not so simple as in America, where over a vast range of the continent the Tomato is one of the most easily grown field crops. Some general idea of the most successful methods pursued in British gardens is therefore desirable here. Those situated in the southern counties of England and Ireland have a considerable advantage in Tomato culture over those in the north. Mr. Hobday, growing them in a by no means favourable district, may be taken as a trustworthy guide for private garden practice, which, however, varies much and is improved year by year:

"Sow the seeds in February or early in March in pots or pans; cover lightly with sand or sandy soil, and place in a hot-bed near the glass. When the young plants appear, move them to a warm house, where they will be near the glass, to get hardened by light and ex-
TOMATO, OR LOVE-APPLE

posure. Pot off either singly or two in a pot, standing at opposite sides of the pot, so that when the time comes to plant out the ball may be divided through the middle, each plant taking its share; and but little check need be given. After the plants are potted off they may either be taken back to the hot-bed for a few days, or be kept in a warm, close house till the roots begin work again, when they should be moved to a light place, in order to give strength. Plants that are well cared for in their youth begin to blossom and bear fruit weeks before those which are dragged up in vineyards or in situations away from the full light, and in our short, often sunless, summers this is a very important matter. If necessary, the plants should be shifted on into larger pots, though a very little check when they have made some progress will do them no harm. It will simply have a hardening effect upon them. As soon as the weather is settled in May, or say about the third week, plant out. In the south of England Tomatoes will succeed in any warm position, but they cannot have too much heat in our climate, and though we may plant in any warm situation, even away from a wall, it must not be forgotten that the warmest positions at the foot of a south wall are the best.

"That mode of training is the best which ensures early ripening rather than heavy crops that will not ripen, and this early ripening can be best attained by confining the growth to one or two main stems, and these main stems should have been started when the plants were young, by pinching out the leader. A two-stemmed plant will require 2 ft. of space or a little more; a plant having only one stem will not require more than 15 in. As soon as planted, and the soil settled round them by watering, a tie should be placed to each stem. If against a wall, a nail and shred may be used, but the latter should be placed loosely round the stem to allow space for swelling, which it will do considerably. If planted on the open border, a strong stake 4 ft. long should be placed near each stem, and a piece of matting placed round the stake and fastened to it first, and then the stem of the plant should be loosely fastened also. In the after-training all side shoots should be rubbed off as they appear (this will involve weekly attention), and all the strength of the plant directed upwards into the main stem. Sometimes the leaders are pinched when the first cluster of flowers appears. This throws strength into the blossoms and the next shoot, which breaks away from the leader and grows on till another cluster of blossoms is put forth, when another pinching of the leader takes place, and so on, a check to growth being given as each cluster of fruit is formed. I do not think it really matters much whether these pinchings or checks are given or not, for I have proved that a plant which is allowed to grow straight onwards, unstopped, will bear as much fruit as the one that is pinched. All that is gained by the pinching is the confining of the growth to a smaller space, and if the wall or the fence on which the plants are to be trained is a very low one, then pinching may be useful, but otherwise it is not of much value. Beyond the pinching and training the summer culture is almost nothing. Weeds, of course, must be kept down, and if the summer should be hot and dry, mulching and watering may be beneficial. In cold, wet districts the plants must
occupy a south wall, and, if possible, lay a mound of soil (the sweepings of the potting-shed, or the old soil saved from the renovation or renewal of Vine or Peach borders will do) against the foot of the wall, and plant in the mound. When the fruits are swelling rapidly and approaching the ripening stage, gradually remove a few of the leaves to let in the sunshine, and in autumn, when frost is expected, the late fruits will ripen off if gathered and placed in a warm kitchen, or in a warm position anywhere.

"UNDER GLASS.—Given a light house and a night temperature of 60°, and the Tomato may be had all the year round. In the open air, in many places, it is a precarious crop. Very frequently the fruits refuse to ripen, and when they get the colour they lack the flavour of the fruits grown and ripened under glass; and very often, too, the fruits fall a prey to a disease not unlike in character and appearance to the disease which causes such destruction to its relative, the Potato. Under glass I have had one set of plants go through the year without renewal; but young plants should be raised at least every year, as young plants produce the finest fruit, and they are so easily raised that there is nothing gained by a prolongation beyond a year. The plants may be raised from seeds, but I like cuttings best, as I think they come into bearing earlier, and the plants are so healthy and strong in both cases that one need not consider the question as to whether we lose or gain in vigour. The seedlings are sometimes over-vigorous, and require curtailment at the roots in order to moderate their exuberance. The best time to take cuttings is in summer, say in August, and they will strike anywhere—in a shady place, in a frame, or under a hand-light best, or on the shelf in the greenhouse—in fact, anywhere. They are best put into single pots of small size, and shifted into larger pots as required, until the time comes to plant them out. If struck early in August and grown on steadily, they may be brought to a fruiting condition in pots, and be transferred to the Tomato-house in time to begin bearing early in spring, when fruits are most valuable; so that really there need not be any break in the crop, as the crop in possession of the house will go on bearing till the time of its removal, if carefully managed. To do them justice they must have

"A LIGHT HOUSE.—It may either be span-roofed or a lean-to, but it cannot be too light. In either case it should be wired, the wires being about as close to each other as would be necessary for vines, and about 9 in. from the glass. The provision for the roots may consist of narrow brick pits, or boxes, or large pots. Where convenient, I think the narrow pits are best, but they need not be more than 18 in. wide, and 2 ft. in depth. Place 6 in. of drainage in the bottom, fill it with turf-loam, inclined to be rather sandy than heavy, and top-dress when necessary, giving manure-water if it should be needful to swell off a crop readily.

"The best way to train is to pinch out the leader when the stems are 6 in. high, and from the shoots which break away train up two. These will form the main fruiting stems, and should be trained up the roof, 15 in. apart. All side shoots should be rubbed off, and when the first cluster of flowers show, pinch out the leader. Select the next leader which breaks away, and nip
out the point of that also when a truss of blossoms has been evolved, and so on till the shoot reaches the top of the house. The close pinching must be persisted in to throw the strength into the plant; and a few of the main leaves may be removed when the fruit begins to ripen, to let in the sun to colour them. As the bottom fruit begin to ripen and are taken off for use, a shoot here and there may be permitted to grow, and these in turn will develop blossoms, when, if the same pinching process be adopted, a successional crop will be started which will prolong the season.*

**Tomatoes without Manure.**—Mr. Muir is inclined to think we use too much manure in the case of Tomatoes. "Almost every one who has anything to say on the culture recommends at least one part of the compost to be manure from the stable or cowshed, and plenty of plants, and fruit too, are produced under this treatment, but it must be owned that there is also a great deal of superfluous wood, and fruits in many instances are often neither so perfect in form, large in size, nor so numerous as they might have been. Three parts of the time spent in cultivating Tomatoes are often devoted to cutting back and thinning out the shoots, work which surely could not be over and above good for the plants. The majority of Tomatoes make a great deal of unnecessary wood before any fruits are formed, and many of them grow so freely that they do not fruit until their feeding supplies have become somewhat exhausted. My idea of a good bearing Tomato-plant is one which begins to fruit about 10 in. from the ground, and continues to bear closely as far up as the cultivator chooses to lead the main stems. The fruit should be numerous, and the superfluous growths in no way predominating. It is, however, a difficult matter to have Tomatoes in this condition where much manure is used, as the manure has a tendency to induce the plants to make wood rather than fruit. For some years we have been using less and less manure in Tomato growing, and in several instances we have dispensed with it altogether, and found the crops to be altogether more satisfactory than hitherto. The growths were short and robust, and the fruit formed in large quantities and swelled off and coloured beautifully. Early in summer we are in the habit of planting a Tomato here and there along the walls wherever a small vacancy occurs, and before planting we used to fork in a quantity of manure to assist them, but now no manure is employed, and the crops are good. The very poorest of soil without any manure might not answer, but ordinary potting turf will be found to grow them to the highest state of perfection."

* Defoliating Tomatoes, see p. 773. Tomato Diseases, see pp. 780, 781.
spots on it to fill them up with this esculent. During May is the best time to plant. They may be grown and hardened off along with the bedding Pelargoniums, and be planted out at the same time. Many who know them to be gross feeders think they are doing right in giving them a rich mixture to root into; but that is a mistake. The harder and dwarfer the shoots are the better. When grown in poor soil they flower profusely, and become most prolific. As soon as plenty of fruits have been formed—as form they undoubtedly will on all plants grown in nothing but pure loam—supply them with doses of liquid manure. Pick off all young shoots as they form, and a heavy crop will be the result. Wherever we have a bare strip on any part of our walls—and these occur often between trees—we fork in a few shovelfuls of chopped-up turf, and in this plant Tomatoes. Many of the plants are pruned in to one stem only, and none of them are allowed to have more than two; in fact, it is cordons and not bushes on which we depend for a profitable crop. When in poor soil, they do not make side shoots rapidly, but they should be looked over frequently to take these off and to nail up the main stem."

In all the colder parts of these islands, and where Tomatoes do not thrive in the open air, we have a great, but often neglected, substitute for a good climate in the many pits and frames emptied of bedding and other plants during summer and early autumn. Mr. Iggulden's practice is as follows:—

"I prefer pits with a single hot-water pipe round, and which are oftentimes devoted first or during the winter to Bouvardias, then to Kidney Beans during the spring months, and subsequently to Melons or Cucumbers. If such a pit is available it may well be devoted to Tomatoes, and, failing this, a cold pit or ordinary Potato-frame will do nearly as well, as it is protection from rain rather than heat that is indispensable during the summer and autumn. Supposing these pits and frames, in addition to perfecting the crops of Potatoes, are also required for the preparation of summer bedding plants, the best plan will be to have a number of strong Tomato-plants, with perhaps a cluster of fruit already set, ready to plant, say, by the end of May."

"A bed previously devoted to early Potatoes just suits Tomatoes, and needs no preparation beyond the addition of a little manure to the soil. If a bed has to be made specially for them, a quantity of old heating material may be used, adding to this sufficient fresh to cause the whole to become just warm enough to give the Tomatoes a good start. Better, however, a small bed of half-decayed manure than a heap of material that has heated itself dry, as in the latter case the small amount of loamy soil on the surface of the bed is all the plants would have to support them. The depth of the manure in the pits must be regulated according to the depth of the walls, but any amount from 1 to 3 ft. will be ample, as the frames can be raised. The beds may be made of any height, so long as the heap does not become very hot. Over the manure place a layer about 1 ft. in depth of rich loamy soil, and if the loam is rough and fibrous, so much the better. Keep the lights of the frames or pits on closely, and when the sunshine or bottom heat has warmed the soil, plant at once."

"In pits and deep frames a considerable number of plants may be
fruited, these being grown with single stems and staked in a sloping direction; while in shallow frames a few plants may be trained and fruited somewhat similar to Cucumbers or Melons. I prefer, however, in all cases where there is a depth of 2 ft. or more at the back, to adopt a combination of the two plans; that is to say, to cover the back wall or boards, as the case may be, with a number of obliquely trained plants, and the beds with a few spreading or trailing plants. I find where numbers are in a pit or frame, say about 15 in. apart and necessarily staked in a slanting direction, they are apt to shade each other; but if the back walls or boards are covered with plants, these yield surprisingly without interfering with or being injuriously affected by those spreading on the ground. In frame culture it is imperative that the cultivator be able to put on the lights at certain times, and for this reason the plants cannot well be too dwarf. Now, there are few or no really dwarf sorts to be had generally, with the exception of Vilmorin’s Dwarf, but the plants may easily be dwarfed by burying the stems, and as these quickly emit roots, the plants are also strengthened by the process. I do not recommend burying the balls deeply; the object is best attained by trimming off the lower leaves of the plants, and then, after some of the soil has been thrown out, lay them in different directions, so as to place all the heads where required, the soil being then returned. This will be found a better plan than either layering or striking the tops in order to secure dwarf plants, and laying them all in before covering the balls and stems is the only way to properly plant. The balls should be moist when planted, and are best slightly sunk and marked with pegs, so that they can subsequently be kept watered till such time as the roots are spread in all directions. The frames should be kept rather close till the plants have recommenced growth, when air should be given freely, throwing off the lights during hot weather. Close early in the afternoons till such times as the fruits are commencing to ripen, when a little may be left on during warm dry nights. A stout stake should be placed to each plant, the latter having all side shoots kept rubbed out, and be stopped beyond either the second or third large cluster of fruit, or according to the head room. If what I term the combination system is adopted, those plants nailed or otherwise trained to the back of the frames should be laid down or dwarfed; while about two plants in the centre of each light should also be planted in a sloping direction, pegged down and encouraged to spread, the former to have all side shoots removed from the one or more main stems that may be laid in, and the latter must be freely thinned out where at all crowded, the laterals being depended upon for fruiting, and are best raised from the soil with short stakes, or the clusters of fruit may be laid on pieces of slates or roofing tiles. Wherever the stems are pegged down they will strike root, to the obvious benefit of the crops.

“Disease and its Prevention.
—It is when the foliage is wet, and especially during dull showery weather, that the fungus effects a lodgment on it, and this happens whether the plants be dry at the roots or not. Consequently to withhold water from the roots, or to increase the bottom heat as a preventive of disease, is a mistake. Keep the foliage dry with the aid of the lights, never syringe over-
head, and do not leave air on when the nights are what are termed muggy—that is to say, warm and moist. It is this kind of weather that most favours the spread of the Potato fungus, and during its prevalence those growing Tomatoes in frames have the advantage over open-air cultivators, as they can and ought to keep their frames dry and close. Where the pits are heated, a little heat should be turned on during cold or wet weather, and again when it is desirable to hasten the ripening of the late fruit. The late fruit in cold pits and frames will generally ripen if cut in bunches and hung up either in a forcing or warm house or in the kitchen of a dwelling-house."

Market-Garden Culture.—Outdoor Tomatoes in market-gardens are not planted against walls, as is done in private establishments; but a warm situation, convenient to water, is selected for them in open positions, and in such positions they produce abundance of large, well-coloured fruit. The earliest planted ones are generally put in the most favourable positions, such as a warm border, or on either side of "spent" Mushroom ridges, where they are well sheltered. If planted too early, they are liable to be cut down by late spring frosts, in which case entire removal and replanting is the remedy usually applied; if the damage be not too great, however, the sound eyes produce shoots that eventually carry heavy crops. Early in spring the seeds are sown broadcast in a frame, in which a bed of fermenting manure, covered with 6 in. of light soil, has been placed. These frames are protected during cold weather by a covering of litter or mats placed over the sashes; but during favourable weather this is removed and air is given, in order to render the young plants as strong, healthy, and stubby as possible. If the plants come up too thickly, they are thinned, and when they are about 2 in. high they are pricked out into 4 in. or 6 in. pots, two plants being generally put into each pot. Frames are sometimes prepared by placing in them fermenting manure in the form of a bed to the depth of 15 in., well trodden down, on which are placed 8 in. of soil, and in such beds pots filled with mould are plunged up to the brim. The plants are then dabbled into the pots, and the frames shut up and kept close for a time, until fresh root-action has taken place. They are afterwards kept freely ventilated until May, when the sashes are entirely removed during the day, and replaced and tilted up at night and in wet weather. During the last week in May the plants are thoroughly hardened off, although still unable to endure even a slight frost, and they are planted in warm positions, as before stated, on Mushroom ridges or similar places. As soon as the fruit has attained its full size, the leaves are turned aside so as to expose it to the sun, by which means it ripens more readily, and is of better colour than when shaded. The ripe fruits are generally picked off twice a week, leaving the greener ones a little longer, so as to mature themselves; but should frost come, all fruits are picked off, and spread out on hay in a frame under sashes, where they eventually become red.

The Potato disease has often played havoc with Tomatoes in the market-gardens of London during recent years. The winter and early supply is to a great extent grown by special growers in the warmer parts of Sussex, and also in the Channel Islands.
USES.—Every year Tomatoes are becoming more used for cooking and as the best of salads. The manufacture of Tomato preserves and Tomato sauce forms a very extensive branch of industry in the south of France.

Large Red Tomato (English synonyms: Large Red Italian, Orangefield, Mammoth, or Fiji Island Tomato).—Plant vigorous growing; leaves rather broad, dark green; leaflets somewhat puckered and folded at the edges; fruit in bunches of from two to four, very large, flattened at the ends, irregularly ribbed, 3 to 4 in. wide, 2 in. or less deep, and a fine deep scarlet. A very productive variety, and the most extensively grown in the south of France, whence the fruit is sent to all the markets, while a considerable quantity is made into preserves. The fruit ripens rather late to suit the climate of Paris.

Early Large Red, or Powell’s Early, Tomato.—Plant rather slender, with leaves almost always curled, and leaflets folded back on the upper surface, giving to the plant a half-faded appearance; fruit very numerous, in bunches of from three to six, ribbed like those of the preceding kind, but seldom exceeding 2½ to 3½ in. in diameter, and 1½ to 1¾ in. in depth. It ripens a fortnight or three weeks earlier than the preceding kind, and is well adapted for climates similar to that of Paris. This variety is one of those which are most extensively grown.
Early Dwarf Red Tomato.—A sub-variety of the preceding kind, from which it differs in having the stem shorter and branching, and bearing fruit closer to the ground, its other characteristics being the same. Its dwarfer habit renders it easier to cultivate, and especially more suitable for forcing. When grown under the same conditions as the other, it commences to ripen its fruit two or three days earlier. The fruit is somewhat more flattened, more ribbed, and smaller than that of the preceding kind, but the difference is very slight.

Tree Tomato.—This variety, raised in the gardens of the Comte de Fleurieu at the Château de Laye, near Villefranche (Rhône), differs from all others in having a very short stiff stem, which grows perfectly erect without any support and bears leaves which are very much curled, reticulated, and almost black-green. The fruit resembles that of the Large Red Tomato and ripens nearly as late. It would be very interesting, and, no doubt, would not be impossible, to raise different varieties of Tomatoes which would combine the best features of the ordinary kinds, as regards shape and earliness, with the stiff, firm, and thick-set habit of growth of the present variety.

Belle of Massy Tomato.—A vigorous, half-early, very productive variety, of dwarf growth, not exceeding 3 ft. 3 in.; stem very thick; leaves smooth, much divided, with purplish stalks. Fruit slightly ribbed, produced in clusters, large, thick, resembling somewhat Atlantic Prize; flesh firm and delicate, not liable to split when ripe. Not quite so early as the sort just named, but ripening nevertheless very early and producing beautiful fruit of good keeping quality.
Laxton's Open-air Tomato.—A fairly vigorous not very tall plant; leaves grayish, light, somewhat crimped. The fruit, produced in bunches, is rather irregular in shape, but not ribbed, and quite flat on the side opposite the stalk; it is a little more than 1 in. by 1½ or 2½ in. in diameter, and when ripe a very vivid scarlet. The flesh is thick and well flavoured. Perfectly suited for outdoor cultivation, it is as early as the Early Dwarf Red Tomato, but not quite so compact in habit.
Atlantic Prize Tomato.—The best open-air Tomato for producing large crops; it is vigorous, and as early as a heavy cropper can be. The fruit are numerous, rounded, slightly flattened at the lower end, fleshy, and of excellent quality, quite smooth, and dark scarlet-red. The leaves are curled like those of the Large Early Red Tomato.

Marvel of the Market Tomato.—A vigorous bushy plant, 3 to 4½ ft. in height; leaves large, dark green; leaflets rather large, rounded, reticulated; fruit round or slightly flattened, a little over 3 in. in diameter, smooth, bright scarlet, in large bunches; flesh pink. A very productive and vigorous variety, not liable to disease. The fruit are medium-sized, keep and travel well without splitting or deteriorating, and especially suited for market supply and export.

Chemin Red Early Tomato.—An excellent variety raised near Paris; a tall, vigorous, early-flowering plant; the foliage is slightly crimped at the base of the stem, but entire and rather curled towards the top. The fruit, which set readily, are sometimes produced in bunches of seven or eight, but they attain to better size when only three or four on a bunch; they are
almost round, or slightly heart-shaped, as thick as broad, flattened very seldom, and only when very large. This thickness and solidity of flesh gives to the Chemin Tomato the prominent place it occupies. It is productive, and one of the best for canning. Its relative earliness suits it to the climate of Paris. In the south of France its long productivity and the beauty of its fruit are much appreciated.

**Purple Champion Tomato.**—In habit intermediate between the Upright Tree Tomato and the other varieties; the stem is short, stout, and erect, unless overloaded with fruit. Leaves dark green, stiff, much reticulated and crimped. The fruit is medium-sized, very smooth, well shaped, and rather flattened. A half-early variety, vigorous, productive, and fairly hardy. Its only defect, to French taste, is its purple colour.

**Scarlet Champion Tomato.**—Obtained in France by selection from the Purple Champion Tomato and has all the characteristics of the latter, differing from it only in colour, which is a beautiful scarlet-red, for which reason it is fast superseding the Purple variety in France.
Perfection Tomato.—A very handsome variety, intermediate between the Trophy and Hathaway's Excelsior, with smooth leaves. More productive than Hathaway's Excelsior, with larger and finer fruit, it is superior to the Trophy in its greater earliness and the regularity with which it ripens its fruit in the climate of Paris. The fruit is a fine deep scarlet, quite smooth, thick, more or less flattened, very solid and fleshy, well suited for canning. Ripens about mid-season.
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**Trophy Tomato.**—Plant large, tall, and vigorous, like that of the Large Red Tomato, but still later than that variety; fruit flattened at both ends, regularly rounded or faintly sinuated, from about 2½ to 4 in. in diameter, and from 1½ to nearly 2½ in. in depth. It is difficult to keep this variety absolutely pure, the fruit always having a tendency to revert to the ribbed shape, and the same plant will often be found bearing fruit which are smooth and others with ribs more or less distinctly marked.

The *Stamford* Tomato, raised by Mr. Laxton, the well-known English grower, comes very near this variety. It has rather smaller fruit, but more regular in shape than those of the Trophy Tomato, and the flesh is thicker. It is intermediate between the Trophy and Hathaway's Excelsior Tomato.

There has been grown in the neighbourhood of Paris, under the name of *Tomate Rouge Grosse Lisse à Feuilles Crispées* (Smooth Red Curled Tomato), a variety with very smooth fruit, much flattened at the lower end; owing to their depressed shape they lack thickness and consequently weight; and besides, they ripen very late, a serious drawback where, as happens too often, only one half of the Tomatoes ever attains complete maturity. The early
Chemin Tomato is much superior to this variety, and will no doubt supersede it entirely.

**Mikado Purple Tomato.**—A tall, vigorous, rather late variety, much more suitable for warm climates than for Paris. Stems very tall and stout, leaves of a special character, with only a few leaflets, but those unusually large. Fruit very large, smooth, flattened, but very thick and purple, like the Acme Tomato.

![Trophy Tomato.](image)

**Mikado Scarlet Tomato.**—The principal merit of the Mikado Purple Tomato is that it has produced the Scarlet form here described. It has all the good qualities of its parent, besides greater earliness and brighter colour.

**Scarlet Ponderosa Tomato.**—The result of a selection made in Europe among the purple-coloured Ponderosa Tomato, which it has entirely superseded. The fruit has the same enormous size, is quite smooth, and a colour more in harmony with French taste.
Golden Queen Tomato. — Fruit large, smooth, flattened, bright yellow, sometimes tinged orange on the sunny side. A fine productive half-early Tomato, but, like all the yellow Tomatoes, more curious than useful so long as consumers continue to favour the red varieties.

Apple-shaped Red, or Hathaway’s Excelsior, Tomato. — Plant of medium vigour, about the same size as the Large Early Red Tomato-plant, but with the leaves less curled; fruit almost spherical,
quite smooth, 2 in. or more in diameter, and borne in bunches of from three to six. They ripen a little earlier than those of the Large Red Tomato, but some days later than those of the

Large Early Red variety. The flesh is more solid than that of the ribbed Tomatoes, and the fruit keeps well when the skin is not cracked or otherwise injured.
Apple-shaped Purple, or Acme, Tomato.—A very handsome, productive, and rather late variety, bearing some resemblance to the preceding kind in the shape of the fruit, but differing from it in being larger, and a darker, almost violet, tint when ripe. The bunches usually do not contain more than from two to four fruit each, and these, although very round, are somewhat broader than deep.

The American variety Criterion, which is almost of the same colour as the preceding kind, differs from it in being of a slightly elongated-ovoid shape. Its fruit is about 2 in. long and 1¾ in. in transverse diameter.

King Humbert Tomato.—A very distinct kind, the fruit being of a shape unknown in Tomatoes so far. It is tall, vigorous, and prolonged in growth, with flowers in numerous bunches. Fruit
oblong, square rather than round, often in long clusters of ten to twelve, very fleshy, ripening regularly in succession as long as the temperature allows. Under glass it produces abundantly and long.

**Pear-shaped, or Fig, Tomato.**—A very vigorous and rather early variety. Stem 4 ft. to 4 ft. 3 in. high; leaves numerous, not curled, rather broad, and deep green; fruit numerous, scarlet, pear-shaped, more or less narrow at the base, about 2 in. long and 1 1/4 in. broad

![Apple-shaped Red Tomato.](image)

... in the thickest part, borne in bunches of from six to ten. A well-grown plant may be allowed to carry from twenty to twenty-five bunches. In the south of Europe, especially near Naples, a great number of Pear-shaped varieties of Tomatoes are grown, among which this strain appears to us most worthy of note for earliness and productiveness. The Pear-shaped kinds are considered to keep better than any others. At Naples the plants are pulled with their fruit, and hung under cover in the autumn; the fruit are then picked as they are wanted during the winter, or even
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until the new crop is ready. The English variety named Nisbet's Victoria should be referred to the Pear-shaped section, although it is a rather distinct form of it. This Tomato is more of a long egg shape, and broader at the lower end than a true pear shape. The fruit are borne in bunches of from four to eight, and the plant, which is tall, stout, and half-late, is remarkable for the luxuriance of its foliage.

Cherry Tomato.—Plant comparatively hardy, very productive, and vigorous; stem about 4 ft. high, thick and stout, very branching, and bearing an abundance of very green, flat leaves. The flowers commence to appear a week later than those of the Large Early Red Tomato. Fruit spherical or slightly flattened, scarlet, about 1 in. in diameter, and growing in bunches of from eight to twelve. A well-grown plant may be allowed to carry more than twenty bunches, especially if the fruit are gathered as they ripen. This is a mid-season variety, and is very productive, notwithstanding the small size of the fruit.

The Red Currant Tomato (Solanum racemiflorum, Dun.) is sometimes grown for table use, but more frequently as an ornamental plant. Fruit rounded, small, and scarlet, produced in long clusters of twelve, fifteen, or even more, containing an acid pulp.

Amongst the numerous varieties of Tomatoes which we have not described, the following deserve to be
Beauty.—Productive, fairly vigorous; fruit medium-sized, smooth, purple-red. In the United States this is considered one of the best of the purple Tomatoes.

Belle de Leuville.—Fruit of the same shape as the Large Red Tomato, with faintly marked ribs, smooth, well shaped, remarkable for its crimson tint, almost violet when ripe. This variety was raised at Leuville, near Arpajon, in the vicinity of Paris. The new round-fruited kinds are at the present day preferred to it, but it appeared before any of the American or English varieties which are now so extensively grown.

Blenheim Orange.—A beautiful medium-sized fruit, of excellent quality, without ribs; slightly flattened, and a bright orange-yellow.

Earliana.—An American variety recently obtained, considered in the country of its origin to be the earliest of the middle or large-sized varieties. A small, vigorous plant, bearing numerous fruit in clusters of five to eight, smooth, regular in contour, bright red, firm in flesh, and good in quality.

Early Mayflower.—A handsome American variety, with medium-sized fruit, very smooth, and intensely coloured, but though named "early," it ripens rather late.

Early Optimus.—Half-dwarf, fairly early; the fruit resemble those of the Perfection Tomato, but are more flattened and less regular in size.

Golden Trophy.—A very large yellow Tomato, smooth, late.

Honor Bright.—An American variety, ripening late; fruit almost round, medium-sized, bright red, keeping well. Despite the yellowish colour of its foliage and slowness to ripen, it is much appreciated in America for producing a late crop, as also for shipping long distances.

Jaune Petite.—A yellow-fruitied variety of the Cherry Tomato. Fruit numerous, golden-yellow, and perfectly round.

Large Yellow Tomato.—An American variety of the same shape and almost of the same size as the Large Red Tomato. The fruit is very deeply ribbed, and very inferior to that of the Round or Smooth Yellow Tomato.
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**Peach.**—A very distinct, tall-growing, fairly vigorous variety, characterised by the metallic blue of its foliage. Fruit perfectly round, of the size of a greengage plum, and a peculiar and pleasing pink; it is produced in long clusters of from ten to twelve. A half-late variety.

**Scarlet Turk's Cap.**—A curious red-fruited kind, with fruit under the average size, and distinguished for the abnormal development of a portion of the carpels, which forms in the centre of the fruit a protuberance similar to that which is seen in the Turk's-cap, or Turban, Gourds. This variety is half-early and moderately productive.

**Stone.**—A vigorous-growing variety, with large, regularly shaped fruit, scarlet, very smooth; flesh quite solid and firm.

**Yellow Pear-shaped.**—This is simply a variety of the Pear-shaped Tomato with bright yellow fruit. As in the case of the red-fruited form, there are numerous kinds of it, differing from one another in size and earliness.

**STRAWBERRY TOMATO, SMALL MEXICAN TOMATO, or BARBADOES GOOSEBERRY**

*Physalis pubescens, L. Solanaceae.*


Native of South America.—Annual.—A plant with a very branching, angular stem, from about 2½ to over 3 ft. high. Leaves heart-shaped or oval, soft, hairy, and somewhat clammy; flowers solitary, small, yellow, marked with a brown spot in the centre; calyx bladder-shaped, very large, enclosing one juicy orange-yellow fruit about the size of a cherry; seeds small, lenticular, smooth, pale yellow; their germinating power lasting for eight years.

**CULTURE.**—In the south of France this plant grows very well in the open air, without requiring much attention, but

Strawberry Tomato (1/4 natural size).
in the climate of Paris it is advisable to sow it in a hot-bed, and to treat the plants like Egg-plants or Tomatoes.

**USES.**—In the south of Europe the fruit is eaten raw and for the sake of its slightly acid taste.

Another species (*P. peruviana*, Hort.) produces yellow berries, which are eaten raw or made into a preserve. It differs but little from *P. pubescens*. *P. Barbadensis*, Jacq., is also in cultivation.

The plant introduced lately under the name of the Small Mexican Tomato is probably *Physalis edulis*, Sims. It is a true annual of rapid growth, and ripens its fruit perfectly in the climate of Paris. Its properties are medicinal rather than culinary.

The *Physalis Alkekengi*, L., is a perennial plant, sometimes grown for ornament under the name of Winter-Cherry. *German*, Blasenkirsche. *French*, Alkékenge officinal.

**TURNIP**

*Brassica Napus*, L. *Cruciferae.*


Native country uncertain.—Biennial.—The Turnip has been cultivated from a very early period. There appears to be no doubt that it originated either in Europe or Western Asia, but the precise locality is unknown. The root is swollen and fleshy, variable in shape according to the variety, being cylindrical, conical, pear-shaped, spherical or flattened, and equally variable in colour, white, yellow, red, gray, or black; the flesh is white or yellow, sometimes more or less sugary, and sometimes pungent and slightly acrid. Leaves oblong, usually lyrate, and divided to the midrib in the lower part, sometimes oblong entire, and always a light green colour, and more or less rough to the touch; flower-stem smooth, branching; flowers yellow, in terminal spikes, and succeeded by long, slender, cylindrical, long-pointed siliques or seed-vessels, each of which contains from fifteen to twenty-five very small spherical seeds of a red-brown colour, and sometimes, though rarely, almost black. Their germinating power lasts for five years. The varieties of Turnips are exceedingly numerous, and we must confine ourselves to the enumeration of the kinds which are most commonly cultivated.

**CULTURE.**—The Turnip is an autumn-cropping plant, the main crop always coming in late in the season, and the time of sowing varying only a few weeks, according to the earliness of the different varieties. In the neighbourhood of Paris, the latest varieties are sown from June 25th to July 25th, and the earliest kinds from
July 25th to August 25th. After this date, sowings may be made up to about the middle of September of very early kinds, from which a supply of half-grown roots may be obtained towards the end of the year, and even in spring; as Turnips when not fully grown will not be injured by being left in the open ground during the winter, if they are protected by a covering of dry leaves or straw. It is rather difficult to grow Turnips in spring, and the earliest and tenderest varieties are the only kinds that can be satisfactorily used for that purpose; and even then it sometimes happens that the plants run to seed without forming roots fit for use. The seed may be sown in February in a cold frame, the only kinds employed for this purpose being the Early Flat varieties, the Round Croissy Turnip, and the Jersey Navet. After March 15th the seed may be sown in the open ground, and, by making successional sowings about once a month, a continuous supply may be obtained up to the coming in of the ordinary season's crop. Turnips are generally sown broadcast in beds; but the work of thinning out, hoeing, and all other operations connected with their culture are more easily done when they are sown in drills. The seedlings are hardly overground when they are liable to be attacked by their greatest enemy, the Turnip-fly, from which it is most difficult to protect them, seed having sometimes to be sown twice or thrice over in consequence of the ravages of this insect. As soon as the young plants are well up, and have made a few leaves, thinning out should commence, and be continued at intervals until all the plants are finally placed a suitable distance apart. Plentiful watering is necessary, if the weather is hot and dry, as, in order to ensure good quality in the roots, the plants must not be allowed to suffer any check in their growth. For table use, the roots are usually taken up before they have attained their full size, being more tender and more delicate in flavour when only half or three-quarters grown.

A good variety, or growing the best kinds, is not the whole secret of securing the best roots. This can only be done through good cultivation, and Turnips will repay attention as well as any other crop. Poor, gravelly soil will never produce tender, sweet roots; well-manured land seldom fails to grow good Turnips. It is, therefore, well to see that the soil has been properly prepared for them before sowing the seed. This applies to crops at all seasons. In spring the earliest should be sown on a favourable spot on a south border. The first time the soil is in good working order in March, put the first seed in out-of-doors, and sowings may be made monthly from then until the end of August, putting different kinds in to follow one another according to their earliness.

Early in the season Turnips may form a first crop on the ground for the year; but later on, especially in the case of the winter ones, the seed may generally be sown on ground.
which has been cleared of Peas, Potatoes, or such like. In spring deep digging and plenty of manure suit them well, but in sowing after other crops, as suggested, manure is not often wanted and the soil need not be turned over; a hoeing and raking of the surface will suffice in most cases. Drills should be drawn not more than 2 in. deep, and 1 ft. apart is a good distance in spring, but 18 in. may be given to those that have to stand the winter. Turnip seed germinates freely; it is rarely bad, and therefore thin sowing should be the rule. The young plants soon appear above ground, and in favourable weather they grow so quickly that it is almost necessary to begin thinning as soon as the plants can be taken hold of, as crowding has an injurious effect on them at first. It is a good plan to thin them all twice. At first they should be thinned out to 6 in. apart, and the second time every other one should be removed, which will leave the plants for the crop standing at 1 ft. apart or thereabouts.

Snails are sometimes troublesome; they eat off the young plants, but a slight dusting of lime or soot generally prevents them from doing much harm, and dressings of the kind assist greatly in keeping away the grub and insects that often disfigure the roots. The Turnip-fly, too, does not like coming in contact with soot or lime; and a slight dusting of one or the other, or both of these, may be given to the plants in a young state, whether they are much in want of it or not. At all times the surface of the soil between the rows should be kept open and free from weeds, and this is best done by using the Dutch hoe frequently. In hot, dry weather Turnips soon become bitter and stringy, and in this state they are far from good; but by a little forethought and attention no one need ever be obliged to use such, as by sowing small patches frequently a constant supply of delicate roots may be secured. When many of them become ready for use together, part of them may be taken up and stored in a cool shed. They will keep longer there than they would do in the ground, but Turnips taken up too soon lose part of their flavour; therefore they should always be left in growing quarters as long as possible. In winter some take up their Turnips and store them away like Beet or Carrots; but nothing is gained by doing that, and it should never be practised unless the weather is unusually severe. The Chirk Castle should never be stored, except for convenience, as it is rarely injured by frost; but in frosty or snowy weather it is sometimes difficult to get them out of the ground.

Turnips do not submit readily to forcing. Frames are the only places in which they can be treated properly. They must not be forced hard, as this causes them to run to leaf and flower without forming bulbs. The best way is to make up a very gentle hot-bed in February or March. Place a frame and some rich soil on the top, and sow the seed broadcast thinly. Give abundance of air as soon as the young plants can be seen, and never coddle them up with coverings or maintain a very close atmosphere unless the weather really demands it. As the plants increase in size, thin them out to a few inches apart, and the bulbs may be used as soon as they are the size of cricket-balls. As an artificial manure for Turnips, nothing equals superphosphate. This may be dug into the ground before sowing, or it may be sprinkled thinly
in the drills when opened for the reception of the seed.

The Soil most suitable for Turnip culture is a rich, friable, sandy loam, on which medium-sized roots of excellent quality may be produced without the aid of much manure; and the fresher the soil the better flavour the crop,—for which reason preference is always given to those grown on arable land after corn crops, as the kitchen-garden soil is frequently too rich in decayed vegetable matter, and has to support a much greater variety of tap-rooted plants, which extract the elements necessary for their growth from the soil. For this reason the main crop for winter use should be grown in a similar manner to main crops of Potatoes, outside the kitchen-garden proper; and if fresh land be available every year, the results will be all the better. In light dry soils well-decomposed manure must necessarily be supplied; for if the young plants lack nourishment sufficient to ensure a healthy growth, insect plagues invariably attack them in dry periods, and the crop will be hard and stringy. But perhaps the most difficult soils to deal with are stiff, cold, retentive ones, for without a good seed-bed successful results are well-nigh hopeless. Under such circumstances it is a good practice to draw deep drills the required distances, and fill them up with light rich soil, wood-ashes, bone-dust, or guano, in which to deposit the seed, whereby the young plant gets quickly into rough leaf, and grows out of the reach of insects. In dry soils Turnips are often, in hot seasons, not only of inferior quality, but it is also difficult to get the seeds to germinate freely and regularly, and to induce the young plants to make a sufficiently rapid growth to escape the ravages of the fly.

Culture in Market-Gardens.—The earliest sowing of Turnips is made in the end of January or early in February, in pits or frames, or on hot-beds without frames; and main sowings are made broadcast on a field about the end of February, or in March, to be succeeded by another sowing made in April. After the plants come up they are thinned, and the surface soil is at the same time loosened by means of small hoes. The largest roots are first drawn for market; thus the plants get thinned, and those that remain have more space for development. For early crops, when grown in brick pits, 2 or 3 ft. of rough fermenting material is cast into the pit and firmly trodden down, and on this is placed a few inches in thickness of garden soil, which is also made firm. The seeds are then sown broadcast, and afterwards the frame is kept close and moist until germination has taken place, when plenty of air is admitted on every favourable opportunity. If the seedlings come up too thickly, they are thinned out to 3 or 4 in. apart. Frame Turnips are never large; the aim is to grow them quickly to the size of a hen's egg, when they are tender and of good flavour, and to market them at once. The method of growing them in hot-beds without frames is to cast out trenches 18 in. deep, 6 ft. wide, and of any length, and firmly fill them with manure; over this a coating of soil is placed, and rolled or beaten solidly with the back of a spade; the seed is then sown, slightly covered, and finished off by rolling again; hoops made of hazel sticks are then fixed over the beds, so that they can be covered with mats, and in the event of hard
frosty weather setting in, some strawy litter is added to the covering. If the weather is mild, the mats are let down every day so as to admit light to the young plants; and as soon as it can be done with safety, they are removed from over the beds and left erect around their sides in order to ward off winds. Sometimes the aid of either frames or hoops and mats is dispensed with, and the crop is grown on hot-beds like those just described, a little loose litter being merely strewn over the surface until the plants are established; in this way excellent Turnips are produced a week or two later than those which have been protected. Some growers use the space between the lines of frames for growing Turnips; and well it answers for that purpose, as, owing to the soil being below the general level, it keeps comparatively moist, and the belts of frames protect the plants considerably. The soil between Turnips is kept stirred with the hoe as frequently as possible, for no crop is more benefited by surface stirrings than this. Spring Turnips are generally got off the ground in time to permit of it being cropped with French Beans, summer Cabbage, Spinach, or Celery.*

USES.—The roots are boiled, and served up in various ways. In spring the young shoots or "tops" may also be used, especially if grown in a dark place, when they furnish a very delicately flavoured vegetable, somewhat like the Sprouting Broccoli.†

A. LONG VARIETIES

Half-long White Forcing Turnip.—A very pretty variety, intermediate in shape between the White Carrot-shaped Turnip and the Jersey Turnip, but smoother, less leafy, and earlier than either. It is unrivalled for forcing, succeeding, if sown under glass in the spring, better than any other variety known. The foliage is light, very much cut, and quick in growth. It is less liable to run to seed than any other Turnip if its growth be properly pushed.

White Carrot-shaped, or Pointed Vertus, Turnip.—Root pure white, cylindrical, ending in a long point, often curved or twisted, 6 to 8 in. long and 2 in. or less in diameter, visible above ground for nearly one-fourth of its length; flesh white, very tender, sugary; skin very smooth,

* Yellow-fleshed Turnips, see p. 775. † The Turnip Fly, see p. 782.
and dull white, both on the underground portion and on the neck; leaves small, dark green, numerous, deeply cut, and forming a rather thick tuft. This variety grows very well in light, moist, deep soil, and is extensively cultivated in the fields about Paris for market supply.

Half-long White Vertus, or Jersey Navet, Turnip.—Root white, nearly cylindrical, but swollen at the lower end, which is obtuse or rounded, 5 or 6 in. long, and about 2 in. broad in the thickest part; flesh white, very tender, and sugary; leaves numerous and short, divided to the midrib in rounded lobes, and dark shining green. This is pre-eminently the kitchen-garden variety of Turnip, and is the kind which is most generally grown by the market-gardeners of Paris, so that it is rare to find the Central Market without it at any season. In the open ground the root is formed in two months or two months and a half, and the variety is also one of the best for forcing. Like Radishes, the roots become hollow at the centre, if allowed to grow too large, and they are generally gathered for use when about two-thirds grown.

Half-long Red-top Vertus Turnip.—In cultivation and productiveness exactly the counterpart of the Jersey Turnip. It
differs from it only in the purple-red colour of the part above ground—a very pleasing characteristic, which may, in some cases, cause it to be preferred to the white form.

**Teltow Turnip.**—Root entirely sunk in the ground, conical or pear-shaped, short and small, from 2½ to 3½ in. long, and 1½ in. broad at the neck, and gray-white; flesh very dry but not hard, and sugary; leaves very small, with rounded lobes, not more than 5 or 6 in. long, drooping on the ground and withering when the root is fully formed. This is an early variety and succeeds very well in light sandy soil. The root, when cooked, has a peculiar flavour, different from that of all other Turnips; it is milder and more sugary, and the flesh is almost floury, instead of being juicy and melting. The roots will keep all through the winter, and even far into the following year, if taken up and stored in half-dry sand.

**Freneuse Turnip.**—Root entirely sunk in the ground, spindle-shaped, with a wrinkled gray-white skin, and rather numerous rootlets, narrowing from the neck like a Salsafy root, 5 or 6 in. long, and 1½ in. or at most 1½ in. in diameter at the neck; flesh white, dry, sugary, and very firm; leaves small, short, very much divided, and dark green, forming a rosette which lies flat upon the ground. This variety is grown in the vicinity of Paris in the fields, in somewhat poor or gravelly soils, in which it succeeds better than in stiff soil. When grown in stiff soil, the root is often misshapen. It is the most highly esteemed of the dry-fleshed Turnips.

The *Jargeau* and *Rougemont* Turnips, the latter of which is a great favourite in the neighbourhood of Pithiviers, are small dry-fleshed Turnips which exhibit no perceptible difference from the Freneuse variety.

**Hardy White Winter Turnip.**—Root entirely sunk in the ground, white, smooth, regular, conical; flesh white, firm, very sweet; leaves large and numerous. Though not a late variety, on the contrary a very quick grower, it is especially suited for late sowings, for use at the end of the autumn and during winter. It may be left in the ground for a part of the winter.

**Red-top Viarmes Turnip.**—A fairly hard-fleshed variety, in shape like a half-long Carrot, white, with a rosy purple top. The
flesh is white, firm, dry, and well flavoured. It is largely brought into the Paris market, especially in the latter part of the autumn. In moist or well-watered gardens it may be grown for use as early as the end of summer and during the whole of the autumn.

**Morigny Gray Turnip.** — Root of a very long ovoid shape, projecting only about 1 in. overground, 6 or 7 in. long, and 2 in. broad in the thickest part, which occurs at about one-fourth or one-third of its length; skin rather smooth, iron-gray or slate-coloured; flesh white, rather tender, and sugary; leaves medium-sized, half-erect, and of a light green. A rather early and good kitchen-garden variety. If sown rather late, the roots may often be kept in the ground through the winter, provided they are covered with straw or dried leaves.

**Long Black Turnip.** — Root very long, spindle-shaped, clean skinned, almost entirely sunk in the ground, 6 to 8 in. long, and 2 in. or more in diameter at the neck; skin black, as dark coloured as that of the Winter Radish; flesh white or grayish white; leaves rather stout, erect, and dark, shining green. This is a rather early variety, and when sown not sooner than in August, it keeps very well through the winter, like the preceding variety, if covered with straw or dried leaves. This method of preservation in winter is likewise generally applicable to all the varieties of Turnips which have the root deeply sunk in the ground, and especially so to those kinds which grow with the neck of the root projecting a little above the surface and with the leaves erect rather than...
spreading. The roots thus protected can be taken up for use as they are required.

**Long Yellow Turnip.**—Root entirely sunk in the ground, clean skinned, smooth, regular in shape, gradually narrowed from neck to point, and of a dull or wan yellow colour. It usually does not exceed 6 or 7 in. in length, and the diameter at the neck averages about 2 in. The flesh is yellow throughout, fine in texture, rather firm, sugary, and agreeably flavoured. Leaves half-erect, rather divided, and a peculiar dark green. A somewhat late variety, but excellent for table use, of very good quality and keeping well.

Parisians are prejudiced against the Yellow-fleshed Turnips, supposing that the yellow colour is always accompanied by a strong and bitter flavour, which is far from being the case, as amongst the Yellow-fleshed Turnips there are varieties the flesh of which is very mellow and very delicately flavoured, quite as much so, in fact, as that of the White-fleshed kinds. The prejudice, nevertheless, exists, and consequently should be taken into account by those who cultivate vegetables for the markets.

**Long White Meaux Turnip.**—Root very long, cylindrical, but ending in a point, and very often twisted or curved, projecting 2 or 3 in. overground, 12 to 16 in. in length, and 2 or 3 in. in diameter. All the underground portion is white; the overground part is sometimes cream colour and sometimes tinged with pale green. Flesh white, close, half-dry, rather sugary; leaves medium-sized, lyrate, numerous, erect or half-erect. This is a very productive variety, and is principally grown in its native district for the supply of the Central Market of Paris in the latter end of winter. In order to keep them up to that time, the market-gardeners of Meaux cut off the "tops" of the plants soon after taking them up, and pile the roots in trenches, covering them over with sand. During the winter they bring them to market in bundles, and, as the roots have been deprived of their leaves, they are fastened together by a straw rope passed through them near the top.
Long Green Tankard Turnip.—Root half-sunk in the ground, nearly cylindrical in the upper part, and regularly narrowed in the portion underground—which is white, the above-ground part being green—12 to 14 in. long, and about 3 in. in diameter; flesh white, tender, and rather juicy; leaves large, half-erect, rather broad, and light green. A very productive variety, the root attaining a considerable size. Though more grown for feeding cattle than for table use, if pulled while young and tender it is not a bad vegetable. When grown in the fields, it is sown in July, and yields almost as heavy crops as the large late kinds, such as the Norfolk Turnips and others which require to be sown in June.

Long Red Tankard Turnip.—This variety very nearly resembles the preceding, but the upper part of the root is violet-red instead of green. It is also, on the whole, somewhat shorter and thicker than the Green Tankard variety, and, like it, is more
grown for cattle-feeding than for table use. The Red Tankard Turnip is much cultivated and highly esteemed all through Central Europe, from Poland to England, but it is only in France that the most regular forms of it, as regards shape and colour, are to be found. The forms grown elsewhere generally have the roots too short and top-shaped, and the upper part more of a pink or lilac hue than really red.

The *Navet-rave de Bresse* is only a late long-rooted form of this variety.

**B. Round or Flat Varieties**

**Early White Flat Dutch Garden Turnip.**—Root a broad disc shape, often sinuated and not regularly rounded in outline, 4 or 5 in. in its greatest diameter, and about 1½ in. in depth; flesh white, tender, not very sugary, and of good quality; leaves half-erect, lyrate, and divided at the base as far as the midrib. This is a very early variety, and is suitable both for forcing and for late sowing in the open air. Like all the flat varieties which we shall describe, this Turnip merely rests on the surface of the ground, into which it does not sink farther than by sending down a slender perpendicular tap-root, which does not ramify until it reaches a certain depth.

**White Strap-leaved American Stone Turnip.**—This variety differs chiefly from the Early White Flat Turnip in having shorter leaves with an oblong entire blade, which is toothed on the margin, but not divided or lobed. The root also is slightly thicker and rounder. Along with the preceding and the five following varieties, this is an excellent kind for forcing. As in the present
instance, we shall often meet with similar varieties which only differ from each other in the leaves being divided in the one kind and entire in the other. This difference by itself is of no importance, and is only noteworthy when combined with some special recommendation of earliness or good quality.

**Early Red-top Flat Garden Turnip.**—The root of this variety is of the same size and shape as that of the Early White Flat Dutch Garden Turnip, but differs from it in the violet-pink colour of the upper part. It is grown and used in exactly the same way. In the east of France, under the name of *Navet à Collet Rose de Nancy*, a good form of this variety is cultivated, which almost resembles the Early Purple-top Munich Turnip.

**Red-top Strap-leaved American Stone Turnip.**—A very flat variety, and of very regular shape, differing from the Early Flat Red-top Turnip in having entire leaves, not lobed at the base, and also by being at least four or five days earlier. The leaves are erect and stiff, and as they are also rather short, this is a very suitable variety for frame culture. It has also the merit of forming the roots freely, even when grown in spring, and of being slower to run to seed than most other Turnips. Yet, notwithstanding all these good qualities, it is possible that the Purple-top Milan Turnip may, on account of its greater earliness, supersede it to some extent for forcing purposes. The present variety is also often sown in the open ground. It was raised in America.

**Milan Purple-top Strap-leaved Turnip.**—This handsome variety is only a form of the Red-Top Strap-leaved American Turnip, but is so distinct that it deserves a separate notice. The root is small or medium-sized, very flat, quite smooth, pure white on the underground part, and bright violet-red on the upper part. The leaves, which are entire, rather erect, and
very short, are few for the size of the root. It is one of the earliest 
varieties known, and is well adapted for forcing, even in spring.

**White Milan Turnip.**—Root small, very smooth, flat, entirely 
white, with a slender tap-root; leaves small and few, undivided, oval. A 
variety of the Purple-top Milan Turnip, described 
above, quite as early, as 
well suited for forcing and 
milder in flavour.

**Croissy, or Round** 
**Early Early Vertus, Turnip.**—
Root sunk in the ground, 
round, or slightly top-
shaped, from 2\(\frac{1}{2}\) to 3\(\frac{1}{2}\) in. 
in diameter and depth, 
and with a tap-root of 
some length; skin white, smooth; flesh very white, tender, sugary, 
and very agreeably flavoured; leaves medium-sized, erect, and light 
green. A very good early variety, and a great favourite with the 
Parisian market-gardeners. It is one of the 
best kinds for forcing.

**Early Six Weeks', or Jersey Lily,** 
**Turnip.**—Extremely smooth slightly flattened 
root, just half as thick as broad; underground 
portion white, the upper part cream-white;

leaves cut; foliage light and vivid green. Half-early, very neat 
in shape, never producing large roots. A garden, not an agricultural 
Turnip.
White Round Epernay Turnip.—A very pretty variety; root dull white, spherical or top-shaped, resembling somewhat the Jersey Lily and the Round Vertus Turnip. Flesh quite white, firm, sweet; leaves few, broad, and divided. Remarkably early, and for its excellent keeping quality may be recommended for market growing.

Purple-top White Globe Turnip.—Root large, quite round, white underground, and purple on the upper part for about one-half of the length of the root; leaves very broad, little divided, dark green, tinged with brown during winter. Of good quality for the table; yields heavy crops, and may be recommended also for cattle-feeding purposes.

Scarlet Kashmir Turnip.—Root rounded, flattened, quite smooth, and a beautiful bright red, more like a Radish than a Turnip. The flesh is white, of good quality, and keeps well. A native of Kashmir.

Chirk Castle Black Stone Turnip.—Roots rounded, flattened, the diameter being nearly double the depth—usually 4 or 5 in. across and about 2 in. deep; skin of a uniform rather deep black or a very dark gray; flesh white, firm, close, half-dry, sugary, and very well flavoured; leaves
lyrate, very slight, half spreading, and deep green. An early variety, of remarkably good quality, and bearing a striking resemblance to the Black Turnip Radish. The perceptible differences in shape which are often observed in this variety depend chiefly upon the extent to which its growth has been developed. The root soon ceases to extend itself vertically, and then, in proportion as it swells horizontally, it either becomes more or less flat or else remains almost spherical.

**Yellow Flat Purple-top Montmagny Turnip.**—Root very handsome, flat, half-sunk in the ground, dark yellow on the lower part and dark violet-red on the upper portion, often 5 or 6 in. in diameter, and 3 in. or more deep; flesh yellow, rather firm, tender, and of very good quality; leaves medium-sized, lyrate, dark green, and generally almost flat upon the ground. This very fine variety, which has been raised recently, has already become highly valued and much sought after in the neighbourhood of Paris and in England. It is productive, half-early, and keeps well. The very striking contrast between the yellow and the red parts of the roots gives it a very peculiar and pleasing appearance, which, together with its earliness and the superior quality of the flesh, are powerful recommendations in its favour. It is one of the most agreeably flavoured of all the kitchen-garden varieties of Turnips, especially when taken young, before it has attained its full size.

**Yellow Dutch Turnip.**—The root of this variety is flattened at the top, but still comparatively deep, so that it might be considered intermediate between the Round and the Flat varieties.
ROUND OR FLAT TURNIP

It seldom exceeds 3 or 4 in. in its greatest diameter, while its depth or vertical measurement is between 2 and 3 in. Skin uniform yellow on the underground portion of the root and light green on the upper part; flesh yellow, tender, sugary; leaves medium-sized, half-erect, and of a light green colour. This is a half-late kind, and keeps well. It is one of the best kitchen-garden varieties.

Yellow, or Golden, Maltese Turnip.—Root very much flattened at both ends, being about 2 in. deep, and 4 or 5 in. across in its widest part; skin and flesh pale yellow; neck green, very distinctly marked; leaves rather small and slight, divided, and dark green. This is a good half-early variety, but the roots are sometimes rather strong flavoured. It is decidedly the flattest variety of all the Yellow-fleshed Turnips, amongst which it holds the same place that the Early White and Red Turnips occupy amongst the White-fleshed kinds.

Yellow Finland Turnip.—Root perfectly flat and even concave underneath, so that the tap-root which descends into the ground appears to issue from the centre of a kind of depression or cavity; the upper part, on the contrary, is rather convex or conical in outline. The root is seldom large, being usually not more than 3 or 4 in. in diameter across, and 2 in. or less in depth. Skin very smooth, and of a fine golden-yellow colour, as is also the flesh; leaves very short and compact, not much divided, sometimes quite entire in the forms imported directly from Finland. This is an exceedingly hardy and rather early variety, and very suitable for sowing late in autumn. While the roots are young, the flesh is
very fine and agreeably flavoured, but afterwards it becomes somewhat strong and unpleasantly bitter.

**Orange Jelly Turnip** (English synonyms: Golden Ball and Robertson's Golden Stone Turnip).—Root perfectly spherical when not very much grown, but slightly flattened when it has attained its full size; it is then generally 4 or 5 in. in diameter every way. Skin very smooth and yellow; flesh yellow, soft, and well flavoured, but slightly bitter; leaves of medium height, rather broad

[Image: Yellow Finland Turnip (½ natural size).]

[Image: Orange Jelly Turnip.]

lyrate. This variety is half-early, and highly esteemed in Scotland and the north of England.

The following varieties are usually grown for cattle, but may also be used for the table if pulled before fully grown:—

**Early Stone, or Stubble, Turnip.**—Root somewhat top-shaped, slightly flattened, white, except on the part over-ground, which is usually tinged with green, nearly 5 in. in diameter in the widest part when well grown, and from $3\frac{1}{2}$ to $3\frac{3}{4}$ in. deep; neck broad; flesh white, tender, sugary, and soft; leaves stout and tall, erect, broad, and not much divided. Root rather late in attaining its full size. This variety is most generally grown for feeding cattle, and is seldom sent to table, although, when taken young and tender, the roots are of good quality.
Strap-leaved White Globe Turnip.—Root of regular spherical shape; skin very smooth and entirely white, except where it is marked by a few scars around the neck, indicating the positions of the earliest leaves; flesh white, firm, and close grained; leaves long, erect, entire, of a very long oval shape, toothed on the margin, and of a rather pale or light green colour; neck very short and fine. One of the characteristics of this variety is the quickness with which the root becomes spherical. When fully grown it measures about 5 or 6 in. in diameter. This variety was raised in Anjou, and is especially suitable for field culture.

White Norfolk, or Cornish White, Turnip.—Root spherical or very slightly flattened at the top, pure white, 6 or 7 in. in diameter and about 5 in. deep when full grown; flesh white, tender, and somewhat watery; leaves very tall, erect or half-erect, with stout stalks or midribs. This is a very late variety, and is exclusively grown in the fields. There is a sub-variety of it, the Green-top Norfolk Turnip, in which the overground part of the root is of a green colour; and another, the Red-top Norfolk Turnip, in which the same part is of a reddish violet colour. There is hardly any difference between these and the White variety in the size of the root or in the manner of growing them. All these kinds should be sown very early to attain

Norfolk Turnip.
their full size, and consequently they only succeed well where the climate is moist and cool, or where the weather in summer is not very dry. Nothing, in fact, is more injurious to Turnips than dry, hot weather, which causes destructive insects to become more active in their ravages, while the growth of the plants is at the same time, so to say, suspended by it. While it lasts, they form no new leaves, and those which they already have are riddled into holes and almost entirely destroyed by the Turnip-fly, to the great injury of the growth of the roots.

**Early Red-top Flat Auvergne Turnip.**—Root very flat on the top, about 2 in. deep, and often 6 or 7 in. across; skin very smooth, and a rather pale violet-red for the whole of the upper portion of the root; flesh white, rather soft and watery; leaves tall, divided, broad, and numerous. This is a very productive variety, and succeeds best in granitic or schistose soils. It is more grown for feeding cattle than for table use.

The local strains of Auvergne Turnip are very numerous and cannot well be divided into early or late sorts; the beautiful *Lesoux* variety is an example of this: it is quite flat below and above, about three times as broad as it is thick, and attains the size of a Basque *beret* or cap, which it resembles in shape. In a sense it is early, as it bulbs rapidly, but, on the other hand, it takes a long time to develop fully.

**Late Auvergne Turnip.**—Root two-thirds sunk in the ground, top-shaped, but tolerably flattened, 3 or 4 in. deep, and about 6 in. across; the upper portion is of a violet-red, or rather dark bronzy colour; leaves broad and stout, more tufty in growth and darker in colour than those of the Early variety. This variety is even more suitable for field culture than the preceding one, being seldom grown for table use outside of its native district. The central plateau of France, on account of its elevated position, possesses a climate very favourable to the cultivation of large-sized Turnips, and there we find the two largest kinds of Turnips that are grown in France, namely, the Auvergne and the Limousin varieties.

The *Ayres* Turnip, which is grown in the departments of Tarn and Tarn-et-Garonne, appears to us to be identical with the Late Auvergne Turnip.
**Turnips**

**Limousin Turnip.**—Root roundish or slightly top-shaped when young or badly grown, very large, broad, and slightly flattened on the top when fully grown, when it not unfrequently measures 10 in. in its greatest diameter and at least 6 in. in depth; skin smooth, entirely white; flesh white, not very sugary; leaves very large and tall. This variety is only grown in the fields. As it is a late kind, it is especially adapted for cool, moist climates, where it can be sown in June. It is the largest and most productive of the Turnips which are grown in France.

In addition to the foregoing varieties we may also mention the following:—

**Amber Globe Turnip.**—Root almost round or, more usually, top-shaped, pale yellow, with a green neck; leaves entire, long, and light-coloured; flesh pale, sugary. An American variety, highly esteemed in the United States.

**American Strap-leaved Turnip.**—Comes very near the White Globe Strap-leaved Turnip, having, like it, a white, rounded root, slightly top-shaped, and large, entire leaves.

**Briollay Turnip.**—This variety, which was raised in Anjou, bears some resemblance to the White Tankard Turnip, but is smaller, shorter, thicker, and deeply sunk in the ground. It is also of better quality and more suitable for table use, being a true kitchen-garden Turnip and not a cattle-feeding variety, although it is often used for that purpose, as all other kinds of Turnips are when they have grown too large.

**Clairefontaine Turnip.**—Root spindle-shaped, straight, smooth, grayish white, rising little from the ground; flesh white and tender. Suitable for growing in ordinary soil, less delicate and less exacting than the Vertus Turnip.

**Cruzy Turnip.**—A very distinct variety. It is the only dry-fleshed Turnip which has a perfectly flat root. Skin a gray-white.
The root is nearly twice as broad as deep, and is often irregular in shape.

**Early Chantenay Turnip.**—This very much resembles the Chirk Castle Black Turnip, like which it has the root tolerably flattened, but is not so deeply coloured, being more gray than black.

**Early Snowball Turnip.**—An early kind, with a globular or slightly flattened root of a pure white colour. It differs from the Early Stone Turnip in having no green colouring around the neck.

**Gray Flat Russian Turnip.**—Root tolerably flattened, fully one-third broader than deep, with an iron-gray skin marked transversely with whitish lines. A hardy variety, but not superior to the Chirk Castle Black Turnip.

**Gray Luc Turnip.**—A small dry-fleshed Turnip, with a long root, tolerably like the Freneuse Turnip, but with the skin somewhat more wrinkled and grayish.

**Gray Saulieu Turnip.**—Root spindle-shaped, resembling that of a half-long pointed Carrot, four times as long as broad; skin gray, somewhat wrinkled; flesh firm, dry, sugary, and slightly yellow.

**Green-top Six-weeks' Turnip.**—Root flattened, fully a third broader than deep, often growing to a considerable size, white on the underground part and green at the neck; flesh white, tender, sugary, and rather firm. Ripens early.

**Malteau Turnip.**—Root elongated, of a long ovoid shape, shorter and thicker than that of the Freneuse Turnip, which it resembles in its leaves and in the texture of the flesh of the root, which is very dry and firm. A good variety, and still pretty largely grown in the vicinity of Paris.

**Nancy Flat Purple-top Turnip.**—A handsome form of the Early Flat Purple-top Turnip, remarkable for its earliness, the regularity of its shape, and the very deep colour of the upper part of the root. It hardly differs from the Munich Turnip, which even surpasses it in earliness.

**Petrosowodsk's Purple Turnip.**—A violet-coloured variety of the Finland Turnip, and similar in shape, having the same marked depression in the under-part of the root around the tap-root. The leaves are sometimes lyrate and sometimes entire.

**Purple-top Munich Turnip.**—Remarkably early, resembling in shape and size the Early Flat Red-top Turnip, but violet in colour, deepening to purple in the part above ground.
Purple-top Scotch, or Tweeddale's Improved, Turnip.—A sub-variety of the Yellow Aberdeen, differing only from that in the purple colour of the neck.

Round Green-top Dry-fleshed Turnip.—Root globular, slightly flattened, rather resembling that of the Des Vertus or Croissy Round Turnip, but distinguished by the green tint of the neck and the flesh of the root being as firm and dry as that of the Freneuse Turnip. The leaves are deeply lobed, half-spreading on the ground, and of a light green colour. This is a half-early variety and keeps well.

Sablons Round White Turnip.—Root ovoid, one-third longer than broad, rather like that of the Croissy Round Turnip in every respect except its shape; flesh white, close, sugary, and half-dry.

Scaribritsch Turnip.—Root flattened, clean skinned, and regular in shape, one-fourth broader than deep; neck fine, green-coloured; the remainder of the root yellow; flesh yellowish white, tender, firm, and sugary; leaves very light in colour.

Scarlet Gratschefs Turnip.—The same in shape as the Yellow Finland Turnip, but somewhat larger, more flattened below, and bright purple in colour.

Schaarbeck Turnip.—This variety is grown in the neighbourhood of Brussels, where it is highly esteemed. It is a flat white variety with a green neck, early and small sized, with flesh of fine texture and excellent quality.

White Egg Turnip.—Root ovoid, one-third longer than broad; skin very white and very smooth; flesh white, firm. This variety is highly thought of in the United States, where it is to be met with in large quantities in the markets.

Wolton's Hybrid Turnip.—Root almost perfectly spherical, sometimes slightly pear-shaped, entirely white on the part underground, and red on the upper part; flesh white, tender, and mild; leaves broad. Ripens half-early.

Yellow Aberdeen Turnip.—Root spherical or slightly flattened, yellow, tinged with green above ground; flesh light yellow, rather firm; leaves large, half-erect, smooth, dark green.

Yellow Bortsfeld Turnip.—This differs from the ordinary Long Yellow Turnip by being more slender in shape, by growing
not so deeply sunk in the ground, and having the neck a greenish colour. Its quality is good and it keeps well.

Yellow Globe Turnip.—An American variety, coming very near the Yellow Dutch, but somewhat paler in colour and more spherical in shape.

Yellow Scotch Turnip.—An early variety, with a spherical or slightly flattened root, rather pale yellow in colour, and sometimes tinged with green at the neck. Root very clean skinned, almost entirely sunk in the ground; flesh pale yellow, tender, and sugary.

Yellow Tankard Turnip.—An English variety, with an elongated spindle-shaped root which is twice as long as broad, and pale yellow, except at the neck, which projects slightly from the ground and is greenish. Flesh pale yellow, close grained, and of a mild flavour. Ripens early.

UNICORN-PLANT

Martynia, Lindl. Sesamaceae.

French, Martynia. German, Gemsenhörner.

The plants of this genus are tall, stout, vigorous annuals. Stem fleshy, 1 1/2 to 1 3/4 in. in diameter; leaves large, heart-shaped, gray-green, and somewhat hairy; flowers large, resembling those of a Catalpa in shape, and yellow or lilac, according to the species; fruit long, ovoid, curved, and terminating in a long hooked point, and enclosed in a soft green kind of shell, which dries up when ripe, the fruit then becoming woody and blackish, and the extremity dividing into two long crooked horns, as it opens to allow the seed to escape; seeds large, black, with an irregular rough or shagreened surface. Their germinating power lasts for one or two years.

CULTURE.—These plants require a good amount of heat, and it is advisable to sow the seed in a hot-bed and either allow the plants to complete their growth there or plant them out in good soil in a warm place.

USES.—The fruit, gathered while young and tender, is pickled in vinegar. It should be gathered when not more than half-grown, as, after that, it becomes too tough and leathery.

The Yellow-flowered species (M. lutea), is a native of Brazil, and is a plant of moderate size, somewhat trailing in habit, and
yielding an abundance of small-sized fruit. It is the kind most grown for pickling in the United States.

M. proboscidea, Glox., a violet-flowered species, has fruit of larger size and with longer horns. It is a native of Louisiana.

AFRICAN VALERIAN

_Fedia Cornucopiae_, Gærtn. Valerianaceæ.

_French_, Valériane d’Alger. _German_, Algerischer Baldrian. _Flemish_ and _Dutch_, Speerkruid.

Native of Algeria.—Annual.—Stems erect, branching, smooth, 1 ft. to 16 in. high; leaves almost all radical, oval-oblong, entire, bluntly toothed, and a rather dark, shining green; flowers pink in terminal clusters; seeds yellow or grayish, oblong, thick, convex on one side, and marked on the other with a deep longitudinal furrow. Their germinating power lasts for four years. The seed may be sown in the open ground, from April to August, in drills 10 to 12 in. apart. When thinned out and plentifully watered in hot weather, the plants quickly form rosettes of leaves, which are fit for use in about two months after sowing. The plant is somewhat sensitive to cold, and is not so suitable for sowing in autumn as the Corn-salad. It is often grown for ornament. The leaves are eaten as salad.

WATER-CHESTNUT

_Trapa natans_, L. Haloragaceæ.


Native of S. Europe.—Annual.—An aquatic plant with a long stem which reaches to the surface of the water. Submerged leaves opposite; floating leaves alternate and arranged in a rosette at the top of the stem; blade of the leaf diamond-shaped, broader than long; flowers white, axillary; fruit large, dark gray, bearing four very stout spines arranged cross-wise, two of them being much longer than the others. The germinating power of the fruit does
not last longer than one year, and to ensure even this they must be kept in water. The plant is not usually cultivated, the fruit being gathered where it grows wild. The kernel of the fruit, which is floury and of a very agreeable flavour, is eaten boiled.

WOODRUFF

*Asperula odorata*, *L. Rubiaceae*.


Native of Europe.—Perennial.—This plant is chiefly found in woods or shady places. Stems weak, prostrate, bearing whorls of oval-lanceolate leaves which are finely toothed on the margin, and very rough to the touch, as are also the stems; flowers small, pure white, with four divisions, and growing together in a spreading corymb; seed almost spherical, gray, and bristling with a large number of very small recurved points. The whole plant exhales a very agreeable perfume, especially when dried. The Woodruff is seldom cultivated except as an ornamental plant. It is perfectly hardy, and grows well either in a bed or as an edging, if planted in good moist soil in a half-shady position. In the north of Europe the leaves are sometimes used to flavour beverages.

WORMWOOD

*Artemisia Absinthium*, *L. Composita*.


Native of Europe.—Perennial.—This plant is often grown in gardens on account of its medicinal properties. Stems 3 to 5 ft.
high, rough, and branching; leaves numerous, small, very much divided, and a gray colour, especially underneath; flowers green, not at all striking, borne in clusters at the ends of the branches; seed gray, very small. Its germinating power lasts for four years on an average.

Culture.—Wormwood may be multiplied either from seed or from cuttings or divisions of the roots. If planted in a somewhat sheltered position, the plants will be less likely to suffer in very severe winters. They require no other care, and will continue productive for ten years or longer.

Uses.—The leaves are sometimes used for flavouring, but the plant is chiefly employed in the manufacture of various kinds of liqueurs.

YAM (CHINESE)

Dioscorea Batatas, Dcne. Dioscoreaceae.

French, Igname de la Chine. German, Chinesische Yam. Spanish, Name, Igname.

Native of China.—Perennial.—The Yam was introduced into France in 1848, through the agency of M. de Montigny, the French Consul at Shanghai. It is a perfectly hardy plant, with annual, twining, smooth, green or violet-coloured stems, from 6 to nearly 10 ft. long. Leaves opposite, heart-shaped, with a rather long point, of a dark green colour, and very glossy on the upper surface; flowers dioecious, very small, white, growing in clusters from the axils of the leaves, and generally barren. Sometimes, instead of flowers, small tubers or bulblets are produced, from which the plants may be propagated. The stems trail along the ground, if they do not find some support on which they can climb. In climbing, they twine from right to left. From the neck of the root issue rhizomes of great length, which, as they descend into the ground, become swollen into somewhat of a club shape. The flesh is slightly milky, and very floury when cooked. The rhizomes
are furnished with numerous rootlets and almost imperceptible buds, from each of which a plant may be produced. They descend almost perpendicularly into the ground, attaining a length of from 2 to over 3 ft., their growth being most active in the latter end of autumn. Being perfectly hardy, they may be left in the ground during the winter, and will increase very much in size in the course of the second year, but their quality is not then so good as at the end of the first year. The lifting of the rhizomes is a rather difficult and expensive operation, as they are rather brittle, and, in order to take them up whole, the ground must often be dug to the depth of a yard or more round each root. This is probably the reason why the plant is so little cultivated in Europe, as it is very hardy and productive, and the rhizomes will compare favourably with Potatoes. The flesh is white, light in texture, mild in flavour and easily cooked. The rhizomes keep well and for a very long time.

**CULTURE.** The Yam succeeds well in very good, moist, and sufficiently dug soil, and may be propagated by means of the axillary bulblets, or from rhizomes, either whole or cut into portions. The method which generally produces the most certain and abundant results is to plant whole rhizomes, from 8 to 10 in. long and about as thick as one's finger. It is advisable to furnish the plants with stakes or other supports to climb on, as the ground is then more easily hoed. In very dry weather, watering is very beneficial, as the Yam likes moisture and stops growing when it has not a sufficient supply of it. In November the time arrives for lifting the rhizomes, and if the soil is deep and rich enough, one
may expect to meet with some which are thicker than the wrist towards the end and weigh over two pounds each. Smaller ones also are usually found which are better for planting. Instead of planting them at once in the open ground, they may first be potted about the beginning of March, and planted out about May 15th. The crop then comes in earlier, and is also heavier.

Many attempts have been made to raise a variety of Yam with shorter roots which would not penetrate so far into the ground. These attempts cannot be said to have entirely failed; on the contrary, they have succeeded too well, as varieties have been raised with nearly round rhizomes, clustered around the neck of the plant, but of such feeble growth that the season's yield only represented three times the weight of the rhizomes which were planted. A productive variety of Yam with short roots still remains to be discovered, and perhaps may be found amongst the numerous varieties lately imported from Japan, and which are now being experimented on in France. The rhizomes are eaten like Potatoes, boiled, fried, and prepared in various ways.
ADDENDUM
BY W. P. THOMSON

ARTICHOKE (JERUSALEM)

There is now a white variety of this which is a great improve-
ment on the type. The improvement lies in the fact that the
white form not being so rugged is far more easily prepared, thus
saving a great deal of trouble which follows when the old purple
variety is used. If a careful selection of the tubers is made and
good cultivation given, the roots of the white form may be still
further improved in shape, while the quality also will be better.

In reference to the popular and common name of this
vegetable it is not an artichoke at all, but a perennial sunflower—
*Helianthus tuberosus* being the Latin name. The word Jerusalem
given to the root of a sunflower is a stupid corruption. To try
to find out if possible a good English name the editor of one of our
gardening papers started a competition inviting readers to
send in a suitable name. The competition was very brisk, and
the name Sunroot was by the judges considered the best. For
clear and simple English and true meaning the word Sunroot is
a very appropriate one, but we doubt whether the word will come
into general use. In the growing of the Sunroot good culture is
all-important. We were recently consulted as to the reason of the
tubers being poor and of very inferior quality. On inquiring as to
the cultivation it was clear that there had been no cultivation at
all. The tubers had been planted thickly in poor soil in an out-
of-the-way part of the garden, and had been left to shift for
themselves. If under this maltreatment the plants get so crowded
that the leafage can get no light and air, it is but little wonder
that tubers are poor. The ground for the Sunroot must be deeply
trenched and given a good dressing of manure, fair even-sized
tubers being planted in February or March, in rows 24 in. apart
with 12 in. between the tubers in the row.

BEANS (CLIMBING FRENCH)

These are gradually becoming more popular, and within recent
years many excellent and prolific varieties have been introduced.
The chief advantage gained in their cultivation when compared with the dwarf-growing kinds is that, like the Scarlet Runner Bean, they yield a continuous succession of pods over a long period, and the necessity for making frequent sowings is therefore dispensed with. From a cultural point of view they require precisely the same treatment as dwarf French Beans, the only difference being that as the plants attain a height of 5 to 5½ ft., and have therefore to be supported with long rods or pea boughs, it is necessary to allow a distance of some 4 to 5 ft. between the rows.

Owing to their being capable of producing pods successively, they are, where accommodation exists, of great value for forcing under glass, the plants being grown either in pots 12 in. in diameter or in narrow borders of soil, in which case the growths may be trained to strings or bamboo canes.

The following are reliable varieties:

**Fillbasket.**—A very productive variety. One of the best of this type of French Bean. Quality first-rate.

**Tender and True.**—An excellent variety and very prolific.

**Earliest of All.**—A first-rate early kind to grow for first crop.

### BEETS (A NON-BLEEDING)

The great drawback to the careless handling of Beet is that if bruised in any way it is very liable to bleed when being cooked, and thus the rich colour of that best of all Beets—Cheltenham Green Top—is spoiled. During the last few years a variety known as Galloway Purple has been put into commerce. This variety may be cut in two before cooking and will not lose colour, a decided gain.

### CABBAGE

**SOWING AND PLANTING.**—The most important sowings of Cabbage are those which are required to furnish a supply of plants through the spring, early summer, and autumn months. These sowings should consist of several varieties that succeed each other in coming into use. Very early kinds should not be sown too early in summer, as there is a possibility of their running to seed in dry weather. From the third week in July to the second and third weeks in August is the time usually chosen for sowing to obtain plants for setting out in autumn, these coming into use in spring, the time varying according to the season, soil, and locality. As a general rule the latter end of July and the early part of August are found to be the best time for sowing. Plants from seed sown at that time are generally ready to plant out by the end of September or beginning of October, and they then have ample time to get established before winter sets in. For autumn supply a sowing
should be made from the middle of March to the second week in April, and if the resulting plants are set out in June and July they will then come into use in August and September. If a second and larger sowing be made in the last week of April and the plants set out in July and August they will come into use from October to December. A sowing of a dwarf kind that hearts quickly made in May and again in June will furnish plants yielding nice little heads for use from October onwards, which with the greens produced from the stumps of those that have previously been cut will last until Spring Cabbage comes in. Two excellent varieties for this purpose are the *London Rosette Colewort Cabbage* and the *Hardy Winter Colewort*, the latter being the more suitable for winter use. Cabbage plants intended to stand the winter are best put out in firm ground which has been enriched for a previous crop, such as that which has previously carried a crop of Onions or other surface-rooting plants which have not impoverished the soil too much. The ground must of course have been well manured for the previous crop or good results cannot be expected. A firm stiff rich soil is best for Cabbages, for if grown in loose light soil they do not heart so well, neither is the quality so good.

Cabbage seed should be sown on light rich land or on that approaching more nearly to such a condition, and the plants should not be allowed to over-crowd each other before they are set out. As soon as large enough to handle, the seedlings should be pricked out from 6 to 8 inches apart, or be thinned out and the remainder transferred to their final positions as soon as they are sufficiently large. The distance to plant Cabbage apart depends on the variety grown; but from 18 in. to 2 ft. between the rows, and from 15 in. to 18 in. between the plants in the rows, will generally be found sufficient if the ground is in good heart.

**Cutting.**—A little more attention should be paid to this than is usually the case, as when a commencement to cut is too long deferred a great waste ensues. Supposing Cabbages of such varieties as will begin to turn in from the early part of March till the beginning of summer are planted in autumn, it is folly to wait until the heads in each particular instance become firm or hard before commencing to cut them, as a great many will, unless the demand is equal to the supply, then burst, go to seed, or rot. To obviate this, cutting should begin as soon as the hearts start to form on the more forward of the plants; and as the stems will break and put forth sprouts which will ultimately form hearts, no loss but a gain really accrues, as they will be fit for cutting before or by the time the first crop of heads is finished. It is the rule in many gardens to reserve the main lot of old plants, after the hearts have been cut in spring, for the purpose of securing a yield of the
hearted sprouts referred to over a long period. That the supply may be an abundant one care is taken at the first cutting to remove no more than the heart portion or such as is actually required for cooking, as the greater number of leaves left on the stems the more plentiful will be the yield of sprouts, or "collards" as they are sometimes termed. If the ground is well stirred and a good mulch of short rotten manure or a dressing of a suitable fertiliser applied, the plants will continue yielding a succession of sprouts for nearly a whole year round. To sum up: cut Cabbages, even if you have to give them away, before the hearts get too far advanced or too fully developed, when there will always be a continuance of young and tender heads coming on.

The Cabbage is one of the most important of green vegetables for market-garden culture, and although not considered by many so profitable on account of its gross feeding character, it comes into use when there is little else to send to market, and often realises high prices. In spring large areas of Cabbages may be seen in the various market gardens round about London. Those sent to market in April, May, and June are the produce of seed sown in July, the plants being put out in September or early in October. Successional crops are raised in spring as soon as the weather is favourable. If sown too soon the young leaves become damaged by frosts, especially if these occur after a period of mild weather.

Enfield Market is grown extensively in the market gardens about London. It is one of the oldest in cultivation and one of the best, and for this reason growers generally save their own seed and take great care that their stocks of it do not get crossed with other sorts. The sowing for the principal crop of this variety is generally made about the end of July and up to the middle of August, on poor ground if possible, as in that case the plants come up stocky and hardy and stand the winter well. On rich ground a soft rank growth results which is more susceptible to injury. The sowing is as a rule made in beds 4 ft. in width, which is found to be more convenient for hoeing and weeding. When large and strong enough to be transplanted the plants are set out on ground cleared of Onions or Potatoes, and a second batch on ground cleared of Celery, French Beans, or Vegetable Marrows. Every vacant space, under fruit trees or elsewhere, is planted with Cabbages. In planting, the ground is lined off into rows 30 in. apart, and in these the plants are set 15 in. asunder. Between every two rows another is then put in, thus making the whole of the plants stand 15 in. apart each way. Early in spring the alternate rows of plants and every other plant in the lines are pulled and sold as Coleworts. This admits of the permanent crop having ample space for development and coming to maturity.
With a view to subsequent plantations, which are made all through the winter wherever ground becomes vacant, the young plants are taken from the seed bed and pricked out into other beds some 5 in. to 6 in. apart in order to keep them fit for planting. In this way many of the plants are kept till spring, when they are set out to form a succession to those planted in autumn, and to come in before the produce of the spring sowings made late in February or early in March to furnish Cabbages from June to August. The plants from this sowing are put out in lines 2 ft. to 2½ ft. apart, and in the intervening spaces are put lines of Lettuces, a plant of which is also put between every other Cabbage in the rows. In May the tying up of early Cabbages may often be observed in market gardens round London and elsewhere. This is done in a similar manner to that adopted in the case of Cos Lettuces. The outer leaves are carefully folded round the hearts and the whole secured with a withy or piece of bast or raffia. There are several good reasons for the practice. The hearts being protected from the weather develop more quickly than they would otherwise do, and are more easily handled in gathering and packing for market. Early Cabbages, the leaves of which are very brittle, would lose half their value if some precaution of this kind were not taken to prevent damage being done in the loading and unloading.

Red Cabbages are sown in March and July, but the best produce is obtained from sowings made in the latter month both in private and market gardens. The plants in the latter case are set out in rows 3½ ft. to 4 ft. apart, and the plants stand about 3 ft. asunder in the rows. As this crop stands until the heads are large and solid, a piece of rich ground is devoted to it and intercropped with Potatoes, ordinary Cabbages, Lettuces, French Beans, or other vegetables of a similar nature.

Varieties.—In addition to the varieties illustrated and described in the body of the work, the following are deserving of mention, as they represent the best types of Cabbages in cultivation at the present day:—

Harbinger.—This, without doubt, is one of the earliest Cabbages for spring use. From a sowing made late in July, small compact hearts may be had in favoured districts ready for cutting late in February or early in March. The growth is small and compact, and the plants can be set out as close as 1½ in., both between and in the rows. It is of first-rate quality. It is an ideal Cabbage for private gardens, and one of the best for autumn sowing.

Early April.—A distinct early Cabbage much larger than the preceding, compact in growth and coming into use, as its name denotes, early in April. Excellent for autumn sowing.

Ellam's Early.—A valuable early variety coming into use in mid April and early in May. Growth more spreading than in the
preceding varieties, hearts from medium to large in size, according to soil. Good for autumn sowing.

Flower of Spring.—A fine early Cabbage for April and May supply; similar in habit of growth to the last-named variety, and forming compact well-shaped hearts of first-rate quality. First-rate for autumn sowing.

Wheeler's Imperial.—An excellent early variety in every respect, and much esteemed by many growers for spring cutting. It should be sown in autumn for the latter purpose.

Early Offenham.—A Cabbage much grown for early cutting by market growers round London and in other parts of the country.

Early Rainham.—Like the preceding, this is an excellent Cabbage for market, and like that variety should be sown in autumn.

Improved Nonpareil.—One of the best for autumn cutting.

Main-crop.—Excellent for late autumn use.

Christmas Drumhead.—A fine variety for cutting in mid-winter.

Winnigstadt.—This is a very fine cabbage and very distinct, but it is not by any means fitted for early spring use as some people are led to believe. If sown in the autumn and planted out with the idea that they will come in in the spring, the result will be very disappointing. The plants grow to a great size, but form no hearts, and consequently are of no value. If seeds, however, are sown in May or June and the plants given a good larder, fine hearts will in due course be formed, and which will come into use from November to January, and be found of excellent quality. In our opinion this early winter cabbage is superior to Savoys, which, however, are useful later. By growing Winnigstadt there is no need for early Savoys, which are in our opinion not required until January, after they have been exposed to the frost, the quality then being very much improved in that the rank flavour is absent.

London Rosette Colewort.—The best for autumn and early winter use.

Hardy Green Colewort.—A fine variety for winter use.

ONIONS FOR EXHIBITION

Those who grow the handsome bulbs now forthcoming at our vegetable shows up and down the country in the autumn, purchase now, or as soon as the seeds can be had, a packet of a good stock of Ailsa Craig, Cranston's Excelsior or Premier. Then early in February growers for exhibition get one or two shallow wooden boxes according to the number of plants required, bore holes in the bottom for drainage, and put into each a layer of rotten leaves or well-broken horse-droppings with on top an inch or more, as the case may be, of rich soil with which has been well mixed some sharp silver sand. Be careful as to the sowing of the seed.
The usual way is to use a very small stick or a pencil with which to make holes a quarter of an inch deep and about half an inch apart all over the surface of each box, dropping one seed into each, covering them up and watering through a fine rose, then standing in a frame close up to the glass and keeping close until the seedlings appear. If the sun shines strongly it is advisable to shade the boxes in order to prevent the soil becoming too dry. Directly the seedlings appear, give all the light possible, and thus encourage the plants to become stocky. During the time the seeds are germinating get some other boxes filled in the same way as above detailed, and when the seedling onions are, say, 4 in. high lift each one carefully, so that none of the roots are injured, and dibble them into the newly filled boxes 2 inches apart each way. Return the boxes to the frame and keep close until the young plants are growing freely, and when they have got a good root-hold they may have plenty of air. Towards the end of April or in the early days of May the plants, after having been well hardened off, may be carefully lifted from the boxes with a hand-fork or a trowel and planted out in rows 18 in. apart and 10 in. apart in the rows.

The ground in which these large exhibition bulbs are to be grown should have been in the previous winter or in the early spring trenched to a depth of from 24 in. to 30 in.—as Onions are very deep rooting—and had worked into it, not only well down, but also near the surface, a good dressing of well-rotted manure, choosing cow manure if the soil is inclined to be light. This should have been done some few weeks before the time for planting out the Onions comes, in order that the soil may settle down. When the young plants are growing freely, and the weather is dry, occasional doses of liquid manure are very beneficial and help swell the bulbs. Nitrate of soda is also good, but it should be given at the rate of no more than 2 lb. per rod, as it is apt to encourage leafage and softness of the bulbs. Top dressings of soot are very helpful, but such are in our opinion better when worked into the soil when the ground is being prepared. As was said above, Onions are very deep rooting in well-trenched soil, and cases have been known where the roots were found at a depth of 2 ft. In the case of Onions there is no need to grow them in fresh quarters every year, in fact we know of a gardener who never used to even dig the onion quarter, the soil of which was very light. After the year's onion crop had been harvested he used to procure from the home farm fresh cow manure and lay it over the onion bed to a thickness of 6 in. This was allowed to lie until the time came round in the following spring for sowing, when the manure, from which all goodness had been washed down into the soil, was raked off, the surface
PEAS

levelled, the lines drawn, and the seed sown. This plan was followed every year, and there always were fine crops of good-sized bulbs which invariably kept well.

PEAS

With every suitable appliance the Pea season in the British Isles may extend from the middle or end of June until the end of October, and in exceptional seasons as late as the second week in November. Peas gathered earlier than the period stated are grown under glass, and the very late peas are, as already stated, mainly dependent upon the season. The best months for Peas are June, July, and August. In warm situations the produce of the early south border begins to turn in about the end of May, and green peas are common enough in June, but July and August are the months for Marrow Peas. In August and September, unless the land is good and the treatment liberal, and first-rate in every respect, there is always the possibility of a falling off both in regard to crop and quality, so that after July successful returns are mainly contingent on good cultivation, as shall be presently shown.

The First Early Peas.—These, where glass is sufficient to allow for their culture, will comprise several batches in pots of 8 in. and 10 in. size. The seed should be sown the first week in January, varieties to consist of approved dwarf and half-dwarf early kinds. The plants should be brought on steadily in a pit or house close to the glass with just the smallest amount of artificial warmth, as Peas do not force well. A steady regular growth in a very light position, with a temperature never exceeding 45° to 50° at night, will be best. Ventilation must be given on every suitable opportunity.

The first sowing in the open air may take place the first or second weeks in November, provided the locality is favourable and the soil well drained and warm. Under less favourable conditions it is best not to make the first sowing until January, the time for doing so varying according to climatic conditions. In cold, wet districts February is quite early enough to sow outside. Very frequently first early Peas are raised under glass, and when hardened off are planted as early in March as the weather permits. The seed of some favoured variety is sown in pots, troughs, or on sods of turf, and placed in heat, when they soon germinate, when in due course the plants are hardened off and planted on a warm south border at the time mentioned. A ridge of earth is drawn up on each side of the rows as a shelter, and a few evergreen boughs are worked in amongst the ordinary sticks to afford additional protection. To keep up a regular supply there must be frequent sowings. But taking account of, and giving due
ADDENDUM

weight to, the fact that first early Peas sown during the months of January, February, and the first half of March will not vary more than a week or ten days as regards turning in, there is not much use in making successional sowings of these alone during the period named. The general rule is, after making the first sowing, to select and sow two or more varieties such as a first early, a second early, and a mid-season one on each occasion, by which means a regular succession is assured. It is useless to specify when these sowings should take place, as weather conditions at that time of year are so variable, but in the last half of March and from April onwards it is best to make fortnightly sowings, or to sow again as soon as the preceding crop is just through the ground.

As to the time when peas may be expected to be ready for use, the following dates may be taken as approximately correct. They are founded on a good deal of experience and careful note-taking, and, making due allowance for the effect of latitude on climate and the variations of soil and seasons, may be safely acted upon. First early peas sown before Christmas or not later than the first week in January to the end of February should be fit to gather the last week in May. Those of a second early type sown from the end of January to the end of February should be fit to gather from June 10th to 20th. A mid-season variety sown from February 20th to March 10th should be fit for use from June 20th to the middle of July. Marrow peas such as Veitch's Perfection and Ne Plus Ultra sown from the middle to the end of March should be ready about the middle of July and onwards. The tall Marrows sown first and third weeks in April and first and third weeks in May should produce a supply from the middle of July till the close of the Pea season. Some people sow first and second early-ones once or twice in June, and the late Marrowfats often do well sown as late as the middle of June.

The Late Marrow Peas.—The crop is so important that every expedient should be adopted which can in any way enable it to pass through its difficulties without much suffering. Men may be seen laboriously watering peas in a hot, dry time when less than half the time in preparatory work at the right season would have given more satisfactory results. Mark out the sites in January or February where they are to be grown, open a trench and fill in with a manural compost—Peas dislike rank manure. Save the usual decaying matters which accumulate about a garden, mix with a proportion of manure from the stables or pigsty, with a little soot, etc., blend the whole together and work it into the trench where the peas will by and by be planted. When this is done early in the season the compost will have become mellow and in a fit condition for the roots of the plants to work into at once. As much
of the soil taken out of the trench may be thrown back and worked up with the compost as will fill the trench to the original level. The bottom of the trench should also be broken up. The stations for late peas should also be got ready at the same time, and a peg driven down at the end of each row, so that when the time arrives for sowing all that is necessary is to stretch a line from end to end and draw a drill 5 in. to 6 in. in width and 3 in. to 4 in. in depth.

**Sowing and Gathering.**—The large Marrow Peas should be allowed room to branch out, which must be provided by sowing the seed thinly in the drills. From 2 in. to 3 in. apart all over the drill is not too much space to allow; and this will necessitate the careful distribution of the seeds individually by hand. In dry weather the drills should be soaked with water and the Peas covered with the dry soil drawn from the drills. If mice are likely to be troublesome, dress the seeds with red lead or else keep traps set in the vicinity of the Pea rows. To do late Peas justice the rows should when possible run north and south and stand from 6 ft. up to 21 ft. apart. Dwarf-growing crops of other vegetables can be grown between them. Mulching with manure is a useful expedient, and in connection with a good preparation of the ground at this season should render watering, except in very hot weather, unnecessary. The mulch, which should consist of half-decayed stable manure or similar material taken from an old hotbed, should be spread on either side of the rows of Peas 18 in. or so wide and 3 in. or 4 in. thick. Gathering should be done carefully and as soon as the Peas in the pods are sufficiently large enough for use. Allowing them to become too old before doing so not only renders them of less value and unpalatable, but by impoverishing the plants causes a considerable reduction of crops. In some cases a secondary crop of young shoots and blossoms will develop and a further yield of Peas, which will be very useful, will be produced.

**Tall and Dwarf Peas.**—Dwarf and half-dwarf Peas are very useful where sticks or supports cannot easily be obtained; but where sticks do not cost much they are best for the main crop tall Peas, which are more prolific. In case of all Peas requiring support—and if possible even those of dwarf habit should be supported—the sticks should be placed to the rows early and the tops levelled off with a pair of shears. The pieces cut off should be used between the large sticks at the base to prevent the plants straggling through and to induce them to grow in an upright direction. Nearly all market gardeners near London grow Peas largely; and although French Peas are sent to market early in May and sold at cheaper rates than English growers could afford to produce them, preference is always given to home-grown Peas, for which there is always a good demand until about September. Until the end of October, however, fine samples of the *Ne Plus Ultra* type may be obtained.
ready shelled in the market, the produce in many instances of Surrey, Bedfordshire, Essex, and adjoining counties, from whence comes the great bulk of both early and mid-season Peas to Covent Garden. In making early sowings it is a practice with market growers to choose a fine day to break down the ridges (the ground having previously been manured and cast into ridges), measure off the lines and draw drills in the forenoon, leaving them open till the afternoon, so that the soil in them may dry a little and become warmer; then to sow the seeds and cover all up before evening. The drills vary from 2 ft. to 3½ ft. apart according to the vigour of the sorts which are to be sown. When the rows are close together, Lettuces and Spinach are used as intercrops, but when more widely distant from each other Cauliflowers are then usually planted. It many instances the first sowing of Peas is made in December on a warm border; but considering they must be sown a little deeper than in January, and the risks to which the seeds are liable from mice, birds, insects, and damp, it is a much-disputed point among good growers whether the December sowing has any advantage over that made in January, many contending that the produce of the latter is quite as early as that of the former and the crop less subject to risks. Different growers have a preference for different kinds, but the early dwarf sorts are those most grown on account of their quick returns, the small space they occupy, and because they require no stakes.

Peas are seldom staked in market gardens, the haulm being allowed to lie on the ground. Gathering is a matter well attended to, as the more closely the pods are picked the longer do the plants continue to bear. Some market gardeners save their own seed, others grow Peas for seed only. In this case the haulm is frequently shifted from one side of the row to the other in order to prevent the pods from rotting or from being destroyed by slugs, snails, etc., and to expose them to the air and sun to cause all to ripen alike. When ripe the haulm is pulled up and taken indoors and when the seed has become dry it is shelled or thrashed out during wet weather.

**Select List of Peas**

**Early Dwarf Varieties**

**Pioneer.**—A first-rate dwarf Pea, height about 2 ft., good cropper.  
**Chelsea Gem.**—An excellent dwarf kind, height 18 in., good cropper.  
**English Wonder.**—Well-known dwarf Pea, height 2 ft., good cropper.  

**Taller First Early Varieties**

**William the First.**—A first-rate early round-seeded Pea, height 4 to 5 ft., good cropper.
PEAS

Bountiful.—A vigorous free-bearing round-seeded variety, height 5 ft.

Early Giant.—A first-rate wrinkled marrow, abundant cropper, height 5 ft.

Duchess of York.—A fine early wrinkled marrow, good cropper, height 4 to 5 ft.

Second Early Varieties

Centenary.—A first-rate variety in every respect, height 5½ to 6 ft.

Quite Content.—A prolific variety, height 5½ to 6 ft., pods extra large.

Stratagem.—An excellent semi-dwarf kind, height 3 ft., free cropper.

Prince of Peas.—A first-rate second early, and abundant cropper of splendid quality.

Incomparable.—A vigorous-growing variety about 4 ft. in height, very prolific.

Duke of Albany.—Very fine free-cropping Pea, of the highest quality, height 6 ft.

Main-crop Varieties

Pride of the Market.—A sturdy free-cropping variety, height 3 to 4 ft.

Abundance.—A very fine prolific Pea of excellent quality, height 4 ft.

King Edward.—A prolific variety, height about 4 ft., excellent quality.

Prince of Wales.—A strong-growing variety, excellent cropper, height 4 ft.

Masterpiece.—A sturdy free-bearing Pea, height 4 ft.

Veitch’s Perfection.—A well-known superior Pea, an abundant cropper, height 4 ft.

Eureka.—A very free-cropping variety, of excellent quality, height 4½ ft.

Autocrat.—A vigorous, free-bearing Pea of superior quality, height 5 ft.

Ne Plus Ultra.—One of the best late sorts, a good cropper, quality excellent, height 5 to 6 ft.

Gladstone.—A fine late kind, an abundant cropper, height 5 ft.

Continuity.—A prolific late variety of great excellence, height 4½ to 5 ft.

POTATOES

CULTURE.—When grown in the open ground Potatoes are usually planted from the end of March, or in April and early in May according to locality and climatic conditions in drills or
holes made with a hoe or "setter" some 4 to 5 in. in depth, with 
a distance of 12 to 18 in. between the "sets" according to their 
season of use or when the crop matures, and the vigour of growth 
of the varieties grown. Entire tubers of medium size are the best 
for planting, and they should in all cases, especially so in regard to 
early and second early varieties, be exposed some time beforehand 
to the influence of light and air, so that, at planting time, they will 
have green sturdy shoots on them from 1\(\frac{1}{2}\) to 2 in. in length. In 
this case care must be taken when planting not to break off the 
shoots. The object in planting these sprouted tubers is not only 
to gain time in regard to growth, but to secure greater uniformity 
and vigour, while gaps or losses in the rows arising from tubers 
failing to grow is obviated, and last, but by no means least, the 
maturation of the crops is, to a great extent, accelerated. The 
tubers should be covered at the time of planting with from 4 to 5 in. 
of soil, and the general practice is to keep the soil between the rows 
well hoed, and to earth up as soon as the stems have grown to a 
height of 6 or 8 in. Earthing-up is very essential, as it has the 
advantage of not only causing the tubers to lie more closely 
together round the roots of the plants, but prevents those which 
lie uppermost or nearest the surface from becoming exposed, while 
the crop is the more easily lifted. Potatoes ripen, or at least 
become fit for use, early in June to the end of October, according 
to the varieties grown. They may be forced under glass or in 
frames on mild hotbeds. In the former case large pots or boxes 
of suitable depth may be utilised for the purpose. Forcing may 
be commenced in December or January, and continued up to the 
middle of March. The crop will be ready for lifting in from two 
to three months after planting, less time being required as the 
season advances between the time of planting and when the tubers 
will have become large enough for use.

**Select List of Varieties**

**First Earlies**

**Epicure.**—White, round, heavy cropper of good quality.

**Eclipse.**—White Kidney, a heavy cropper, of fair quality.

**Early Favourite.**—White round, good cropper, said to be of 
good quality.

**Duke of York.**—White Kidney, medium cropper, quality first-
rate; excellent for frame and pot culture.

**May Queen.**—White Kidney, good cropper, quality excellent.

**Good for forcing.**

**Sir John Llewelyn.**—White Kidney, good cropper, of excellent 
quality.

**Midlothian Early.**—White, pebble-shaped, fair cropper, quality 
good.
Sharpe's Express.—White Kidney, excellent cropper, quality first-rate.

Sharpe's Victor.—White Kidney, fair cropper, first-rate quality. Excellent forcing variety.

Second Earlies

Snowdrop.—White Kidney, abundant cropper, of excellent quality.

Gladiator.—White Kidney, very heavy cropper, of fair quality on heavy soil.

British Queen.—White, shape variable, heavy cropper, quality excellent on some soils.

Great Scot.—White, round, said to be a heavy cropper of good quality.

King George.—White Kidney, said to be a good cropper.

Main-crop and Late Sorts

Windsor Castle.—White, oval-shaped, good cropper, quality first-rate.

King Edward.—Kidney, white, lightly coloured here and there with pink. Abundant cropper of excellent quality.

Up-to-Date.—White, round, abundant cropper; quality first-rate.

Arran Chief.—White, round, heavy cropper, quality excellent on some soils.

Long Keeper.—White, pebble-shaped

Crofter.—White, pebble-shaped

The Lochar.—White, round

The Chapman.—White, round

Reputedly heavy croppers.

Spraying.—The proper proportions of the sulphate of copper and lime solution for spraying Potatoes to check the disease (Phytophthora infestans), is one pound of each. Tie the sulphate—which is blue-stone—in a coarse piece of canvas and put into a wooden tub holding about 10 gallons. Pour over the sulphate 2 gallons of boiling water and let it dissolve. In a pail dissolve the lime, which should be fresh, and when clear add the water to that in the tub. In addition to the above, dissolve in hot water 1 lb. of common treacle, and add this. Then fill up the tub. The solution should be applied about the middle of July, with a second application three weeks later. It must be applied to the foliage of the Potatoes in the form of a very fine spray through a knapsack sprayer, or by the aid of a spraying syringe. It is best done in the evening.

Sprouting the Seed Tubers.—Though good results may be possible from tubers that have not been put into the sprouting boxes in February or March—that is, from four to six weeks before planting—it is generally conceded that the better plan is to store
the seed tubers in boxes during the winter. Leaving out the relative effects of winter or spring boxing on the subsequent crop, there are other valid reasons for giving preference to autumn or winter boxing. In the first place, there is, as a rule, more spare time for carrying out the work in the fall than in the spring, when there are so many other things requiring attention. In the second place, there is no way in which the seed tubers may be kept so safely or stored in smaller compass than in the boxes utilised for the sprouting of the tubers. The third and most important recommendation is that the tubers can be overhauled and examined as time permits, should that be found necessary, while the sprouting can be regulated to a nicety by placing the boxes in a high or a low temperature, and exposing the tubers to light and air or shielding them from the latter as circumstances may require. The size of box recommended for general use is, length 24 in., width 12 in., and depth 3 in. The corner-pieces should be 7 in. in height and sufficiently strong for the boxes to rest one on top of the other when piled for winter storage. The handle-bar should be strong and tenoned into the end-pieces, the whole forming a light, handy, and durable receptacle which, if carefully used, will last for years. Such boxes are not very expensive, each box holding about 20 lb. of Potatoes, varying with the size of the tubers. The filling of the boxes involves no particular care or trouble, and when completed they may be arranged one on top of the other to any height that may be found convenient.

Apart from the effect of light and air upon the length of the sprout, exposure for some time before planting is all-important, in order that the sprout may become tough, and thus not so liable to be broken when handled. A few days' exposure will be sufficient to make the sprouts quite tough, and so less liable to injury when planting is being done. When storing the boxed tubers care should be taken that they are not placed where frost is likely to reach them. On the other hand they should not be given too high a temperature or sprouting will be too rapid, and they will become spindly and drawn. As a rule they will do very well in barns or sheds, provided they are protected from cold winds and covered with straw or sacks when frost is severe and protracted.

At the time of planting the sprouts should be about 2 in. long, and the management of the boxes should be so carried out that this length of sprout should be developed as uniformly as possible all over the box. There is no valid objection to longer sprouts, except that there is a danger of some of them being broken off unless they are very carefully handled. Generally, the sprouts are apt to fall short of rather than exceed the desired length, in which case, in order to check growth and prevent their becoming drawn, the best way is to expose them to the light. If, on the other hand,
RHUBARB (DAW'S CHAMPION)

An early Rhubarb is most useful when forced or when allowed to come away naturally. Of the newer varieties that at the head of this note is of great value, indeed by some it is preferred to the well-known Hawke's Champagne, an old kind, well known for its fine colour, earliness, and quality when obtained true. It is largely grown by one of the Covent Garden Market men, who has shown it frequently at the winter meetings of the Royal Horticultural Society, receiving both an award of merit for it for its earliness and a first-class certificate for it for its excellent quality. Of the several varieties of Rhubarb that have been put into commerce of recent years it is one of the best. Even so early as January we have seen the crowns growing freely with only a handful or two of loose litter thrown over them. For forcing it is unequalled, the bright red colour permeating the whole stalk. It is a very strong grower, quite different in this respect from some of our very early varieties of former days.

ROTATION OF CROPS

This is one of the most important points in the culture of vegetables. So much, however, depends on the nature of the soil, the size of the garden, and the different vegetables required that no hard-and-fast rule can be laid down in this matter. A change of ground is beneficial to most vegetables, though there are many exceptions, as in the case of Onions, Shallots, and Artichokes, which may be grown from year to year on the same piece of ground. The treatment for Celery brings the ground into a high state of cultivation, and most vegetables do well after Celery. Carrots, Parsnips, and Beet should follow crops for which the soil was specially manured, as the application of fresh manure just before sowing is detrimental to them. All the Cabbage family should never be allowed to succeed each other, but should generally follow after tap-rooted vegetables. The soil for tap-rooted vegetables should be thoroughly well worked without the addition of any manure.

TOMATOES

Defoliating Tomatoes.—Many amateurs run away with the idea that Tomatoes when exposed by the removal of the leaves ripen more quickly. This is an erroneous idea, and the sooner it is dispelled the better—that is, by those who treat the plants in such a barbarous fashion. One may often see the plants quite denuded of all the leaves, only a small particle of a leaf-stem
or two remaining at the extremities. Plants that are growing very strongly in a small house may be slightly denuded of some of the gross-growing leafage without any material injury. Especially is this the case when the leaves cover the soil and impede the daily watering of the plants. Let any one visit some of our large market gardens where Tomatoes are grown, and note how little thought is paid to removal of the leaves of Tomatoes and how freely ripe fruits are obtained from day to day.

Against hot sunny walls in the open air the foliage is of great value in protecting the swelling fruits from the sun, and in this way prevents scalding. Tomatoes do not require the sun to shine directly on to them to impart early maturity and colour. The plants themselves need all the sunlight possible, but unless the leafage as referred to above is over-luxuriant there is no need for repressing it. By all means remove the growths which spring from the leaf axils, and the sooner this is attended to the better both for the plants and the crop. In the case of outdoor plants, when four to six trusses, according to the strength of the plant, are set, pinch out the point at one leaf beyond the topmost one. Very strong plants may carry from six to eight trusses of fruit if they are early—that is, planted out early. Late-put-out plants would not have time to bring so many to maturity before they were overtaken by frost. If stopped—as advised—early, the fruits swell more quickly and ripen sooner. Against walls staking and tying the plants to the stakes are better than nailing, driving the stakes into the ground and securing them to the wall with a nail and shred.

**TOMATOES FOR WINTER**

Whatever advance may have taken place in the last few years as regards improved varieties of Tomatoes, we have not as yet obtained a really good sort for winter fruiting, but will have to rely more on methods of culture in order to secure satisfactory results. As far as a supply up to Christmas is concerned there is no difficulty in securing this from the plants that have fruited during the summer—that is, provided they have been grown in light, well-heated structures. It is after this time that the supply runs short. Many people are often compelled to do away with plants in the early winter on account of the house being required for another purpose, as at this time it is impossible for the plants to be satisfactory when subjected to a low temperature, or on the other hand a too high and moist one. It is to meet such cases as these, where winter Tomatoes are needed, that it is very essential to raise a fresh batch of plants and grow them on for winter fruiting. On plants raised in August and carefully attended to there will be time for a crop to set by the end of
October. After this time the days are generally dull and moist, conditions not favourable to the setting of the fruit. For winter work only medium growers and free setters should be selected.

As regards the mode of increase, seedlings are preferable to cuttings, as though cuttings might naturally be expected to come into bearing before seedlings, and consequently answer better for winter fruiting, seedlings if carefully tended will fruit quite as early, and in every other respect be satisfactory. The plants must be stocky, as drawn and weakly plants are of no use, since by the time these have become fit to produce fruit the season is too late for the flowers to set.

In growing winter Tomatoes pot culture is preferable to planting out, as in pots the plants are more under control, with the added advantage that the house is at liberty for other plants until the time comes round for housing the Tomatoes. The best place for winter tomatoes is those light houses or pits in which cucumbers and melons have been grown during the summer, as directly these are over they can be cleared out and the Tomatoes put in their place. The plants should be in their winter quarters by the beginning of October or the middle of the month at the latest. In our experience one of the best winter fruiting sorts is Winter Beauty, though the old Large Red is also good, the only objections to this variety being its poor shape and quality.

TURNIPS (YELLOW-FLESHED)

It is very strange that the yellow-fleshed Turnips are so favoured in the north, while they are but seldom grown in the south. When cooked, there can be no question as to the superior quality of the yellow-fleshed Turnips, the flesh being firmer, of better flavour, and when served, in the opinion of many, more attractive. One often hears it said that the flavour of the yellow-fleshed Turnip in the south is strong, but given good culture in the way of deep, well-manured soil, and grown on without a check, this is not so. The cultivation has a great influence on the flavour, and it very often happens that the white Turnips are not only hard, but bitter, and for this reason very objectionable. In the kitchen the yellow-fleshed Turnips are by many cooks preferred to the white-fleshed varieties.
VEGETABLE DISEASES

The Bean Aphid.—This, known as The Black Dolphin, is the worst enemy of the Broad Bean, and unless steps are taken to destroy it, it very soon ruins the crop. The best way to get rid of it is to remove the tops of the plants, and if aphides are present to burn them, then syringe the plants with any insecticide sold for destroying black and green fly. Syringing with soap-suds on two or three consecutive days has also been found effective.

Cabbages Clubbing.—The best remedy for this is, without doubt, gas-lime, which should be applied to ground, whenever empty, in which clubbing has been prevalent. This should be applied at the rate of 2 bushels to 3 rods if the clubbing has been bad; if not, then allow 1 bushel to 2 rods of ground. After lying on the ground for from four to six weeks, dig the dressing in. If gas-lime is not to be had, then a dressing of ordinary lime at the same rate will do good. Be careful not to plant any of the Cabbage family on the infected ground for at least two years. Potatoes, Seakale, or Rhubarb may occupy the ground, or Onions, Parsnips, or Beet may be sown thereon—in fact, any crop other than one of the Brassica family.

Celery Leaf Blight.—This, during the past few years, has been prevalent, and is very often the cause of the partial or complete failure of the crop. The disease may be recognised by local crumpling of the leaf, followed by the appearance of spots on the surface. The leaves rot away, after which the stems decay, and finally the whole plant disappears. As the spores of the fungus remain in the soil for some time afterwards, Celery should not be grown in the same plot of ground for several years. Since the disease is carried in the seed, growers of Celery are advised to disinfect their seed. In order to do this hydrogen peroxide should be used. When purchasing this disinfectant a solution known as 20-volume solution should, if it can be had, be obtained, but if not, then a 10-volume solution may be used. The seed to be treated is placed in a glass or earthenware vessel, and enough of the hydrogen peroxide poured in to cover the seed. Stir the mass thoroughly so that all the seeds become wet, allow the seeds to remain in the liquid for three hours, then pour the liquid off and reserve it for treating a second batch if need be. Before sowing, spread the seed out thinly to get dry. Do not return the seed that has been disinfected to the original packet, or else some of the spores of the fungus causing the disease may be adhering to the paper and reinfect the seeds. There is a possibility of arresting and finally subduing the attack, if, on the first signs of the
fungus being noticed, the plants are sprayed with Bordeaux mixture; but if the disease has got a firm hold, then spraying will avail nothing. After the Celery has been dug, and if very badly attacked burnt, give the ground a good dressing of freshly slaked lime, or one of the several soil disinfectants now on the market.

Celery Maggot or Leaf Miner.—This pest, which in some seasons disfigures the leaves of Celery very badly, is very difficult to combat, as the maggot is encased inside the skin or leaf covering, consequently impossible to get at with any insecticide. The only remedy is hand-picking the affected leaves and burning them. After removing the leaves that have been very badly disfigured, give the plants a good dusting of soot. Given repeated dressings of soot to check further attacks of the fly, a healthy growth will follow, and if this is kept clean there will be but little fear of a severe attack.

Mint Cluster-cup Fungus (Puccinia menthae).—There is no cure for this, as the fungus is in the stems, in the lower part of which it passes the winter. When this fungus attacks a bed of mint the best thing that one can do is to pull up the plants at once and throw them on the fire, making a fresh plantation in another part of the garden with plants from an untainted source. It is advisable, too, to give the ground where the fungus-infested mint has been growing a good dressing of lime, so as to destroy any fungus spores that may be present in the soil.

Onion Fly (Anthomyza ceparum).—This lays its eggs at the base of the young plants in April and May, and the grubs when they hatch out begin feeding on the bulbs and burrow into the hearts of the plants, which very soon collapse. In the case of a bad attack the plants can be pulled from out of the drills, as the roots are then partially or wholly destroyed. When in this condition every affected plant should at once be pulled up and destroyed. Shallow sowing renders the plants liable to attack, as the base of the plants being on the surface the flies are better able to find a footing. If deeper sowing is practised, the vulnerable part of the bulb is then buried. To act as a protection it has been found that by drawing soil up to the plants on either side of the lines the fly is unable to get at the base. Some growers water the soil between the lines with paraffin and water, while others again strew sand saturated with paraffin between the lines. We have tried both these so-called remedies, but in neither case did any good results follow. The best way we find when this pest has been troublesome is to grow the onions in another part of the garden as far away from the infected area as possible, sowing the seed as soon as the ground is in working condition, and rather deeply so that the outer cuticle of the bulb may be hardened and so
impervious to the attacks of the fly when the egg-laying time arrives. One of the several soil disinfectants should also be dug into the soil or sufficient lime and salt to whiten the ground spread on the surface and forked in. Plants raised in the autumn or those raised under glass in the early part of the year are seldom attacked; they are too hard and buried too deeply for the insects to get at them. In many cases where the outdoor sowing of onions has been a failure, growers have abandoned this mode of culture and raised the plants under glass instead. These when large enough are pricked into boxes, and in some cases potted off singly and grown in frames. After having been well hardened off they are planted out during April. It has been found that grown in this way the losses have been reduced to a minimum. A grower of our acquaintance uses nothing but soot, and he never has any trouble either with the onion fly or the carrot fly. A good preventive against the first inroads of the fly is to spray the young plants every few days with an emulsion made by boiling 1 lb. of soft soap in two quarts of water, adding half a pint of paraffin, then six gallons of water, working the whole through a syringe until it is a frothy mixture. If after the spraying is completed a good dressing of old weathered soot is dusted over the moistened plants the onions should be in great measure protected from the fly.

**Potatoes, Wart Disease of.**—This, known as *Synchytrium endobioticum*, is the worst of all diseases that affect vegetables. The unfortunate part of it is that unless checked it will very soon spread over a wide district. It is easily recognised by the ugly excrescences like warts that appear in the eyes of the tubers. When once a tuber or tubers have fallen a prey to this disease these tubers are of no value, and should be at once burned to prevent the spores getting into the soil. Very often the stems of the plants are attacked, this being indicated by greenish-white growths thereon. The warts on the tubers are at first of a dark-brown colour and firm, but as the season advances they change to almost black and are quite soft, finally rotting away and in decay emitting a most unpleasant smell. This is the time the spores are mixed with the soil, where they remain dormant, but still capable of causing serious loss should potatoes be planted on the infected ground. Never save any seed from the wart-infested tubers, as this is a certain way of still further spreading the disease. Potato growers both amateur and professional should look over their crop, not only during the growing period, but afterwards when the tubers are in store, and if any tubers with the least symptoms of the disease are found they should report the same, as wart disease is notifiable and severe penalties are attached to its wilful concealment. All infested tubers should be burned, and the ground from which they have been lifted dressed with gas-
lime which, having lain for some time, should be well broken up and dug in. Do not on any account plant potatoes on such infected ground, and when purchasing seed always stipulate that such has been grown on ground free of the disease. We have now varieties that are immune to this disease, and such should only be planted where the Wart disease has been present. It is therefore all the more fortunate that experiments carried out by the Board of Agriculture and Fisheries have demonstrated beyond all doubt, for the time being at any rate, the absolute immunity to Wart disease of certain varieties of Potatoes, many of which both crop and cook well. Some of the best immune varieties are:—

**Early Varieties**

**Snowdrop.**—A very shallow-eyed, white-skinned, pure white-fleshed Kidney potato of good quality.

**Dargill Early.**—A shallow-eyed, white-skinned, pale, yellow-fleshed, good cropping Kidney variety.

**Edzell Blue.**—A rather deep-eyed, purple-skinned, pure white-fleshed, heavily cropping, round potato of good quality.

**Second Early Varieties**

**King George.**—A shallow-eyed, white-skinned, white-fleshed, irregular-shaped variety of fair quality. This is one that if sprouted and planted early can be lifted almost as early as *Épicure*, but is liable to boil black later in the season.

**Great Scot.**—A rather deep-eyed, white-skinned, white-fleshed, very heavily cropping round variety of good quality.

**Ally.**—A shallow-eyed, white-skinned, white-fleshed, heavily cropping, oval to oblong variety of fairly good quality.

**Arran Comrade.**—A very shallow-eyed, white-skinned, white-fleshed, heavily cropping, flattened round variety of fairly good quality.

**Late or Main-crop Varieties**

**Abundance.**—Including the large number of differently named varieties of identical type. A shallow-eyed, white-skinned, white-fleshed, fairly good cropping, flat round to oval potato of good quality, but rather liable to late blight.

**Tinwald Perfection.**—A shallow-eyed, white-skinned, lemon-white-fleshed, good cropping, oval to oblong potato of excellent quality.

**Kerr's Pink.**—A rather deep-eyed, light-pink-skinned, white-fleshed, heavily cropping, round potato of excellent quality. Particularly good on heavy soils.

**Majestic.**—A shallow-eyed, white-skinned, white-fleshed, good cropping Kidney variety of good quality. The seed requires careful handling, and should be sprouted before planting.

**Golden Wonder.**—A shallow-eyed, russety-brown-skinned,
white-fleshed, light cropping, tapering, Kidney variety of the very best quality. Will crop well if the seed is sprouted and planted in well-cultivated loam and given a long season of growth. Probably the best-keeping potato known, and if kept till after Christmas probably the best eating.

Any of the above may safely be grown in infected soil with good prospects of success, and growers should endeavour to become familiar with the fitness of these sorts to local conditions, even if they are not yet troubled with this serious disease of the Potato. It is just possible that the raising of seedlings may in time check this terrible pest.

**Potatoes, Black Leg of.**—From reports received by the Board of Agriculture it appears that this disease is spreading in this country, black leg being common in crops of *King George, Great Scot, Majestic,* and *Ally.* It is possible that these newer varieties are more susceptible to this disease than those previously grown, so that the parasite has increased at a more rapid rate. In the year 1917 the disease was noticed in Scotland to be fairly common among the crops of Potatoes, and it is possible that the more extensive use of Scotch seed during the past few years has distributed the disease over a wider area. This disease is very destructive and causes serious loss in the Potato crops. The leaves wilt and turn yellow, then shrivel and die, the disease starting low down on the stem, the uppermost leaves being the last to succumb. When the leaves first begin to drop, the surface of the underground part of the stem bearing such leaves is more or less covered with brownish stains. This discoloration gradually extends up the stem, which in the end becomes quite black and very soon decays. Black patches also appear in the young tubers, which if the attack is severe soon rot. As soon as any of the potato plants show symptoms of this disease they ought at once to be dug up and thrown on the fire heap.

**Tomatoes, Black Spot in.**—This, known as *Cladosporium fulvum,* is a fungus which germinates soonest in moisture. In the morning, any moisture that may be accumulated through vapour rising from the soil during the night, becomes condensed on the fruits, and invariably finds its way to the lowest part of the fruit. Of itself, the moisture would do no harm were there no spores of the fungus in the house. The spores, however, settling on the fruit get washed down by the moisture to the apex of the fruit, and at once become active, penetrating through the tiny orifice left by the decaying bloom. Then it begins to spread, and preys upon the flesh, causing it to become black. Once the spot is seen on the fruits, a cure, so far as the affected fruits are concerned, is out of the question. All such affected fruits should at once be removed, and thrown on the fire. The
best cure for this trouble is to dissolve 10 oz. of sulphate of potassium—liver of sulphur—in two quarts of boiling water, adding two gallons of water, and thoroughly wetting the plants with this.

**Tomatoes, Black Stripe of.**—This is a fungoid disease, the origin of which, up to the present, is unknown. It is a parasitic fungus and attacks both the stems and fruit, but can only gain a footing when wounds are present in either or both; and once an attack has been experienced, it is very difficult to prevent its reappearance the following season. To prevent a second attack, all the soil in which the plants have been grown should be cleared out and burned. The house, too, in which the plants have been growing should be disinfected and scrupulously cleaned, while the soil that is to be used the following season should be sterilised by placing it over a fire on a sheet of iron and allowing it to become heated, almost to the point of being charred. To guard against a further attack of the fungus after the plants have become established, spray them with sulphide of potassium every other week or so right through the season, using 1 oz. of sulphide to 3 gallons of warm water, in which 2 oz. of soft soap have been dissolved. Of course, a greater quantity of the spraying mixture may be required, but the same proportions should always be followed. Avoid giving stimulants to such an extent as to cause the fruits to crack, and do not remove any more of the leaves than is absolutely necessary.

**Tomatoes, Scalding of.**—This is caused when, in the morning, the moisture condenses on the fruits because the house has been shut up too close, and the sun strikes them before they are dry, as very often happens in the case of grapes. Scalding, too, may to a great extent be caused by cutting away the foliage, which is all too common. Rich food is often given in excess, and without foliage to absorb such food it is taken up by the fruits, causing bad flavour, spot, and scalding. We do not denude other plants of their leaves in the same way as we see the Tomato treated, and when this is done it is impossible to prevent the scalding of the fruits when this severe cutting is carried to excess. The smooth-skinned varieties of the *Perfection* type scald much sooner than the corrugated kinds, the skins being probably more sensitive.

**Tomatoes, the "Sleeping Disease."**—The resting spores of this, known scientifically as *Fusarium lycopersici*, attack the delicate root hairs and rootlets of the plants, finally invading the whole of the roots and spreading up the stem. To make sure that the disease has been destroyed, it is well to burn all the plants that are tainted with it, at the same time removing all the soil, mixing lime with it, and replacing with fresh before replanting. Fresh plants should also be purchased from an untainted source.
The Turnip Fly.—A very great difficulty presented to every gardener in connection with the raising of Turnips is combating the fly when the seedlings are very small. No matter where sown, the fly in dry weather attacks the plants, being as destructive in one garden as in another, unless very drastic steps are taken to check it. Some people advise dusting the plants with soot or very dry soil, but such dressings seem to do but little good. Possibly, syringing the seedlings with Quassia extract may check its inroads for a time, but such spraying, to do any good, must be repeated every two or three days. Coating the leafage with soot and dirt may, for a time, check the fly, but such dressings, seeing they choke the pores of the leaves, must, in the end, be harmful to the plants.

One of the best aids to vigorous growth, and consequent freedom from the attacks of the fly, is found in rich soil, the drills, when drawn, being saturated with weak liquid manure, sowing the seed at once and immediately covering it with fine, dry soil, which, in addition to checking evaporation, helps the germination of the seeds. A cool and slightly shaded position is best for summer sowing, but the later sowings, at the end of August or early in September, should be made quite in the open. Some persons sprinkle the grass from the mowing machine over the newly sown breadths of Turnips, these furnishing some slight degree of protection. Whether the taste of the decaying grass is offensive to the fly, or the grass helps to cover the Turnips from view, is not certain. It is, however, a simple and easily applied mode of protection, which almost any one sowing Turnip seed in gardens can adopt. Carrying a long, freshly tarred board by two men over a breadth of Turnips, the board kept a few inches above the plants and in a slanting position, was found instrumental in capturing great numbers of the beetles.
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