

Mints

Family: N.O. Labiatae

There are three chief species of mint in cultivation and general use: Spearmint (*Mentha viridis*), Peppermint (*M. piperita*), and Pennyroyal (*M. pulegium*), the first being the one ordinarily used for cooking.

The various species of mint have much in common and have all been held in high medical repute. Dr. Westmacott, the author of a work on plants published in 1694, mentioning the different kinds of mint, states that they are well known to:

'the young Botanists and Herb Women belonging to Apothecarys' shops.... In the shops are 1. The dry Herbs. 2ndly. Mint Water. 3rdly. Spirit of Mints. 4th. Syrup of Mints. 5th. The Conserve of the Leaves. 6th. The Simple Oyl. 7th. The Chemical Oyl.' He says 'the Mints have a biting, aromatick bitterish Sapor with a strong fragrant Smell abounding with a pungent Volatile Salt and a Subtil Sulphur which destroyeth Acids, and herein doth lodge the Causation of such medicinal Virtues in this Herb and others of the like Nature.'

All the Mints yield fragrant oils by distillation.

SPEARMINT

Botanical: Mentha viridis (LINN.)

Family: N.O. Labiatae

Synonyms

Garden Mint. Mentha Spicata. Mackerel Mint. Our Lady's Mint. Green Mint. Spire Mint. Sage of Bethlehem. Fish Mint. Menthe de Notre Dame. Erba Santa Maria. Frauen Munze. Lamb Mint.

Part Used

Herb.

This common garden mint is not a native of these islands, though growing freely in every garden, but is originally a native of the Mediterranean region, and was introduced into Britain by the Romans, being largely cultivated not only by them, but also by the other Mediterranean nations. It was in great request by the Romans, and Pliny according to Gerard says of it: 'The smell of Mint does stir up the minde and the taste to a greedy desire of meate.' Ovid represents the hospitable Baucis and Philemon scouring their board with green mint before laying upon it the food intended for their divine guests. The Ancients believed that mint would prevent the coagulation of milk and its acid fermentation. Gerard, again quoting Pliny, says:



Spearmint

(*Mentha spicata* printed as
Mentha viridis LINN.)

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'It will not suffer milk to cruddle in the stomach, and therefore it is put in milk that is drunke, lest those that drinke thereof should be strangled.'

Many other references to it in old writings - among them, that of the payment by the Pharisees of tithes of Mint, Anise and Cumin - prove that the herb has been highly esteemed for many centuries. Mint is mentioned in all early mediaeval lists of plants; it was very early grown in English gardens, and was certainly cultivated in the Convent gardens of the ninth century. Chaucer refers to 'a little path of mintes full and fenill greene. '

Turner states in his *Herball* (1568) that the garden mint of his time was also called 'Spere Mynte.' Gerard, in further praise of the herb, tells us that:

'the smelle rejoiceth the heart of man, for which cause they used to strew it in chambers and places of recreation, pleasure and repose, where feasts and banquets are made.'

It has, in fact, been so universally esteemed, that it is to be found wild in nearly all the countries to which civilization has extended, and in America for 200 years it has been known as an escape from gardens, growing in moist soils and proving sometimes troublesome as a weed.

Parkinson, in his *Garden of Pleasure*, mentions 'divers sorts of mintes both of the garden and wilde, of the woods, mountain and standing pools or waters' and says:

'Mintes are sometimes used in Baths with Balm and other herbs as a help to comfort and strengthen the nerves and sinews. It is much used either outwardly applied or inwardly drunk to strengthen and comfort weak stomackes.'

The Ancients used mint to scent their bath water and as a restorative, as we use smelling salts to-day. In Athens where every part of the body was perfumed with a different scent mint was specially designated to the arms.

Gerard says of its medicinal properties:

'It is good against watering eies and all manner of breakings out on the head and sores. It is applied with salt to the bitings of mad dogs.... They lay it on the stinging of wasps and bees with good success.'

Culpepper gives nearly forty distinct maladies for which mint is 'singularly good.'

'Being smelled into,' he says, 'it is comfortable for the head and memory, and a decoction when used as a gargle, cures the mouth and gums, when sore.' Again, 'Garden Mint is most useful to wash children's heads when the latter are inclined to sores, and Wild Mint, mixed with vinegar is an excellent wash to get rid of scurf. Rose leaves and mint, heated and applied outwardly cause rest and sleep.'

In the fourteenth century, mint was used for whitening the teeth, and its distilled oil is still used to flavour tooth-pastes, etc., and in America, especially, to flavour confectionery, chewing gums, and also to perfume soap.

Mint plants have more power than any other aromatic to overcome the smell of tobacco.

The application of a strong decoction of Spearmint is said to cure chapped hands.

Mice are so averse to the smell of mint, either fresh or dried, that they will leave untouched any food where it is scattered. As mice love Henbane and often prove very destructive to a crop, it has been suggested that their depredations might be checked if some mint were planted between the rows of Henbane.

It is probable that Spearmint was introduced by the Pilgrim Fathers when they landed in America, as it is mentioned among many other plants brought out from England, in a list given by John Josselyn. When in this country apparently found growing wild, it occurs in watery places, but is rather rare.

Professor Henslow (*Origin and History of our Garden Vegetables*) does not consider it truly native to any country. He says:

'The Garden Mint (*Mentha viridis*, Linn.) is a cultivated form of *M. sylvestris* (Linn.), the Horse Mint, which is recorded as cultivated at Aleppo. Either *M. sylvestris*, or some form approaching *M. viridis*, which is not known as a truly wild plant, was probably the mint of Scripture.'

Bentham also considers it not improbably a variety of *M. sylvestris*, perpetuated through its ready propagation by suckers, and though these two plants are sufficiently distinct as found in England, yet continental forms occur which bridge over their differences.

Its generic name, *Mentha*, is derived from the mythological origin ascribed to it, and was originally applied to the mint by Theophrastus. Menthe was a nymph, who because of the love Pluto bore her, was metamorphosed by Proserpine, from motives of jealousy, into the plant we now call mint.

Description

From creeping root-stocks, erect, square stems rise to a height of about 2 feet, bearing very short-stalked, acute-pointed, lance-shaped, wrinkled, bright green leaves, with finely toothed edges and smooth surfaces, the ribs very prominent beneath. The small flowers are densely arranged in whorls or rings in the axils of the upper leaves, forming cylindrical, slender, tapering spikes, pinkish or lilac in colour. The little labiate flowers are followed by very few, roundish, minute brown seeds. The taste and odour of the plant are very characteristic.

There are several forms of Garden Mint, the true variety being of bold, upright growth, with fairly large and broad leaves, pointed and sharply serrated (or toothed) at the edges and of a rich, bright, green colour. Another variety, sometimes sold as Spearmint (*M. cardiaca*), is much smaller and less erect in growth, with darker leaves, the whorls of flowers distant and leafy, but possessing the same odour and flavour, and another has comparatively large, broad or rounded leaves. Yet another has soft

hairs, but this, though distinct from what is known as Horse Mint, is inferior to the true Spearmint.

A form with its leaves slightly crisped is common in gardens under the name of *M. crispa*.

Cultivation

A moist situation is preferable, but mint will succeed in almost any soil when once started into growth, though in dry, sandy soils it is sometimes difficult to grow, and should be planted in the coolest and dampest situations. Leaf mould, road scrapings, burnt ash and similar materials should, on the other hand, be used freely for lightening heavy, tenacious soils. It does best in a partially shaded position: if in a sheltered spot, it will start earlier in the spring than if exposed. Where a long or regular supply is required, it is a good plan to have at least one bed in a sunny and sheltered, and another in a shady position, where gatherings may be made both early and late.

As the plant is a perennial, spreading by means of its underground, creeping stems propagation may be easily effected by lifting the roots in February or March, dividing them - every piece showing a joint will grow - and planting again in shallow trenches, covering with 2 inches of soil. Six inches apart in the rows and 8 inches between the rows are the right distances to allow. Cuttings in summer or offsets in spring may also be utilized for increasing a stock. Cuttings may be taken at almost any time during the summer, always choosing the young shoots, these being struck on a shady border of light soil and kept moist, or a better plan, if possible, is to insert them in a frame, keeping them close and moist till rooted. Cuttings or young shoots will also strike freely in good-sized boxes in a heated greenhouse, in the early spring, and after the tops have been taken off two or three times for use, the plants may be hardened off and planted outside.

The beds are much benefited by an annual top-dressing of rich soil, applied towards the close of autumn, when all remaining stalks should be cut down to the ground. A liberal top-dressing of short, decayed manure, such as that from an old hot-bed or mushroom bed, annually, either in the spring, when it commences to grow, or better still, perhaps, after the first or second cutting, will ensure luxuriant growth. Frequent cuttings of shoots constitute a great drain on the plants, and if not properly nourished they will fail, more or less. To have really good mint, the plantation should be re-made about every three years, or failing that, it is essential that a good top-dressing of rich soil be added.

A good stock should be kept up, so that plenty may be available for *forcing*. Cultivators having a greenhouse can easily force mint into an earlier development of new growth than would be in the open garden. Forcing is very easy, the only preparation being the insertion of a quantity of good roots in a box of light soil, which should be placed in a temperature of about 60 degrees and watered freely as soon as growth starts. Cuttings may be made in two or three weeks. Forcing will generally be necessary from November to May - a succession being kept up by the introduction, at intervals of about three weeks, of an additional supply of roots, as forced roots soon decay. Often mint is so grown both upon and under the benches in greenhouses, and

the demand for the young, tender stems and leaves during the winter is sufficient to make the plants pay well.

Mint Disease

Unfortunately, mint is susceptible to a disease which in some gardens has completely destroyed it. This disease, which from its characteristic symptoms is known as Rust, is incurable. The fungus (*Puccinia Mentha*) which causes it develops inside the plant, and therefore cannot be reached by any fungicide, and as it is perennial, it cannot be got rid of by cutting off the latter. All that can be done is to prevent the spread of the disease by digging up all plants that show any sign of rust. The same ground should not be used again for mint for several years. Healthy stock should be obtained and planted in uninfected soil, some distance away. On account of this liability of mint to rust, it is advisable not to have it all in one bed, but to have several beds of it, placed at some distance from each other.

Harvesting

When the plants are breaking into bloom, the stalks should be cut a few inches above the root, on a dry day, after the dew has disappeared, and before the hot sun has taken any oil from the leaves, and dried for culinary use for the winter. All discoloured and insect-eaten leaves should be removed and the stems tied loosely into bunches and hung to dry on strings in the usual manner directed for 'bunched' herbs. The bunches should be nearly equal in length and uniform in size to facilitate packing, if intended for sale, and placed when dry in airtight boxes to prevent re-absorption of moisture.

The leaves may also be stripped from the stems as soon as thoroughly dry and rubbed through a fine sieve, so as to be freed from stalks as much as possible, or pounded in a mortar and thus powdered, stored in stoppered bottles or tins rendered airtight. If preparing for market and not for home use, the rubbed herbs will, of course, command a higher price than the bunched herbs, and should be put up in tins or bottles containing a quantity of uniform weight.

When mint is grown commercially on a large scale, it has been estimated to yield from 4 to 5 tons per acre, from which 15 to 20 cwt. of dry should be obtained. Average yields per acre are, however, taken when crops are at maturity, and an estimate of the first cutting crop is hard to form, and is likely to be less profitable than succeeding years, on account of initial expenses.

If Spearmint is being grown as a *medicinal* herb, for the sake of the volatile oil to be extracted from it, the shoots should be gathered in August, when just coming into flower, and taken to the distillery as soon as possible after picking, the British Pharmacopoeia directing that oil of Spearmint be distilled from the fresh, flowering plant. It is estimated that 350 lb. of Spearmint yield 1 lb. of oil. If the distillery is not on the ground or only a short distance away, and the crop has to be dispatched by train, the cutting should take place late in the afternoon on a fine day, before the dew falls, so as to be sent off by a night train to arrive at their destination next morning, having travelled in the cool, otherwise the leaves are apt to heat and ferment, losing colour.

Constituents

The chief constituent of Spearmint oil is Carvone. There are also present Phellandrine, Limonene and dihydrocarveol acetate. Esters of acetic, butyric and caproic or caprylic acids are also present. (An Ester is a combination of an alcohol with an acid, the combination being associated with the elimination of water. The esters are highly important and in many cases dominant constituents of numerous essential oils, which owe their perfume largely, or in some cases entirely, to the esters contained. Many of the esters are used as flavouring or perfumery agents, and many are among the most important constituents of volatile salts.)

There are several different essential oils known under the name of Spearmint oil, the botanical origin of the plant used for distillation differing with the country in which the plant is grown. In the United States and in this country several varieties of *M. viridis* are distilled. In Russia the plant distilled is *M. verticellata*, and in Germany either *M. longifolia*, or more generally *M. aquatica* var. *crispa* - a plant cultivated in Northern Germany, the oil (called there *Krausemünzöl*) being imported into this country as German Spearmint oil. It appears to be identical with that from *M. viridis*. Oil of Spearmint is little distilled in England, either German oil or American oil distilled from *M. viridis* being imported.

Medicinal Action and Uses

Spearmint is chiefly used for culinary purposes. The properties of Spearmint oil resemble those of Peppermint, being stimulant, carminative and antispasmodic, but its effects are less powerful, and it is less used than Peppermint, though it is better adapted for children's maladies. From 2 to 5 drops may be given on sugar, or from 1/2 to 1 teaspoonful of spirit of Spearmint, with 2 tablepoonsful of water. Spearmint oil is added to many compounds on account of its carminative properties, and because its taste is pleasanter and less strong than Peppermint. A distilled water of Spearmint will relieve hiccough and flatulence as well as the giddiness of indigestion. For infantile trouble generally, the sweetened infusion is an excellent remedy, and is also a pleasant beverage in fevers, inflammatory diseases, etc. Make the infusion by pouring a pint of boiling water on an ounce of the dried herb; the strained-off liquid is taken in doses of a wineglassful or less. It is considered a specific in allaying nausea and vomiting and will relieve the pain of colic. A homoeopathic tincture prepared from the fresh plant in flower has been found serviceable in strangury, gravel, and as a local application in painful haemorrhoids. Its principal employment is for its febrifuge and diuretic virtues.

Preparations and Dosages

Fluid extract, 1/4 to 1 drachm. Water, B.P. and U.S.P., 4 drachms. Spirit, U.S.P., 30 drops.

When eaten with lamb, very finely chopped in sweetened vinegar, in the form of mint sauce, mint greatly aids the digestion, as it makes the crude, albuminous fibres of the immature meat more digestible. The volatile oil stimulates the digestive system and prevents septic changes within the intestines.

The fresh sprigs of mint are used to flavour green peas and also new potatoes, being boiled with them, and the powdered, dried leaves are used with pea soup and also in seasonings. On the Continent, especially in Germany, the powdered, dried mint is often used at table for dusting upon pea and bean purées, as well as on gravies.

A grating of mint is introduced sometimes into a potato salad, or into a fowl stuffing, and in Wales it is not unusual to boil mint with cabbage.

Mint Jelly can be used instead of mint sauce, in the same manner as red currant jelly. It may be made by steeping mint leaves in apple jelly, or in one of the various kinds of commercial gelatine. The jelly should be a delicate shade of green. A handful of leaves should colour and flavour about half a pint of jelly. Strain the liquid through a jelly bag to remove all particles of mint before allowing to set.

Mint Vinegar is made as follows: Fill a jar or bottle with young mint leaves picked from the stalks. Cover with cold vinegar and cork or cover the bottle. Infuse for 14 days, then strain off the vinegar.

This vinegar is sometimes employed in making Mint Jelly, as follows:

Take 1 pint of water, 1 1/4 OZ. gelatine, the white and shell of an egg, 1/2 gill of Mint Vinegar, 1 dessertspoonful of Tarragon Vinegar, a bunch of herbs, 1 onion, 1 carrot, a stick of celery, 10 peppercorns, salt, 1 lemon. Peel the lemon very thinly, slightly whip the white of egg, wash and crush the shell. Put all the ingredients into a pan, strain in the juice of the lemon and whisk over the fire until just on boiling point. Boil up, then draw the pan to the side of the fire and simmer very gently for 20 minutes. Strain through a jelly bag until clear. Put into a mould to set. If liked, finely chopped mint may be added to the jelly after straining it, or more mint can be used and no Tarragon Vinegar.

To make *Mint Punch*: Pick a quart of fresh mint leaves, then wash and dry them by shaking them in a clean kitchen towel. Put them into a large jug and mash them with a wooden spoon till soft, when cover with freshly boiled water and infuse for ten minutes. Strain, cool, then set on ice till required. Add two cups of chilled grape juice and strained lemon juice to taste. Sweeten with castor sugar, stir till sugar is dissolved and then add a quart of ginger ale. Fill each tumbler to one-third with cracked ice and fill up with the punch.

The Garden Mint is also the basis of Mint Julep and Mint-water, the cordial distilled from the plant.

Mint Cake is a cake made of flour and dripping or lard, flavoured with sugar and chopped fresh mint and rolled out thin.

PEPPERMINT

Botanical: *Mentha piperita* (SM.)

Family: N.O. Labiatae

Synonym

Brandy Mint.

Part Used

Herb.

Habitat

The plant is found throughout Europe, in moist situations, along stream banks and in waste lands, and is not unfrequent in damp places in England, but is not a common native plant, and probably is often an escape from cultivation. In America it is probably even more common as an escape than Spearmint, having long been known and grown in gardens.



PEPPERMINT

(*Mentha X piperita* printed as
Mentha piperita LINN.)

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Of the members of the mint family under cultivation the most important are the several varieties of the Peppermint (*Mentha piperita*), extensively cultivated for years as the source of the well-known volatile oil of Peppermint, used as a flavouring and therapeutic agent.

Description

The leaves of this kind of mint are shortly but distinctly stalked, 2 inches or more in length, and 3/4 to 1 1/2 inches broad, their margins finely toothed, their surfaces smooth, both above and beneath, or only very slightly, hardly visibly, hairy on the principal veins and mid-rib on the underside. The stems, 2 to 4 feet high, are quadrangular, often purplish. The whorled clusters of little reddish-violet flowers are in the axils of the upper leaves, forming loose, interrupted spikes, and rarely bear seeds. The entire plant has a very characteristic odour, due to the volatile oil present in all its parts, which when applied to the tongue has a hot, aromatic taste at first, and afterwards produces a sensation of cold in the mouth caused by the menthol it contains.

History

Pliny tells us that the Greeks and Romans crowned themselves with Peppermint at their feasts and adorned their tables with its sprays, and that their cooks flavoured both their sauces and their wines with its essence. Two species of mint were used by the ancient Greek physicians, but some writers doubt whether either was the modern Peppermint, though there is evidence that *M. piperita* was cultivated by the Egyptians. It is mentioned in the Icelandic Pharmacopoeias of the thirteenth century, but only

came into general use in the medicine of Western Europe about the middle of the eighteenth century, and then was first used in England.

It was only recognized here as a distinct species late in the seventeenth century, when the great botanist, Ray, published it in the second edition of his *Synopsis stirpium britannicorum*, 1696. Its medicinal properties were speedily recognized, and it was admitted into the London Pharmacopoeia in 1721, under *M. piperitis sapore*. The oldest existing Peppermint district is in the neighbourhood of Mitcham, in Surrey, where its cultivation from a commercial point of view dates from about 1750, at which period only a few acres of ground there were devoted to medicinal plants. At the end of the eighteenth century, above 100 acres were cropped with Peppermint, but so late as 1805 there were no stills at Mitcham, and the herb had to be carried to London for the extraction of the oil. By 1850 there were already about 500 acres under cultivation at Mitcham, and at the present day the English Peppermint plantations are still chiefly located in this district, though it is grown in several other parts of England - in Herts at Hitchin, and in Cambs at Wisbech, in Lincolnshire at Market Deeping and also at Holbeach (where the cultivation and distillation of English Peppermint oil, now carried on with the most up-to-date improvements was commenced over seventy years ago).

There is room for a further extension of its cultivation, owing to the great superiority of the English product in pungency and flavour.

Most of London's supplies are grown in a triangle with its base on a line Kingston to Croydon, and its apex at Chipstead in Surrey. This triangle includes Mitcham, still the centre of the Peppermint-growing and distilling industry, the district proving to be specially suited to the crop. There are large Peppermint farms at Banstead and Cheam.

On the Continent Peppermint was first grown in 1771 at Utrecht, but it is now grown in considerable amounts in several countries. In France it is cultivated in the Departments of the Yonne and du Nord, French Peppermint Oil being distilled at Grasse and Cannes, as well as in the Basses-Alpes, Haute-Garonne and other parts, though the French varieties of *M. piperita* are not identical with those cultivated in England. The variety cultivated in France is known as 'Red Mint' and can grow on certain soils where the true Peppermint does not grow. The 'Red Mint' can be cultivated for four or five years in the same field, but the true *M. piperita* can be cultivated in the same field for two years only. 'Red Mint' gives a higher yield of oil, but is of inferior quality. In the Siagne Valley, it is calculated that 300 kilos of fresh plant produce 1 kilo of essential oil, elsewhere a yield of 2 kilos to about 1,000 kilos of stems and green leaves is claimed. It has been proved by experience that all parts of the plant do not give the same proportion of oil, and it is more abundant when the plants have been grown in a hot region and have flowered to the best advantage.

The product of absolutely genuine English plants cultivated in French soil varies according to the district, for the soil has a very important influence upon the flavour of the oil and also the climate: badly-drained ground is known to give unfavourable results both as to the quantity and quality of the oil.

An oil very similar to Mitcham oil, and of an excellent quality, is distilled from English plants grown in Italy, mostly in Piedmont and also in Sicily. Next to the

essential oils of lemon and orange, that obtained from Peppermint enjoys a high reputation among the numerous volatile oils produced by Italy. Vigone and Pancalieri are the centres of the cultivation and distillation of Peppermint in the province of Turin. This district, which has been designated the 'Mitcham of Italy,' yields annually about 11,000,000 kilograms of Peppermint, from which 25,000 to 27,000 kilograms of essential oil are obtained. A new variety of Peppermint, found at Lutra on the island of Tino, in the Grecian Archipelago, has been cultivated in the Royal Colonial Garden at Palermo.

A small amount of Peppermint oil of good quality is distilled from plantations in Germany, at Miltitz, in Saxony and near Leipzig, where the little town of Colleda, before the War, produced annually as much as 40,000 cwt. of the herb. Russia also produces some Peppermint, in the Ukraine and the Caucasus, but most of it is used in the country itself.

With regard to Hungarian oil of Peppermint, organized effort to secure improvement began in 1904 and has been greatly developed. Hungarian oil compares favourably with American oil of Peppermint as regards percentage of Menthol contained: Hungarian oil yielding 43 to 56 per cent of free menthol, and 35 to 65 per cent of total menthol; while American oil yields 40 to 45 per cent free menthol and 60 per cent total menthol.

Peppermint oil distilled in 1914 from Mitcham plants grown at Molo, in the highlands of British East Africa, possesses a most excellent aroma, quite free of bitterness, and a very high figure indeed for the menthol contained, and there is no question that this source of supply should be an important one in the future.

The United States, however, are now the most important producers of Peppermint oil, producing - mostly in Michigan, where its cultivation was introduced in 1855, Indiana, the western districts of New York State, and to a smaller extent in Ohio - rather under half of the world's total output of the oil. The whole of the Peppermint cultivation is confined to the north-east portion of the United States, and the extreme south of Canada, where some is grown in the province of Ontario. The first small distillery was erected in Wayne County, New York State, in the early part of last century, and at the present day the industry has increased to such an extent, that there are portions of Michigan where thousands of acres are planted with nothing else but Peppermint.

English oil is incomparably the best, but it fetches a very high price, and the French oil, though much inferior, is of finer quality than the American.

The problem is to obtain a strain of mint plants which would yield larger quantities of oil in our climate. It is possible that varieties yielding a more abundant supply of essential oils might be secured by persistent endeavour, without reducing our English standard of refinement. Also economy in harvesting and distilling should be studied. If our English oils could be reduced in price, they would replace the foreign to a greater or less extent depending upon the reduction in cost of production.

There are several varieties of Peppermint. The two chief, the so-called 'Black' and 'White' mints are the ones extensively cultivated. Botanically there is little difference

between them, but the stems and leaves of the 'Black' mint are tinged purplish-brown, while the stems of the 'White' variety are green, and the leaves are more coarsely serrated in the White. The oil furnished by the Black is of inferior quality, but more abundant than that obtained from the White, the yield of oil from which is generally only about four-fifths of that from an equal area of the Black, but it has a more delicate odour and obtains a higher price. The plant is also more delicate, being easily destroyed by frost or drought; it is principally grown for drying in bundles - technically termed 'bunching,' and is the kind chiefly dried for herbalists, the Black variety being more generally grown for the oil on account of its greater productivity and hardiness. The variety grown at Mitcham is classified by some authorities as *M. piperita*, var. *rubra*.

Cultivation

Both Peppermint and Spearmint thrive best in a fairly warm, preferably moist climate, and in deep soils rich in humus and retentive of moisture, but fairly open in texture and well drained, either naturally or artificially.

These conditions are frequently combined in effectively drained swamp lands, but the plants may also be commercially cultivated in well-prepared upland soils, such as would produce good corn, oil or potatoes. Though a moist situation is preferable, Peppermint will succeed in most soils, when once started into growth and carefully cultivated. It flourishes well in what are known in America as muck land, that is, those broad level areas, often several thousand acres in extent, of deep fertile soil, the beds of ancient lakes and swamps where the remains of ages of growths of aquatic vegetation have accumulated. In Michigan and Indiana, where there are large areas of such land, mint culture has become highly specialized, a considerable part of the acreage being controlled by a few well-equipped growers able to handle the product in an economical manner, who have of late years installed their own upto-date distilling plants. The cultivation of Peppermint is a growing industry now also on the reclaimed lands of Louisiana.

The usual method of mint cultivation on these farms in America is to dig runners in the early spring and lay them in shallow trenches, 3 feet apart in well-prepared soil. The growing crop is kept well cultivated and absolutely free from weeds and in the summer when the plant is in full bloom, the mint is cut by hand and distilled in straw. A part of the exhausted herb is dried and used for cattle food, for which it possesses considerable value. The rest is cut and composted and eventually ploughed into the ground as fertilizer.

The area selected for Peppermint growing should be cropped for one or two years with some plant that requires a frequent tillage. The tillage is also continued as long as possible during the growth of the mint, for successful mint-growing implies clean culture at all stages of progress.

In one of our chief English plantations the following mode of cultivation is adopted. A rich and friable soil, retentive of moisture is selected, and the ground is well tilled 8 to 10 inches deep. The plants are propagated in the spring, usually in April and May. When the young shoots from the crop of the previous year have attained a height of about 4 inches, they are pulled up and transplanted into new soil, in shallow furrows

about 2 feet apart, lightly covered with about 2 inches of soil. They grow vigorously the first year and throw out numerous stolons and runners on the surface of the ground. After the crop has been removed, these are allowed to harden or become woody, and then farmyard manure is scattered over the field and ploughed in. In this way the stolons are divided into numerous pieces and covered with soil before the frost sets in, otherwise if the autumn is wet, they are liable to become sodden and rot, and the next crop fails. In the spring the fields are dressed with Peruvian Guano.

Manuring

Liberal manuring is essential, and the quantity and nature of the manure has a great effect on the characteristics of the oil. Mineral salts are found to be of much value. *Nitrate of Soda*, applied at the rate of 50 to 150 lb. to the acre both stimulates the growth of foliage and improves the quality of the essence. Half the total quantity should be applied a month before planting and the remainder a month before the harvest. *Potash*, also, is particularly useful against a form of chlorosis or 'rust' (*Puccinia menthoe*) due, apparently, to too much water in the soil, as it often appears after moist, heavy weather in August, which causes the foliage to drop off and leave the stems almost bare, in which circumstances the rust is liable to attack the plants. Some authorities have calculated that an acre of Peppermint requires 84 lb. of Nitrogen, 37 lb. of Phosphoric Acid and 139 lb. of Potash. Ground Bone and Lime do not seem to be of marked benefit. The top dressing of the running roots with fine loam either by ploughing as above described, or otherwise, is very essential before winter sets in.

In the south of France, sewage (1,300 lb. per acre) is extensively used, together with Sesame seeds from which the oil has been expressed. The latter are especially suited for light and limey soils, and are either worked in before planting or placed directly in the furrows with the plants. Up to 5,000 or 6,000 lb. per acre are applied, giving a crop of from 2,100 to 2,600 lb. per acre. The residues from the distillation of the crop are invariably used as manure. It is found, however, that although these manures supply sufficient nitrogen, they are deficient in phosphoric acid and potash. This shortage must be made up by chemical manures, otherwise the soil will become exhausted. Chemical manures *alone* are equally unsatisfactory in soils poor in organic matter. In conjunction with organic manures they give excellent results.

On suitable soil and with proper cultivation, yields of from 2 to 3 tons of Peppermint herb per acre may be expected, but large yields can only be expected from fields that are in the best possible condition. A fair average for well-managed commercial plantings may be said to be 30 lb. of oil per acre, but the yield of oil is always variable, ranging from only a few pounds to, in extremely favourable cases, nearly 100 lb. per acre. About 325 lb. of Peppermint, nearly 3 cwt., are required to produce a pound of oil in commercial practice, i.e. about 7 lb. of oil are generally obtained from 1 ton of the herb. The price varies as widely as the yield, the value depending upon the chemical composition.

The presence of weeds among the Peppermint, especially other species of *Mentha*, is an important cause of deterioration to the oil. *M. arvensis*, the Corn Mint, if allowed to settle and increase among the crop to such an extent as not to be easily separated, has been known when distilled to absolutely ruin the flavour of the latter. In new

ground the Peppermint requires handweeding two or three times, as the hoe cannot be used without injury to the plant.

In America great detriment is occasioned by the growth of *Erigeron canadensis*, and newly cleared ground planted with Peppermint, is liable to the intrusion of another plant of the order Compositae, *Erechtites hieracifolia*, which is also highly injurious to the quality of the oil.

Irrigation

Peppermint requires frequent irrigation. In the south of France the crop is irrigated on the 15th of May, and thereafter every eight or ten days. When the plants are fully developed they are watered at least three times a week. It is important to keep the soil constantly moist, although well drained. Absorption of water makes the shoots more tender, thus facilitating cutting, and causes a large quantity of green matter to be produced.

A plantation lasts about four years, the best output being the second year. The fourth-year crop is rarely good. A crop that yields a high percentage of essential oil exhausts the ground as a rule, and after cropping with Peppermint for four years, the land must be put to some other purpose for at least seven years. In some parts of France the plantations are renewed annually with the object of obtaining vigorous plants.

Few pests trouble Peppermint, though crickets, grasshoppers and caterpillars may always do some damage.

Harvesting

The herb is cut just before flowering, from the end of July to the end of August in England and France, according to local conditions. Sometimes when well irrigated and matured, a second crop can be obtained in September. With new plantations the harvest is generally early in September.

Harvesting should be carried out on a dry, sunny day, in the late morning, when all traces of dew have disappeared. The first year's crop is always cut with the sickle to prevent injury to the stolons. The herb of the second and third years is cut with scythes and then raked into loose heaps ready for carting to the stills.

In many places, the custom is to let the herb lie on the ground for a time in these small bundles or cocks. In other countries the herb is distilled as soon as cut. Again, certain distillers prefer the plants to be previously dried or steamed. The subject is much debated, but the general opinion is that it is best to distil as soon as cut, and the British Pharmacopoeia directs that the oil be distilled from the fresh flowering plant. Even under the best conditions of drying, there is a certain loss of essential oil. If the herbs lie in heaps for any time, fermentation is bound to occur, reducing the quality and quantity of the oil, as laboratory experiments have proved. Should it be impossible to treat all the crop as cut, it should be properly dried on the same system as that adopted for other medicinal plants. The loss is then small. Variation in the chemical composition of the essence should be brought about by manuring, rather than by the system of harvesting, though in America the loss caused by partial drying in the field

is not regarded by growers as sufficient to offset the increased cost of handling and distilling the green herb. Exposure to frost must, however, be avoided, as frozen mint yields scarcely half the quantity of oil which could otherwise be secured.

At Market Deeping the harvest usually commences in the beginning or middle of August, or as soon as the plant begins to flower and lasts for six weeks, the stills being kept going night and day. The herb is carted direct from the fields to the stills, which are made of copper and contain about 5 cwt. of the herb. Before putting the Peppermint into the still, water is poured in to a depth of about 2 feet, at which height a false bottom is placed, and on this the herb is then trodden down by men. The lid is then let down, and under pressure the distillation is conducted by the application of direct heat at the lowest possible temperature, and is continued for about 4 1/2 hours. The lid is then removed, and the false bottom with the Peppermint resting on it is raised by a windlass, and the Peppermint carried away in the empty carts on their return journey to the fields, where it is placed in heaps and allowed to rot, being subsequently mixed with manure applied to the fields in the autumn. The usual yield of oil, if the season be warm and dry, is 1 OZ. from 5 lb. of the fresh flowering plant, but if wet and unfavourable, the product is barely half that quantity.

If the cut green tops have some distance to travel to the distillery, they should be cut late in the afternoon, so as to be sent off by a night train to arrive at their destination next morning, or they would be apt to heat and ferment and lose colour.

Since the oil is the chief marketable product, adequate distilling facilities and a market for the oil are essential to success in the industry, and the prospective Peppermint grower should assure himself on these points before investing capital in plantations.

There is also a market, chiefly for herbalists, for the dried herb, which is gathered at the same time of year. It should be cut shortly above the base, leaving some leafbuds, and not including the lowest shrivelled or discoloured leaves and tied loosely into bundles by the stalk-ends, about twenty to the bundle on the average, and the bundles of equal length, about 6 inches, to facilitate packing, and dried over strings as described for Spearmint. Two or three days will be sufficient to dry.

Peppermint culture on suitable soils gives fair average returns when intelligently conducted from year to year. The product, however, is liable to fluctuation in prices, and the cost of establishing the crop and the annual expenses of cultivation are high.

Constituents

Among essential oils, Peppermint ranks first in importance. It is a colourless, yellowish or greenish liquid, with a peculiar, highly penetrating odour and a burning, camphorescent taste. It thickens and becomes reddish with age, but improves in mellowness, even if kept as long as ten or fourteen years.

The chief constituent of Peppermint oil is Menthol, but it also contains menthyl acetate and isovalerate, together with menthone, cineol, inactive pinene, limonene and other less important bodies.

On cooling to a low temperature, separation of Menthol occurs, especially if a few crystals of that substance be added to start crystallization.

The value of the oil depends much upon the composition. The principal ester constituent, menthyl acetate, possesses a very fragrant minty odour, to which the agreeable aroma of the oil is largely due. The alcoholic constituent, Menthol, possesses the wellknown penetrating minty odour and characteristic cooling taste. The flavouring properties of the oil are due largely to both the ester and alcoholic constituents, while the medicinal value is attributed to the latter only. The most important determination to be made in the examination of Peppermint oil, is that of the total amount of Menthol, but the Menthone value is also frequently required. The English oil contains 60 to 70 per cent of Menthol, the Japanese oil containing 85 per cent, and the American less than ours, only about 50 per cent. The odour and taste afford a good indication of the quality of the oil, and by this means it is quite possible to distinguish between English, American and Japanese oils.

Menthol is obtained from various species of *Mentha* and is imported into England, chiefly from Japan. The oils from which it is chiefly obtained are those from *M. arvensis*, var. *piperascens*, in Japan, *M. arvensis*, var. *glabrata* in China, and *M. piperita* in America.

Japan, and to a certain extent China, produce large quantities of Peppermint oil distilled from the plants just mentioned. The oils produced from these plants are greatly inferior to those distilled from *M. piperita*, but have the advantage of containing a large proportion of Menthol, of which they are the commercial source.

The Japanese Menthol plant is now being grown in South Australia, having been introduced there by the Germans from Japan.

Chinese Peppermint oil is largely distilled at Canton, a considerable quantity being sent to Bombay, also a large quantity of Menthol. Peppermint is chiefly cultivated in the province of Kiang-si.

M. incana, cultivated near Bombay as a herb, also possesses the flavour of Peppermint.

M. arvensis, var. *javanesa*, growing in Ceylon, has not the flavour of Peppermint, but that of the garden mint, while the type form of *M. arvensis*, growing wild in Great Britain, has an odour so different from Peppermint that it has to be carefully removed from the field lest it should spoil the flavour of the Peppermint oil when the herb is distilled.

The Japanese have long recognized the value of Menthol, and over 200 years ago carried it about with them in little silver boxes hanging from their girdles. The distillation of oil of Peppermint forms a considerable industry in Japan. The chief centre of cultivation is the province of Uzen, in the north-east of the island of Hondo, the largest of the Japanese Islands, and much is grown in the northern island of Hokkaido, but the best oil is produced in the southern districts of Okayama and Hiroshimo, the second largest Peppermint area in Japan, the yield of mint being

yearly on the increase. The mint crop is a favourite one for farmers, owing to the distilling work it furnishes during the long and otherwise unprofitable winter.

The roots are planted at the end of November and beginning of December. The plant, which needs a light, well-drained soil, attains its full growth during the summer months and is cut in the latter part of July, during August and in the early part of September, three cuttings being made during the season. The third cutting yields the greatest percentage of oil and menthol crystals. The preliminary steps in the manufacture of Menthol are carried out by the farmers themselves, with the aid of stills of a simple design. The Peppermint plants are first dried in sheds, or under cover from the sun for thirty days. Then they are placed in the stills where they undergo a process of steaming. The resulting vapours are led off through pipes into cooling chambers, are condensed and deposited as crude Peppermint oil. This crude Peppermint is shipped to Yokohama and Kobe to the Menthol factories, of which there are over seventy in various parts of Japan, specially equipped for obtaining the full amount of Menthol. The residue of dementholized oil is further refined to the standard of purity required in the trade, and is known as Japanese Peppermint oil. The oil (known in Japan under the name of *Hakka no abura*) is exported from Hiogo and Osaka, but is frequently adulterated. The cheapest variety of Peppermint oil available in commerce is this partially dementholized oil imported from Japan, containing only 50 per cent of Menthol.

Adulteration of American Peppermint oil with dementholized Japanese oil, known as Menthene, which is usually cheaper than American oil, is frequently practised. The failure of the mint crop in America in 1925 and the consequent scarcity and high price of the American oil caused this adulteration to be very extensive.

The Japanese oil, termed by the Americans Corn-Mint oil and not recognized by the United States Pharmacopoeia, is at best only a substitute in confectionery and other products, such as tooth-pastes, etc. There are other varieties of so-called Peppermint oil on the market which are residues from Menthol manufacture and are inferior even to the oil imported from Japan. These are not suitable for use in pharmacy.

As Japanese Peppermint oil, after being freed from Menthol crystals, is inferior both in taste and odour to English and American oil, experiments have been made in Japan with the cultivation of English and American Peppermint, but so far without success.

Adulterants

Camphor oil is occasionally used as an adulterant of Peppermint oil, also Cedarwood oil and oil of African Copaiba. The oil is also often adulterated with one-third part of rectified spirit, which may be detected by the milkiness produced when the oil is agitated by water. Oil of Rosemary and oil of Turpentine are sometimes used for the same purpose. If the oil contains turpentine it will explode with iodine. If quite pure, it dissolves in its own weight of rectified spirits of wine.

In the form in which Menthol is imported, it bears some resemblance to Epsom Salts, with which it is sometimes adulterated.

Before the War about half the Menthol crystals exported from Japan were sent to Germany. During the War the United States became the largest purchaser of these crystals, followed in order by Great Britain, France and British India.

Medicinal Action and Uses

Peppermint oil is the most extensively used of all the volatile oils, both medicinally and commercially. The characteristic anti-spasmodic action of the volatile oil is more marked in this than in any other oil, and greatly adds to its power of relieving pains arising in the alimentary canal.

From its stimulating, stomachic and carminative properties, it is valuable in certain forms of dyspepsia, being mostly used for flatulence and colic. It may also be employed for other sudden pains and for cramp in the abdomen; wide use is made of Peppermint in cholera and diarrhoea.

It is generally combined with other medicines when its stomachic effects are required, being also employed with purgatives to prevent griping. Oil of Peppermint allays sickness and nausea, and is much used to disguise the taste of unpalatable drugs, as it imparts its aromatic characteristics to whatever prescription it enters into. It is used as an infants' cordial.

The oil itself is often given on sugar and added to pills, also a spirit made from the oil, but the preparation in most general use is Peppermint Water, which is the oil and water distilled together.

Peppermint Water and spirit of Peppermint are official preparations of the British Pharmacopoeia.

In flatulent colic, spirit of Peppermint in hot water is a good household remedy, also the oil given in doses of one or two drops on sugar.

Peppermint is good to assist in raising internal heat and inducing perspiration, although its strength is soon exhausted. In slight colds or early indications of disease, a free use of Peppermint tea will, in most cases, effect a cure, an infusion of 1 ounce of the dried herb to a pint of boiling water being employed, taken in wineglassful doses; sugar and milk may be added if desired.

An infusion of equal quantities of Peppermint herb and Elder flowers (to which either Yarrow or Boneset may be added) will banish a cold or mild attack of influenza within thirty-six hours, and there is no danger of an overdose or any harmful action on the heart. Peppermint tea is used also for palpitation of the heart.

In cases of hysteria and nervous disorders, the usefulness of an infusion of Peppermint has been found to be well augmented by the addition of equal quantities of Wood Betony, its operation being hastened by the addition to the infusion of a few drops of tincture of Caraway.

Preparations

Fluid extract, 1/4 to 1 drachm. Oil, 1/2 to 3 drops. Spirit, B.P., 5 to 20 drops. Water, B.P. and U.S.P., 4 drachms.

The following simple preparation has been found useful in insomnia:

1 OZ. Peppermint herb, cut fine, 1/2 OZ. Rue herb, 1/2 OZ. Wood Betony. Well mix and place a large tablespoonful in a teacup, fill with boiling water, stir and cover for twenty minutes, strain and sweeten, and drink the warm infusion on going to bed.

A very useful and harmless preparation for children during teething is prepared as follows:

1/2 OZ. Peppermint herb, 1/2 OZ. Scullcap herb, 1/2 OZ. Pennyroyal herb. Pour on 1 pint of boiling water, cover and let it stand in a warm place thirty minutes. Strain and sweeten to taste, and given frequently in teaspoonful doses, warm.

Boiled in milk and drunk hot, Peppermint herb is good for abdominal pains. 'Aqua Mirabilis' is a term applied on the Continent to an aromatic water which is taken for internal pains. It is a water distilled from herbs, sometimes used in the following form:

Cinnamon oil, Fennel oil, Lavender oil, Peppermint oil, Rosemary oil, Sage oil, of each 1 part; Spirit, 350 parts; Distilled water, 644 parts.

Menthol is used in medicine to relieve the pain of rheumatism, neuralgia, throat affections and toothache. It acts also as a local anaesthetic, vascular stimulant and disinfectant. For neuralgia, rheumatism and lumbago it is used in plasters and rubbed on the temples; it will frequently cure neuralgic headaches. It is inhaled for chest complaints, and nasal catarrh, laryngitis or bronchitis are often alleviated by it. It is also used internally as a stimulant or carminative. On account of its anaesthetic effect on the nerveendings of the stomach, it is of use to prevent sea-sickness, the dose being 1/2 to 2 grains. The bruised fresh leaves of the plant will, if applied, relieve local pains and headache, and in rheumatic affections the skin may be painted beneficially with the oil.

Oil of Peppermint has been recommended in puerperal fevers. 30 to 40 minims, in divided doses, in the twenty-four hours, have been employed with satisfactory results, a stimulating aperient preceding its use.

The local anaesthetic action of Peppermint oil is exceptionally strong. It is also powerfully antiseptic, the two properties making it valuable in the relief of toothache and in the treatment of cavities in the teeth.

Sanitary engineers use Peppermint oil to test the tightness of pipe joints. It has the faculty of making its escape, and by its pungent odour betraying the presence of leaks.

A new use for Peppermint oil has been found in connexion with the gas-mask drill on the vessels of the United States Navy.

Paste may be kept almost any length of time by the use of the essential oil of Peppermint to prevent mould.

Rats dislike Peppermint, a fact that is made use of by ratcatchers, who, when clearing a building of rats, will block up most of their holes with rags soaked in oil of Peppermint and drive them by ferrets through the remaining holes into bags.

MINT, WILD

Botanical: *Mentha sativa* (LINN.)

Family: N.O. Labiatae

Synonyms

Water or Marsh Mint. Whorled Mint. Hairy Mint.

Part Used

Herb.

Habitat

Common in Britain and found all over temperate and Northern Europe and Russian Asia.

Description

A rather coarse perennial 1 to 1 1/2 feet high; leaves conspicuously stalked, ovate or oval-ovate, or oval-rounded or wedge-shaped at the base, subacute or acute serrate or crenate serrate, more or less hairy on both sides; flowers in whorls, usually all separate, beginning about or below the middle of the stem; bracts large, similar to leaves, sometimes the upper ones minute, uppermost ones often without flowers; bracteoles strap-shaped, subulate, hairy, shorter than flowers; pedicels hairy, rarely glabrous; calyx hairy, campanulate-cylindrical; teeth triangular, acuminate, half the length of tube, bristly, hairy; corolla scarcely twice as long as the calyx, hairy without and within; nucules rough with small points.

Medicinal and Other Uses

The herb is considered to have emetic, stimulant, and astringent qualities, and is used in diarrhoea and as an emmenagogue. The infusion of 1 OZ. of the dried herb to 1 pint of boiling water is taken in wineglassful doses.

MINT, CORN

Botanical: *Mentha arvensis*

Family: N.O. Labiatae

Habitat

It is a perennial, the root-stock, as in all the Mints, creeping freely, so that when the plant has once taken hold of the ground it becomes very difficult to eradicate it, as its long creeping roots bind the soil together and ultimately overrun a considerable area. It is generally an indication that the drainage of the land has been neglected. It is abundantly distributed throughout Britain, though less common in the northern counties and flourishes in fields and moist ground, and Peppermint growers must be ever watchful for its appearance.

The Corn Mint (*Mentha arvensis*) is the type species of the Japanese Menthol plant, but is not endowed with useful medicinal properties, great care indeed, as has been mentioned, having to be taken to eradicate it from Peppermint plantations, for if mingled with that valuable herb in distilling its strong odour affects the quality of the oil.

Description

It is a branched, downy plant. From the low, spreading, quadrangular stems that lie near the ground, the flowering stems are each year thrown up, 6 to 12 inches high. The leaves, springing from the stems, in pairs, are stalked, their outlines freely toothed. The upper leaves are smaller than the lower, and the flowers are arranged in rings (whorls) in their axils. The flowers themselves are small individually, but the delicacy of their colour and the dense clusters in which they grow, give an importance collectively, as ring after ring of the blossoms form as a whole a conspicuous head. The flowering season lasts throughout August and September.

This mint varies considerably in appearance in different plants, like all the other native species of mint, some being much larger than others, with a more developed foliage and a much greater hairiness of all the parts. It has a strong odour that becomes more decided still when the leaves are bruised in any way.

It is said that the effect of this plant, when animals eat it, is to prevent coagulation of their milk, so that it can hardly be made to yield cheese.

MINT, WILD WATER

Botanical: *Mentha aquatica* (LINN.)

Family: N.O. Labiatae

Mentha aquatica, the Wild Mint, Water Mint or Marsh Mint in its many variations (of which *M. sativa*, the Hairy Mint, is by most botanists considered to be one, and not a distinct species), is the commonest of the Mints, growing abundantly 1 to 2 feet high, in extensive masses in wet places, banks of rivers and marshes, and well distinguished

by its downy foliage and whorls of lilac flowers which towards the summit of the stem are crowded into globose heads. The scent of the plant is strong and unpleasant to modern idea, but Dononaeus says:

'The savour of scent of Mynte rejoiceth man, wherefore they sow and strow the wild Mynte in this countrie in places where feasts are kept, and in Churches. The juyce of Mynte mingled with honied water cureth the payne of the eares when dropped therein, and taketh away the asperitie and roughness of the tongue when it is rubbed or washed therewith.'

The dried herb yields about 4 per cent of essential oil, having an odour of Pennyroyal, the characters of which are not well determined. Russian Spearmint oil is derived from a form of this species.

Medicinal Action and Uses

Emetic, stimulant and astringent. Used in herbal medicine in diarrhoea and as an emmenagogue, the infusion of 1 OZ. of the dried herb to 1 pint of boiling water being taken in wineglassful doses.

In severe cold and influenza, or in any complaint where it is necessary to set up perspiration and in all inflammatory complaints, internal or external, the tea made from this plant may be taken warm as freely as the patient pleases. It can be used in conjunction with stomach remedies and in difficult menstruation. A strong infusion is inclined to be emetic.

A decoction of Water Mint prepared with vinegar is recommended to stop blood vomiting.

Pliny, describing the cultivation of mint, observes that the original name was *Mintha*, 'from which the Latin *Mentha* was derived, but of late it has been called Hedyosmon,' i.e. the sweet-scented. He speaks of 'a wild kind of Mint known to us as *Menastrum*.' This name was used in the fourteenth century for the Water Mint (*M. aquatica*).

Culpepper says it is good for the gravel, and in flatulent colics.

MINT, CURLED

Botanical: *Mentha acrispa*

Family: N.O. Labiatae

Mentha crispa, which has wavy, broad, sharply-toothed leaves, woolly beneath, is a variety of *M. aquatica*. It is sometimes found in Britain in gardens and has quite a different odour to that of the common Wild Water Mint.

MINT, BERGAMOT

Botanical: *Mentha citrata*

Family: N.O. Labiatae

Synonym

Mentha odorata

Mentha citrata (Ehr.), syn. *M. odorata*, the Bergamot Mint, by some botanists considered a separate species, is by others looked on as a variety of *M. aquatica*.

The whole plant is smooth, dotted with yellow glands and is of a dark green colour, generally tinged with purple, especially the margins of the leaves, which are finely toothed. There are very conspicuous lines of yellow glands on the purple calyx.

This Mint has a very pleasant, aromatic, lemon-like odour, somewhat resembling that of the Bergamot Orange, or that of the Oswego Tea (*Monarda didyma*), also called Bergamot, and its leaves like those of the latter can be employed in pot pourri.

It is found in wet places in Staffordshire and Wales, though very rarely, but is often cultivated in gardens.

MINT, ROUND-LEAVED

Botanical: *Mentha rotundifolia*

Family: N.O. Labiatae

Synonym

Egyptian Mint.

Mentha rotundifolia is a sturdy plant having the habit of *M. sylvestris*, but is more branched. The leaves are very broad, somewhat resembling those of Sage, dull green in colour and much wrinkled above, often densely woolly and whitish beneath. The flowers are pink or white, in tapering, terminal spikes.

This species has somewhat the flavour of Spearmint, but is stronger. It is frequently found on the ruins of monasteries, the monks having used it for the languor following epileptic fits, as it was considered refreshing to the brain. It is sometimes found cultivated in cottage gardens under the name of Egyptian Mint.

The American Horsemint (*Monarda punctata*, Linn.) is of considerable importance, as it may before long be available as a regular source of Thymol, which has hitherto been manufactured principally from Ajowan seeds. It yields from 1 to 3 per cent of a volatile oil, which contains a large proportion of Thymol, up to 61 per cent having been obtained; Carvacrol also appears to be a constituent. The oil has a specific gravity of 0.930 to 0.940 and on prolonged standing deposits crystals of Thymol.

In 1907, Horsemint was observed to occur in abundance as a common weed on the sandy lands of central Florida, and the preliminary examinations of the oil from the wild plants which were made at that time seemed to indicate that a promising commercial source of Thymol could be developed by bringing this plant under cultivation and selecting for propagation types of plants best suited for oil production.

The leaf area of the wild plants is rather small: the first problem, therefore, seemed to be to increase the leaf area and thus increase the yield of oil per acre.

During several years of experiment, selection was also made to increase the size of the plants in order that the tonnage of herb per acre might be increased. This was also successful and a considerably increased yield was noted year by year.

In 1912 a series of fertilizer experiments was carried out. It was found that although certain special methods of treatment had a marked effect on the percentage of yield of oil and of Thymol in the oil, the greatest yield was obtained by promoting the growth of the plant and thus securing the largest possible yield of herb per acre.

On the scarcity of Thymol becoming acute on the outbreak of the Great War, the United States Department of Agriculture took up the matter, entered thoroughly into the question of utilizing the native American plant for the source of the valued product, and carried out exhaustive experiments in 1914 and 1915 as to the cultivation of the plant, the extraction of Thymol, the yield per acre and the commercial prospects of the cultivation of the plant, the conclusions arrived at being that the use is now warranted of the improved form of the plant - its luxuriance increased by cultivation - being used for the commercial production of Thymol in the United States

It has been shown that Horsemint can be grown on the lighter types of soil at comparatively little expense, and as the cost of transportation for the finished product, Thymol, is very low, it would seem that the production of this crop might be profitable when grown in connexion with other oil-yielding plants for which a distilling apparatus is required. Distillation of the Horsemint herb is carried on by the usual methods in practice for distilling such volatile oils as Peppermint and Spearmint.

HORSEMINT

Botanical: *Mentha sylvestris* (LINN.)

Family: N.O. Labiatae

The English Horsemint (*Mentha sylvestris*) is a strong-scented plant, frequent in damp, waste ground, usually growing in masses, with downy, egg-shaped leaves tapering to a point, with finely toothed margins, their undersides very white with silky hairs. The flowers are in thick cylindrical spikes, which are often interrupted below; the corollas are lilac in colour and hairy.

The taste and odour of the plant resemble those of the Garden Mint.

The dry herb yields about 1 per cent of essential oil, having carminative and stimulant properties.

Culpepper says:

'It is good for wind and colic in the stomach.... The juice, laid on warm, helps the King's evil or kernels in the throat.... The decoction or distilled water helps a stinking breath, proceeding from corruption of the teeth, and snuffed up the nose, purges the head. It helps the scurf or dandruff of the head used with vinegar.'

HORSEMINT, AMERICAN

Botanical: *Monarda punctata* (LINN.)

Family: N.O. Labiatae

Synonyms

Monarda lutea. Spotted Monarda.

Part Used

Whole herb.

Description

In 1569 a doctor of Seville, Nicolas Monardes, wrote a great book, in Spanish, making known the medicinal plants of the New World, and the genus *Monarda* was named in his honour.

Monarda punctata is a perennial herb, growing in dry, sandy places. It has a strong erect stem, reaching 2 feet or more in height, with lanceolate, opposite leaves, 2 to 4 inches long, dotted on the under-surface with glands. The flowers form dense whorls, one being terminal, and have a large yellow corolla, the upper lip being spotted with purple. A circle of large, leaf-like bracts, purplish-pink in colour, surrounds them.

The plant, which is hardy, was introduced into England in 1714. The odour is strong and aromatic, the taste pungent and slightly bitter.

Wild Basil (*Pycnanthemum incanum*) is said to be often substituted for it in the United States.

Constituents

The active virtues depend on the abundant volatile oil, which has been found to contain a hydrocarbon, thymol, and higher oxygenated compounds. It yields its virtues to boiling water, but particularly to alcohol.

Oleum Monardze or Oil of Horsemint is official in the United States.

Medicinal Action and Uses

Rubefacient, stimulant, carminative. The infusion is used for flatulent colic, sickness, and as a diaphoretic and emmenagogue, or as a diuretic in urinary disorders.

The principal use is external, and in its pure state it may be a vesicant. It should be diluted with olive oil or soap liniment, two or four parts of either being added to one of oil of Monarda. It may be employed in chronic rheumatism, cholera infantum, or whenever rubefacients are required.

It may be taken like Hedeoma, or American Pennyroyal.

Dosage

Two to 10 minims of oil.

Other Species

M. Didyma and *M. Squarrosa* may be used as substitutes.

M. Fistulosa (Wild Bergamot, or Oswego Tea) is an active diuretic.

M. citriodora, or Prairie Bergamot, contains a phenol and a citral.

SWEET HORSEMINT is a name of *Cunila organoides*, the essential oil of which is a stimulant aromatic.