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BULLETIN No. 125

CULINARY HERBS

AND THEIR CULTIVATION

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CULINARY HERBS

INTRODUCTION

IN MEDIEVAL TIMES large quantities of flavouring herbs were used, and nearly all food was highly spiced and flavoured, partly as an aid to preservation or to cloak incipient decay, and partly, no doubt, to stimulate the appetite during the gargantuan meals that were then the fashion. Gradually the supervision of the herb garden, the gathering and the use of herbs came directly under the control of the housewife, whether she was the wife of a rich landowner or of a labourer. From the sixteenth to the eighteenth century the use of culinary herbs became a gentle art, and many recipes have been preserved that indicate the judicious uses to which they were put. As town life increased, market gardeners, especially around and to the south of London, took up the cultivation of herbs, which were sold in the markets or by street vendors.

At the beginning of the nineteenth century many such herbs were regularly on sale, but by the end of the century the number of culinary herbs grown commercially in England had been reduced to the four now widely used, namely, parsley, mint, sage and thyme. The reduction of a great variety of herbs to a small number has its parallel in other directions, such as the establishment of a few " commercial " varieties of apple, and is also associated with the fixed British gastronomic traditions of " mint sauce " and " sage and onions ", and the predilection of many English people for tomato or Worcester sauce as an adjunct to each and every form of food.

The acreage devoted to the cultivation of these selected kinds of culinary herbs in England is, however, probably as great to-day as it has ever been, but under present conditions it is believed that certain culinary herbs are not in sufficient supply, and to meet the demand an increase in cultivation is desired. For certain reasons, too, this increase can be brought about as effectively in private gardens as on commercial holdings. Parsley, sage and mint are grown in every market-garden district of England; in particular, parsley in Bedfordshire, mint in the Home Counties, and sage in Worcestershire. There is now a large trade in dried culinary herbs, and home growers are finding in this trade an additional outlet for their crops.

PARSLEY

Parsley (*Petroselinum hortense* Hoffm., *Carum petroselinum* (C.) Benth.) is a widely used and much grown culinary herb. Large quantities are used in the preparation of various ready-cooked foods, such as are sold at " delicatessen " stores. There is a big domestic demand, due to its wide use in sauces and soups, and as a decoration and garnishing for other dishes. It is also used in salads.

Although reputed to be a native of Sardinia, parsley has been grown in Great Britain ever since the middle of the 16th century, and is now thoroughly acclimatized; in some waste places it may even be found naturalized. The

leaves of the original, the plain-leaved or Italian, parsley were finely divided but not curled; resembling to some extent the poisonous Fool's Parsley (*Aethusa cynapium* L.). Partly for this reason, and partly because it is less suitable for garnishing than are the curled varieties, it is now seldom grown. The various curled and fern-leaved kinds now cultivated have been secured by continued selection. Good stocks of these selections frequently breed true from seed, and they can therefore be given the status of varieties. Plain-leaved plants occasionally occur as " rogues " in some stocks of the curly types, thereby furnishing evidence that many of these curly varieties are not yet " pure lines ".

Curled varieties are the more popular both for flavouring and garnishing; for the latter purpose they are essential. Most of these varieties possess several features in common, thus indicating a single source of selection. The various selections differ in the degree to which leaves are divided and curled, and in depth of green colour.

Varieties. The several types may be grouped under the following heads:

Plain or " Italian " parsley.

Curled varieties, in which the leaves are deeply divided at the segments, which are curled or twisted over.

Fern-leaved varieties, in which the leaves are deeply cut, but the segments are not twisted.

In selecting suitable parsleys for commercial cultivation the aim has been the production of long-stemmed varieties, a leaf stem of at least 8 in. being regarded as necessary for the satisfactory bunching of separate leaves. Sometimes, however, the individual leaves are not detached and bunched, but the whole plant is pulled up; for this method, dwarf, compact plants grown very close together are more suitable.

A hardy constitution and well-curled leaves are also essential features of a good market variety.

Green Gem is a definitely dwarf, compact variety: it does not exceed 5 in. in height, and remains true to type.

The following varieties of curled parsley received Awards of Merit in the Royal Horticultural Society's trials* in 1927:

Giant Curled (Webb)†
Perfection Moss Curled (Barr)†
Myatt's Garnishing (Veitch)†
Exhibition (Dobbie)†
Champion Moss Curled (Nutting)†
Green Gem (Hurst)
Perennial Moss Curled (Watkins & Simpson)
Exquisite Garnishing (Webb)

Those marked † have long leaf-stalks and are suitable for bunching.

Cultivation. Parsley is cultivated commercially in all the market-garden districts of England, which include Middlesex, Essex, Kent, Bedfordshire, Worcestershire and the Midlands. The chief centre is Bedfordshire, where nearly every grower has a large or small plot, and the total acreage is undoubtedly considerable.

Formerly, parsley was always grown as an intercrop, being drilled with onions and carrots, particularly with onions; this fact may account for its popularity with growers. It is claimed, perhaps with good reason, that the presence of parsley masks the scent of onions and carrots, thus reducing attacks by Onion Fly and Carrot Fly. Often, where onions are no longer grown, parsley continues to be a satisfactory crop.

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* *J. Roy. Hortic. Soc.*, 1928 **53**: 175–177.

Parsley is a biennial plant, running to seed in the second year. Therefore, to secure a succession, it has to be sown afresh each year. Seed is sown in February, in rows 1-2 ft. apart, and a further sowing is usually made later. For an acre, 6 lb. or more of seed are required. Germination is very slow. When the plants are large enough, they are thinned out or singled with hoes to stand 6-8 in. apart in the rows. These plants form large spreading tufts, and, if prevented from flowering, they will, except in very unfavourable seasons, last over the winter, so that cutting can continue until the following summer.

Bedfordshire parsley is picked from September onwards, until the plants finally run to seed the next summer. It is marketed in bags and mats; but in Middlesex the bunches are packed in boxes holding a stated number of dozen bunches and sold by the same unit. In Worcestershire, parsley is packed loose, 20 lb. in a pot hamper, and consequently long-stalked varieties are not necessarily preferred.

Dried Parsley. For parsley that is to be put up in packets, the leaves are gathered throughout the summer months and are dried in heated sheds or rooms, where they are laid out in single layers on canvas trays. Rapid drying is imperative if the essential oils that give the herb its characteristic scent are to be retained and if a good green colour is to be secured in the dried product. After drying, the leaves are pulverized, the coarse pieces of stalk are removed, and the powdered leaves stored in sacks in a dry place.

MINT

Although Mint (*Mentha* sp.) is a native of the Mediterranean countries, its use as a culinary herb is mainly confined to Britain and America; in France it is seldom used. The mint plant is a perennial, having an underground rootstock. A feature of the cultivated mints is the free production of underground stems or rhizomes, termed " runners " by growers, which assist the plants to spread rapidly after planting.

Types Grown. As the result of a survey, several different types of mint were found to be in use for commercial growing. The examination of specimens of these by the botanists at the Royal Botanical Gardens, Kew, in consultation with the late Mr. J. Fraser, a leading authority on the plant, resulted in the existence of at least five distinct forms, mainly hybrids, being reported. The following is a brief summary of these different forms, their use, and the methods of their commercial cultivation.

Mentha piperita var. *subcordata* Fraser. This is actually a peppermint, but it is sometimes grown for culinary use, for which it is very suitable. The stems and the older leaves are suffused with dark purplish-red; the leaves are oval with a sparse covering of hairs.

Mentha spicata L. (*M. viridis* L.) (Spearmint). This is generally regarded as the " garden mint " most suitable for the preparation of mint sauce and for other flavouring purposes. It forms stiff, upright shoots bearing long, narrow leaves that are quite smooth, finely pointed and with definite regularly-toothed edges. This mint is hardy, but is very susceptible to Mint Rust in the south of England, though it is said to be less so in the north. It develops very quickly, and can be forced, but is probably not the most suitable mint for this purpose. It is grown commercially in Lancashire, in most parts of

Cheshire and Cambridgeshire, to a less extent in Sussex and Hertfordshire, and but rarely in the Middlesex market-garden district.

Mentha longifolia Huds. (*M. sylvestris* L.). The shoots formed by this mint are less robust than those of *M. spicata,* and the leaves not quite so narrow and pointed. In the spring the young leaves are slightly downy, but the older leaves are definitely hairy. This mint is occasionally grown commercially, mainly because of the rapid growth of the young shoots, which appear early in the spring. When made up into market bunches, its appearance is not very attractive, and its flavour is poor. It rarely constitutes the main stock of mint in a market garden, but small quantities are occasionally grown in Sussex, Cambridgeshire and Cheshire to provide an early supply. It is sometimes found in stocks consisting mainly of some other mint.

Mentha villoso-nervata (Opiz.) Fraser. This is a hybrid of *M. longifolia* x *spicata,* and is recognizable by its shorter and broader leaves and red-tinged stems. The upper surface of the leaves is quite smooth, and the apparance of the veins, which are rather few in number and slightly sunk below the surface, is characteristic. The teeth at the leaf margin are less regular and less conspicuous than those of Spearmint. Two forms of this mint have been isolated at the Long Ashton Research Station, but full details of their relative values have not yet been published.

This mint is now grown commercially by many of the best growers, particularly those who specialize in the production of forced mint. Although susceptible to Rust, it seems to be well suited to glasshouse cultivation, where sturdy shoots are formed even when the temperature is high. The broad leaves give an attractive appearance to the market bunches. This mint is the one grown almost exclusively in Middlesex (where it is often erroneously called "black peppermint," owing to its coloured stems), by the glasshouse growers near Cheltenham and Bristol, in Sussex, and, to a small extent, in Cambridgeshire.

Mentha rotundifolia Huds. This species, sometimes known as Apple-scented mint, is identified by its very hairy, round or egg-shaped leaves, the upper surface of which is covered with a close network of fine veins. Since some people regard it as superior to other types of mint for making mint sauce, it is occasionally grown in gardens; but as its hairiness renders it practically unsaleable, it is not suitable for commercial culture.

Mentha cordifolia (Opiz.) Fraser. This is a hybrid, a result of the cross *M. rotundifolia* x *spicata,* and is a vigorous, but somewhat coarse, plant. Its rounded leaves are coarsely wrinkled but not hairy, with shallow, rounded indentations of the margin. *M. cordifolia* var. *brevifolia Fraser* is also grown commercially; it is distinguished from *M. cordifolia* proper by its less coarse appearance and rather more oblong leaves. It is resistant to Rust, but is not suitable for forcing.

This mint is grown commercially to a limited extent, specimens being found only in Dorset, Devon and Cambridgeshire. It is most suited for growing out-of-doors, for its rather coarse appearance makes it unsuitable for forcing. As an outdoor mint the vigorous plants produce an abundance of young shoots, which continue to appear until November. Although not entirely immune from Rust, under many conditions it often escapes heavy infection.

Mentha gentilis L. (*M. arvensis* x *spicata*) is sometimes grown in cottage gardens, but does not possess a very good flavour.

Mentha niliaca Jacq. (*M. longifolia* x *rotundifolia*) var. *alopecuroides* (Hull) Briquet. This tall-growing mint is also grown in cottage gardens, especially in East Anglia. The leaves are oval, wrinkled and woolly, and are resistant to Rust. The appearance of the leaves makes this mint unsuitable for commercial cultivation, although it is quite satisfactory as a garden plant. It makes a good mint sauce.

Commercial Cultivation. The earliest fresh mint is produced under glass, providing supplies from December or January until the outdoor crop is ready. Both outdoor and forced mint are usually grown in the same districts, and most growers raise their own runners for forcing, but in certain districts, e.g. the Worthing district of Sussex, growers purchase runners from such districts as Middlesex, Kent and Surrey, where large quantities are grown each year for sale. Mint-growing is especially important in Middlesex and Surrey, and in the environs of Cheltenham, Bristol and Wakefield (Yorks.); it is also carried on in Kent, Sussex, Essex, Lancashire, Cheshire and Cambridgeshire.

FIELD CULTIVATION. Mint can be grown in many soils, but a light moist loam is preferable. The land must be carefully prepared by ploughing and cleaning, and if not already in good heart, a moderate dressing of farmyard manure should be given. The land is usually laid up in beds of convenient width.

Propagation is easily carried out in one of three ways; namely, by division of the underground rootstocks or "runners" in March, by offsets (pieces of runners) at the same time, or by cuttings in early summer. The last method is probably the best and also the easiest. Cuttings, which should be clean and about 6 in. long, are taken from established beds, the roots being lifted with a fork, so that each cutting may have a little root attached. These are then planted with a dibber 12 in. apart each way, if possible in showery weather. If the weather should be dry at planting time, watering of the plants may be necessary to secure quick rooting.

In November the field is given a top dressing of farmyard manure. The beds are top-dressed with sulphate of ammonia or nitrate of soda during the spring and early summer. From 1 to 1½ cwt. of either fertilizer per acre is sufficient. Cutting can begin in the following April and be continued until after midsummer. Some growers then plough the field; others let the mint remain on the land for two seasons or even longer, but although the plants continue to be productive, weeding becomes increasingly difficult, and the land becomes very foul. The incidence of Rust may also much reduce the crop. The better practice is to plough and replant.

FORCING. Supplies of early, forced mint are produced in Middlesex, Surrey, the Worthing district of Sussex, Cheltenham, Kent, Essex, Cambridgeshire, Cheshire and Lancashire.

Lifted runners of plantings from 2 to 3 years old are used for forcing. Beds intended to provide these runners should not be picked during the summer, being allowed to form as much leaf as possible, so that, on lifting, the maximum amount of food materials for the next crop of young shoots has been stored in the runners.

The beds are ploughed in October or November when the houses are available. Early planting is the rule in the Home Counties, but, in some districts, the runners are usually not brought in until the end of December or January. Tomato houses with a clear floor space are suitable for mint. In some districts low houses with specially constructed staging are used. When the floors of houses are used the soil is prepared by digging and

incorporating farmyard manure at the rate of 30 tons per acre, the lifted runners being packed closely all over the ground. They are covered with an inch or two of light soil, beaten down well and watered lightly.

When runners are brought in for forcing, it is usual to allow 12 bushels of mint runners per 10 sq. yds. Some growers chop up the runners into small pieces from 2 to 4 in. in length.

Investigations made by Messrs. Ogilvie and Mulligan at Long Ashton Research Station* have shown that an effective and practicable way of ridding the plants of Rust spores is to wash the lifted " turves " thoroughly with a strongly flowing stream of water from a hose, before bringing them into the houses; alternatively, they can be sprayed with a tar oil wash.

The houses are left cold until the plants have settled down. In December, or for the Home Counties in January, the heat is turned on and gradually increased. Mint responds to fairly high temperatures—one of 60°-65° F. is usually maintained—provided that plenty of moisture is available. To avoid attack by Red Spider, a humid atmosphere should be maintained. By far the best way of supplying the necessary moisture is by means of a specially installed system of overhead irrigation. Water pipes are run through the house at a height of about 5 ft., and a very fine mist-like spray is applied every other day. Ventilation is also an important factor, for without it thin and spindly shoots are formed; with proper ventilation sturdy shoots almost as thick as a lead-pencil, as required on the market, are produced.

Under such conditions the mint makes rapid growth, and picking can usually begin in January. Subsequent supplies can be regulated by adjusting the heat. If markets are slow, the heat is reduced; a quick demand can be met rapidly by raising the temperature. When the plants are growing strongly, the beds can be picked over at intervals of 3 or 4 days, continuing until the end of March. Forced mint is made into bunches containing 24-30 shoots. Outdoor mint, which is retailed largely by street vendors, is sold in the markets in large " fistfuls."

The shoots of forced mint are picked out at ground level when not less than 4 in. high, but the length of shoot depends on the time of year at which the mint is marketed. The bunches, tied with raffia, are best packed in non-returnable crates in round numbers of dozens, the number of bunches being marked on the outside of each box.

Dried Mint. Culinary mint for drying succeeds best on a very light soil. Two cuttings can be taken during the summer before the plants flower. A yield of 4 tons per acre of fresh herb is considered satisfactory, and this produces 5 cwt. of dry, sifted " rubbed " mint.

After cutting (with a sickle), the herb should be handled as little as possible. It is first dried for 2 days on sacks in the open, being covered at night to protect it from dew, and drying is then finished in a well-ventilated shed. Overheating and too slow drying must be avoided. When brittle, the leaves are stripped from the stems and allowed to dry out completely before rubbing, which is done through a brass wire sieve having about 20 meshes per linear inch. The rubbed herb can be stored in bags in a dry place.

Mint Rust. The young shoots and leaves of mint are often abnormally thickened and distorted in the spring and early summer, due to the attack of a Rust fungus, *Puccinia menthae*. Some types are more susceptible to

* L. Ogilvie and B. O. Mulligan. Progress Report on Vegetable Diseases, IV. *Long Ashton Ann. Rept.* 1932, 109–110.

attack than others. Attacked plants are thus rendered more or less useless. Later, the affected parts become yellow, and considerable numbers of minute cup-like structures, with fringed margins, appear on the surface; these produce a large number of yellow spores (aecidio-spores), which is the so-called " Cluster Cup " stage of the fungus.

These yellow spores become distributed by wind, rain or other agency to the developing stems and leaves of other mint plants and infect them with the Rust. As a result, pustules of cinnamon- or snuff-coloured spores (uredo-spores) arise, which serve to spread the epidemic during the summer.

Later, dark brown or almost black spores (teleutospores) are produced, which may germinate in late autumn, or during a mild winter, or in the spring. On germination they produce spores of still another type (basidiospores), which infect the young mint shoots as and when they arise from the underground runners. From such infections the " Cluster Cup " stage of the Rust again makes its appearance.

Formerly, it was supposed that the mycelium of this Rust fungus lived permanently in the underground runners of the mint plant, but it is now known that this is not so, and that reinfection occurs each year from spores lying on the surface.

Elimination of Rust from Established Beds. On a fine day, in late September or early October, but not later, the bed should be covered with dry straw or other combustible material; this should be well worked in amongst the stems of the plants and spread for 1 ft. or so beyond the edges of the bed. It should then be set alight. The old infected above-ground parts of the plant, together with any spores that may be on them, will be consumed, and the heat generated will kill most, if not all, of the spores that have fallen to the ground. The underground runners of the mint, however, will not be injured if the burning has been—as it should be—brisk and rapid; smouldering must be avoided. If done properly, the new shoots arising from a bed thus burned over will be Rust-free. On established beds it is well to repeat this procedure every autumn, because reinfection from some outside source often occurs.

Establishment of New Healthy Beds. The old bed from which material is to be taken to form the new one should preferably first be burned over as described above, although this is not absolutely essential. Not later than early October the required supply of underground runners should be dug up, and all portions of the plants that have been above-ground are trimmed off carefully. The material is then thoroughly washed, preferably under a tap with a good flow of water; washing in a bucket or other vessel is not generally satisfactory unless several changes of water are used. This washing removes all soil, and also any Rust spores that may be present. After this thorough washing, the material is submerged for ten minutes in a copper or bath of water heated to 112°F. or a little higher, but not above 115°F. A reliable thermometer should be used. When the required temperature has been reached the gas or other jets may be extinguished, if desired, to avoid overheating at the bottom of the bath, provided the bath is covered to maintain the correct temperature. If the bath is heated by a fire the runners should be kept stirred with a stick to keep the water at a uniform temperature. After 10 minutes at about 112°F. the material is removed, hosed with cold water and planted at once in the new bed. This bed should be as far removed from the old one as is conveniently possible. Runners treated in this way produce a luxuriant growth of shoots and should therefore be planted wider apart than usual.

SAGE

Sage, *Salvia officinalis*, a small shrub with wrinkled, velvety leaves, was introduced into this country from the northern shore of the Mediterranean. In its native haunts, sage sometimes forms the main constituent of the low shrubby growth that covers the Mediterranean hillsides; it is particularly abundant in Dalmatia and on the islands of Gevlia and Cherso near Fiume, where the collection of sage is an important peasant industry.

Although sage is not so much at home in our relatively cool and moist English climate, it is cultivated commercially in several market-garden districts, notably in Worcestershire, Bedfordshire, Cambridgeshire, Surrey and Kent. *Green Sage*, i.e. that with entirely green leaves, is more usually grown. Of this there are two varieties, the *narrow-leaved*, with slightly wavy, downy leaves, and the *broad-leaved*, with deeper green and less downy leaves approximately 3½ in. long and 1 in. across. Formerly, narrow-leaved sage was regarded as the best culinary sort, broad-leaved sage being used mainly for medicinal purposes. More recently, however, broad-leaved sage has realized a higher price in the vegetable market and is generally preferred by sausage manufacturers.

Red Sage, in which the young leaves are tinged with violet, is also grown occasionally, although it is in demand chiefly for decorative purposes in private gardens.

Cultivation. A light, dry soil, preferably calcareous, such as a gravelly loam overlying chalk, is generally thought to be most suited for sage, although, when grown near Evesham in Worcestershire, it succeeds well on the heavy clays. As the crop is a " permanent " one, careful preparation, but not over-manuring, of the soil is necessary.

Propagation by cuttings is most convenient, although plants can, if necessary, be raised from seed. Cuttings or slips taken with a " heel " are pulled from well-established plants in April, or possibly May, as they are difficult to root at any other time, except in specially suitable soils. The cuttings will be found to take best if they are set in cold frames, but most commercial growers have no frames available at this time of the year, and the cuttings are then set in open ground. Cuttings can be made to root more freely by treatment before insertion with one of the growth promoting substances. The rooted cuttings are planted in their permanent quarters 1 ft. apart in rows 2 ft. apart; sometimes the rows are as much as 3 ft., allowing for intercropping during the first year. It is important to keep the soil hoed and free from weeds, and if the plants show a tendency to flower they must be pinched back. The plantations should be renewed every 4 years, for by that time the plants are likely to have become leggy and to show signs of die-back.

Sage is usually gathered by pulling off leafy shoots, which are tied in bunches, although sometimes it is not bunched. In Worcestershire the whole top is cut off almost level with the ground in November and December. When pulled for local sale, a few bunches may be made at frequent intervals throughout the summer. When sage is grown for drying, the main picking is usually made at flowering time, although the flower shoots themselves are not gathered. In Worcestershire, however, the bulk of the sage is gathered in November, made into small bunches of about 4-5 in. in circumference at the point of tying, and packed 12-20 dozen bunches in a pot hamper.

Dried Sage. Sage is also made into bunches and dried quickly in a warm room. The dried bunches may be sold without further treatment—they are

often offered for sale during the winter in greengrocers' shops—or the leaves may be pulverized and the dry flock-like herb disposed of for the packeted herb trade.

TARRAGON

Tarragon *Artemisia* (*Dracunculus* L.) is best known as the flavouring agent in tarragon vinegar, but is also used fresh in salads; in France it is often included in sauces, stews and omelettes, being one of the ingredients of *fines herbes*.

This herb is a bushy perennial which, if not cut for shoots, may reach a height of 4-5 ft. The shoots are slender and thickly beset with small, narrow leaves of a rather thin and delicate texture and of a dull olive colour. In late summer the upper branches bear numerous greenish flowers, in size and shape like small shot, but these rarely set fertile seed. The leaves have a peculiar and characteristic pungent taste; a rather similar taste is possessed by the leaves of a quite unrelated plant, *Tagetes lucida* Cav., a species of South African marigold, which is sometimes used as a substitute for the true tarragon.

Tarragon vinegar is made by steeping the fresh herb in white wine vinegar; the product is used for making *sauce tartare* and for mixing French mustard. On a domestic scale tarragon vinegar is made by steeping fresh tarragon leaves, taken just before blossoming, in best white vinegar for two months or more, and then straining the product into small bottles. Sufficient vinegar should be used to cover the tarragon.

Separated leaves are used fresh in this country and in France for inclusion in salads, sauces, stews and pickles, while the essential oil, which is distilled from the fresh herb, is used in the manufacture of some toilet preparations.

The characteristic oil of tarragon disappears when the herb is dried; the fresh herb is therefore required by manufacturers. Only a limited acreage, however, is devoted to tarragon in this country, and the produce from this is sold for the manufacture of tarragon vinegar, and represents the main output for the country, other than the small quantities grown in private gardens.

Cultivation. A sheltered, well-drained situation is preferable for tarragon, which is propagated from cuttings in the late spring or by the division of old plants. The plants require adequate space to develop their bushy form, and should be placed about 2 ft. apart each way. Two crops are taken each year.

Throughout the growing period the plantation is kept hoed and weeded, but after 3 or 4 years, when the land can no longer be kept clean and the plants have become too leggy, they are dug up, divided, and a new plantation made.

In France, and less frequently in England, tarragon plants are lifted in the autumn and wintered in cold frames, whereby a continuous supply of fresh green leaves can be obtained. Little punnets containing fresh tarragon leaves and chervil (see p. 12) are sold in some London shops in the early spring for flavouring salads.

THYME

Thyme (*Thymus vulgaris* L.), although perhaps less used than mint, parsley and sage, is the herb traditionally used in the preparation of jugged hare, and is a constituent of the bouquet used for flavouring soups and stews. Owing to its strong and pleasant smell, it is an important constituent of the dried "mixed herbs" sold in packets.

Cultivated thyme is a native of the Mediterranean region, and is distinct from wild thyme (*Thymus serpyllum* L.). It forms a small, thick-set bush some 12-18 in. high, while wild thyme creeps along the surface of the soil. The flavour and smell of cultivated thyme is stronger, and the leaves, which in both plants are very small, not exceeding $\frac{3}{8}$ in. in length, are longer and narrower in garden thyme, and the edges are rolled back. Two varieties of thyme, broad-leaved and narrow-leaved, which differ only in their leaf characters, are grown for market. A variegated variety is seen only in ornamental gardens.

Lemon thyme (*Thymus serpyllum* var. *citriodorus* Hort.) resembles wild thyme in its trailing habit, but its leaves have a characteristic odour that resembles that of the " lemon plant " or Verbena. This variety is used mainly as a source of an oil that is somewhat different from the oil of thyme obtained in large quantities from garden thyme in France.

The main supplies of dried thyme formerly reached England from Germany, but the herb is grown commercially in England in Worcestershire, Kent, Surrey, Bedfordshire and Middlesex, while plants are seen in mixed market gardens all over the country. Thyme grows best in a warm soil, preferably one that is light but fertile and rich in calcareous matter. When grown on heavy wet soils, the leaves are less aromatic and the plant soon dies out.

Cultivation. Thyme is propagated either by division of the old plants or by cuttings taken any time during the early summer months. Side shoots may also be layered in March or April; the rooted cuttings or layers are transplanted in late summer. Frequent division is beneficial, as older plants often become leggy and die out in patches. If desired, it is possible to raise plants from seed, which should be drilled not more than $\frac{1}{4}$ in. deep and in drills 2 ft. apart, requiring approximately 6 lb. of seed per acre. The rooted cuttings are planted, or the young plants thinned, 12-18 in. apart in rows 2 ft. apart.

The land must be kept weeded and cultivated throughout the summer months. Some growers protect their plants during the winter by covering them with a layer of earth thrown on with a spade or banked up by a plough. In the autumn, a light dressing of farmyard manure is given, and an additional dressing of nitrates in the spring promotes the formation of numerous leafy shoots.

Thyme is sold as a green herb on the open market as well as for drying. In Worcester about 25 dozen bunches are packed in a pot hamper.

For drying, shoots about 6 in. long are pulled off in late summer and tied in bunches of approximately 12 shoots. Dried thyme is also powdered in the same way as parsley, and stored in sacks.

FENNEL

There are several kinds of fennel (*Foeniculum* sp.), three of which are used in cooking, while a fourth grows wild in England. Wild fennel, *Foeniculum vulgare* Mill. (*F. officinale* All.), is common in many parts of England, particularly in waste places near the sea, where its tall, bluish-green stem, yellow umbellate flowers and very finely divided, almost hairlike, leaves make it a conspicuous plant.

Garden fennel resembles the wild fennel, but under cultivation the plants are rather taller. The leaves of garden fennel are used in flavouring sauces to accompany fish, particularly boiled salmon and mackerel, and are regularly retailed in the North Midland towns.

Although there is no extensive acreage of fennel, it is grown on many smallholdings and in private gardens, from whence the fishmongers obtain their supplies. At the approach of winter some plants are transplanted into pots, which are kept in a glasshouse so that leaves can be gathered throughout the winter.

Garden fennel is a hardy perennial, and once established can take care of itself in most sunny, fertile gardens. Plants can be raised from seed sown in drills 18 in. apart in April and May, the seedlings being subsequently thinned to stand 18 in. apart. It is also possible to divide established rootstocks in the early spring.

SORREL

Sorrel (*Rumex scutatus* L.), although very popular in France, where sorrel soup is a favourite dish, and where the herb is used for flavouring omelettes and sauces, is relatively little used in England. A certain demand for it exists, however, and it is grown commercially in Middlesex.

The sorrel used in cooking, *Rumex scutatus*, differs from the wild sorrel (*R. acetosa* L.) of the English meadow, the foliage being of a paler yellowish-green and forming a thick clump. The French *oseille large de Belleville* is generally regarded as the best variety of the culinary type; it produces a profusion of large, crinkled leaves, and is suitable for forcing.

When growing wild, sorrel is an indication of a sour or acid soil. This should be remembered, and a damp cool place that has not recently been limed should be chosen.

Sorrel can be grown by division of established plants in the spring, while certain varieties, such as *oseille large de Belleville*, can be raised from seed, also sown in the spring. The plants are set 6 in. apart in rows 9-12 in. apart, and the bed is kept carefully hoed. During dry weather watering is very beneficial. Flowering stalks should be removed as they appear; if this is done, the plants should remain productive for 2-3 years.

The leaves are cut with a knife at the crown of the plant, and picking continues until the frosts set in. Winter supplies can, however, be obtained by covering part of the bed with a frame-light, or plants may be lifted in December or January and placed in a warm frame.

MISCELLANEOUS CULINARY HERBS OF MINOR IMPORTANCE

Borage (*Borago officinalis* L.). Although not widely grown on a commercial scale, borage is a popular herb with private gardeners; and owing to its attraction for bees it is often grown near hives. Borage flowers and leaves are a favourite ingredient in several beverages, especially claret cup, for which they can be gathered from the garden almost whenever they are required, for borage is hardy and has a long flowering period. Two or three leaves placed in a jug impart a refreshing flavour somewhat resembling that of cucumber, which is now often used instead of borage. The plant is very bristly and attains a height of 12-18 in. The bristly leaves have a pointed egg-shape, and are about 3 in. long. The nodding flowers are a bright ultramarine blue. Borage can be grown from seeds sown between March and May, or by division or cuttings from the old rootstock. The plants should be grown 18-24 in. apart each way.

Chives (*Allium schoensprasum*). The chive plant is a native of Europe, and the " grass " is used as a mild substitute for onions in flavouring salads, soups and omelettes. Chives grow freely in most soils and are propagated by division of the roots, new plantings being made in autumn or spring.

The " grass " should be cut frequently to encourage the production of a continuous supply of young tender shoots. It is necessary to lift, divide and replant in fresh ground every 4 years.

Chervil (*Anthriscus cerefolium* Hoffm.). This, one of the less known herbs, is used in the fresh green state for flavouring salads and soups. It is also used as a garnish, for the cultivated form, known as parsley-leaved or curled, has a very decorative leaf. Sweet Cicely (*Myrrhis odorata* Scop.) is sometimes called fern-leaved chervil; it can be recognized by its soft silky leaves and sweet-smelling flowers.

Although not often grown commercially, chervil is frequently seen in private gardens. It is an annual herb, and seed is sown at monthly intervals from March to October in a moist fertile soil. The drills are made 8-10 in. apart, and the seedlings trimmed to stand 6 in. apart. The plants benefit from frequent watering, as this tends to discourage the function of the flowering stems. Leaves are picked off as required for use.

A winter supply of chervil may be maintained from seed sown in boxes and kept in a warm glasshouse. Forced chervil is sold at Covent Garden in small punnets as a " partner " to tarragon.

Marjoram (*Majorana hortensis* Moench) (*Origanum majorana* L.). Marjoram is one of the sweet herbs that, when dried, are included in bunches of mixed herbs used as a bouquet for flavouring stews, soups, etc. There are several kinds of marjoram; although they are not grown commercially, two of these are sometimes seen in private gardens, while another species, *Origanum vulgare* L., grows wild in Great Britain.

Sweet or knotted marjoram (*Majorana hortensis* Moench) is the best-known marjoram, and is a low bushy plant bearing whitish flowers in tight heads or " knots " in June and July. Pot marjoram (*Majorana onites* (L.) Benth.) (*Origanum onites* L.) is distinguished by the more branching clumps that it forms, by the reddish tinge suffusing the whole plant, and by its lilac flowers, which appear slightly later than those of the knotted marjoram.

Both plants are usually treated as annuals, being raised from seed. A first sowing is made in late February in gentle heat and another in April out-of-doors. When large enough, the seedlings are transplanted to their permanent quarters. Pot marjoram plants, being more spreading, should be placed 1 ft. apart each way, while those of sweet marjoram may be 9 in. apart. Fresh leaves can be gathered during the summer months by the private gardener as required, but on the commercial scale the plants are cut as soon as they have flowered, tied in bunches, and dried in the same way as sage or thyme.

Savory (*Satureja* sp.). Savory, another of the lesser-known herbs, has a strong flavour, and provides a powerful seasoning that can be used in the same way as thyme. In France, summer savory is used when cooking broad beans, as in England mint is used with peas. There are two kinds, summer savory (*Satureja hortensis* L.), an annual, and winter savory (*Satureja montana* L.), a perennial that is rather more bushy than summer savory and not unlike rosemary in appearance. Both kinds are often raised from seed sown in April in drills 6 in. apart, the seedlings being subsequently thinned to 1 ft. apart; but winter savory can also be propagated in the same way as

thyme. The plants are cut down at flowering time and the bunches hung up to dry for winter use.

Balm (*Melissa officinalis* L.) naturalizes itself so readily that it is frequently seen in gardens. Fresh leaves, which can be taken from early spring to late autumn, are usually used for flavouring purposes; while leaves dried slowly in trays and stored in jars can be used for making " balm tea " for invalids. This is made by pouring a pint of boiling water on to ½ oz. of the leaves or " tops ", and after infusing for about 20 min. the tea is ready to drink. Balm was used in making the old *Eau des Carmes* now displaced by *Eau de Cologne*.

It forms a low shrubby plant with almost circular wrinkled leaves, and bears white flowers in the axis of the upper leaves. It is readily propagated either from seed sown in May or from slips taken at the same time. The plants may be suitably spaced 2 ft. apart each way.

Basil. Of the two forms of basil, sweet basil (*Ocimum Basilicum* L.) is the more popular and is a widely used flavouring herb in France (where it is an ingredient of turtle soup), and was formerly used considerably in England as, for example, in the once famous Fetter Lane sausages, but has now lost its popularity.

The plant is a tender annual that originated in tropical Asia, and seedlings are best raised in heat from seed sown in March or the beginning of April. The seedlings are planted out in May to stand 9 in. apart in rows 12 in. apart. When the plants are in flower, the shoots are cut to the ground, bunched and dried for winter use. In addition, a few plants can be over-wintered in pots kept under glass, so as to secure a continuous supply of fresh leaves.

Southernwood (*Artemisia abrotanum* L.), also called Lad's Love or Old Man, is often grown in gardens for the unusual odour of its leaves, though it is not now used for making old-fashioned herb tea. Southernwood forms a low bush, 2-3½ ft. high, with woody branches bearing very finely-divided, pale milky-green leaves which give off a strong scent when crushed. It can easily be propagated by cuttings. Branches some 9-12 in. long are broken off in April, the leaves stripped off from two-thirds to three-quarters the length of the cutting, and the stripped part then buried in the soil.

Tansy (*Tanacetum vulgare* L.) is a native of Great Britain, but for the convenience of having supplies of leaves close at hand for making old-fashioned puddings and cakes, such as the Easter Tansy pudding which is still eaten in Yorkshire, it was formerly grown in gardens, and is still planted for its bright flowers. The flowers are golden yellow and circular, slightly smaller than a threepenny piece, and are borne on the flower stalk; they are 2-4 in. in length, and divided like a feather into numerous sections. Tansy is a perennial, and forms a matted rootstock by the division of which the plant can be readily propagated.

Herbs used in Wines. Several herbs are used to make country wines, of which dandelion wine, made from the yellow flower heads, cowslip wine and coltsfoot wine, also made from the flowers, are among the best known.

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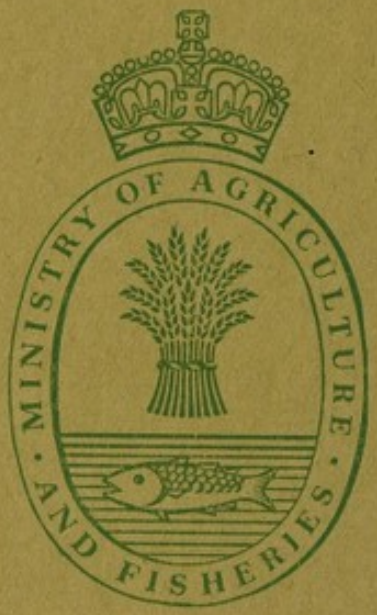

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