

Remarks on the Culture of Exotic Vegetables, adapted for the Soil and Climate of South Africa. By Mr. J. BOWIE, Member of the South African Institution.

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COFFEA ARABICA. Coffee Tree. Koffyboom. Pentandria Monogynia, L. Nat. Ord. Rubiaceæ, J.

This tree is best raised from seeds, gathered and sown as soon as they are thoroughly ripe, in a sandy loam, and kept moderately moist and shaded; they may be suffered to remain in the seed-beds until they have formed their first season's growth, afterwards planting them out in nursery-beds, at one foot apart from each plant, to gather strength; this should be performed about the end of July.

In forming the plantations, those plants must be selected which appear the most vigorous, and such as have a shorter length of stem in the spaces between the leaves, experience having shewn that such plants as grow more into length, are comparatively barren. The young trees, on their final planting, should be carefully lifted with a ball of earth to each; an inattention to this particular, will retard the production of the berry for one or two years. They must be planted at six feet apart, in the quincunx manner; the first season after they are established, the trees must be headed down to about nine or twelve inches of the ground, in order to make them throw out lateral branches, they must not be allowed to attain a greater height than about ten or twelve feet; care being taken to prune away any luxuriant upright branches, or to shorten them, and thereby encourage the growth of lateral branches, and form a spreading and fan-like bush, they will then produce a better crop, and the berries are more easily gathered.

The young plantations must be kept free from weeds; one laborer is sufficient for the care and management of two thousand trees, until they are three or four years established, when an increase of labour will be requisite, principally in the gathering in of the crop. A young established plantation is usually valued at half a Spanish dollar each tree, but from the commencement of their bearing the value is doubled.

Two or three crops may be expected in the year, each tree in full bearing producing about two pounds of clean coffee; the trees are generally allowed to bear fruit about ten years, when the plantations, should they become sparing in produce, are destroyed or neglected.

In gathering the berries, only those which are nearly ready to fall must be taken; they are then to be exposed to the sun

and air on hardened floors, similar to the threshing floors of this colony, but sloping a little to allow the rain water which may fall to pass freely away; the berries must be occasionally turned to allow the pulp to dry equally; they are then to be submitted to the pestle and mortar, or to wooden rollers, to free the beans from their covering, winnowed, and put up in baskets, and stored in a dry and airy situation; the coffee bean improves by age, provided they are kept perfectly dry.

The coffee tree has been long known in this colony, but, like many other valuable productions, has not been cultivated to any extent; it merely appears in a few gardens as a curiosity; nor do I think that extensive plantations, which must compete with the foreign importations, would yield a fair remuneration for the trouble of rearing; local situations, however, may create a different and just opinion, and the soils and circumstances of Graaff-Reinet, Uitenhage, Albany, George, and some parts of Swellendam, are particularly adapted for its growth; those districts producing several indigenous plants of the same natural order, and of which *Gardenia*, *Pavetta*, and *Burchelia*, are beautiful instances.

The coffee tree is a native of Arabia; and it is to the dry, sandy, and hot soil, and arid climate of that country, that the superior flavour of the coffee produced there is ascribed.

Although the infusion of coffee is in such general use, still there are many who are unacquainted with its real properties.

“The fresh seeds are febrifuge, diuretic, and tonic; when roasted, they acquire a sweet-scented empyreumatic oil, which is heating to the body, and a small portion of tanning matter: they then form a stomachic antihypnotic infusion, which stimulates the nervous system.”

CURCUMA LONGA. Turmeric. *Kurkuma*, Bori. *Monandria Monogynia*, Linn. and Nat. Ord. *Scitamineæ*, Brown.

In various gardens throughout the colony this plant meets with a partial cultivation, and its roots (tubers) enter into the domestic economy of the household. It may, however, be improved in quality, and also in quantity, with a little more attention than has been paid to it hitherto.

The natural habitats of nearly the whole of this Natural Order of plants, and more especially those now mentioned, is in vegetable soil in the moist and sheltered clefts of the mountains, and the shady depths and recesses of the tropical forests; hence Nature herself points out to us the most ready way to improve those plants when brought under a state of cultivation, by directing us to prepare for them a soil similar to that in which they are found in their native wilds.

Where localities permit, beds of black vegetable earth must

be marked out for planting the divided tubers of this plant in any warm and sheltered situation; and for this purpose the more secluded and shaded parts of the garden may be chosen, provided the roots of the surrounding trees do not rob the surface too much of its moisture, or will allow of beds of decayed vegetable matter being formed above them, to the depth of from nine to twelve inches. If the natural soil should be of a loamy or clayey nature, it must be nearly all removed, and a soil composed entirely of vegetable matter substituted, incorporating with it a portion of the soil from the bottom, and adding sand, if necessary.

The sets must be taken from those parts of the tuber which have the strongest eyes, or the rudiments of the future stem. Those sets are to be planted in the beds at nine inches distance from each other, and covered with about two inches of earth; after planting, the beds must be covered with decayed leaves to the depth of three inches; this covering will keep the plants warm, and sufficiently moist to render the application of water less necessary.

The medicinal properties of turmeric are aromatic, tonic, discussive, and heating:

This plant is a native of the East Indies, and has been long since introduced to the colony:

ZINGEBER OFFICINALE. Ginger. Gember.

The same treatment as recommended for the turmeric, will also answer for the growth of this plant; but its tubers being adapted to various other uses, a quicker vegetation is desired in them.

For the purpose of preserving, the tubers of the ginger must be taken up before they have attained their full growth; they will then be tender, and the conserve destitute of the threads which distinguish the East from the West Indian preserves.

The black and the white ginger is of one and the same species; the former becomes black from being taken up at its full growth, scalded, and hastily dried in the sun; the white is also taken up at maturity, carefully washed, scraped, and dried.

Ginger is heating, aromatic, stomachic, cordial; in infusion, diaphoretic. The dried powder and extract, taken inwardly, relieves the most violent paroxysms of the gout.

This plant was introduced previous to 1700.

MARANTA ARUNDINACEA. Arrow-root. Monandria Monogynia, Linn. and Nat. Ord. CANNEÆ, Brown.

Precisely the same methods as recommended for the growth

of ginger, will succeed in the production of arrow-root; but being naturally an inhabitant of bogs and margins of running waters, it may require a more liberal supply of water.

The farino, or Indian arrow-root, is prepared by pounding or grating the tubers of this plant in water, and letting the fecule settle, when it is to be collected, dried, and preserved in bottles or jars for use. Nutritive.

This plant was introduced to the colony in 1817.

In order to obtain large tubers of the above plant, and to insure a quick growth, it will be necessary to keep the beds constantly moist, by throwing water over the beds of decayed leaves by means of scoops or watering pots, from convenient reservoirs of water, which is more to be preferred than the usual mode of irrigation practised in the colony, whereby the water is led on to the plants immediately from the spring, the coldness of which retards, rather than forwards the growth of many exotics; on this important point I shall enlarge at some future period; it will be sufficient here to observe, that water being a *desideratum* in many parts of the colony, its application must be carefully attended to, in order to avoid unnecessary waste.

The recommending the above plants to a more extensive culture than they meet with at present, is rather from a wish to add to the domestic comforts of the community, than to render them articles of exportation; but, in either case, it will serve to improve the resources of the colony, and form a pleasing and useful amusement to those who may devote their leisure hours to such wholesome recreations.

CASTANEA VESCA. Chesnut. Castanie. Monoecia Polyandria, Linn. Nat. Ord. Amentaceæ, Juss.

Both for timber and fruit, the chesnut may be cultivated more extensively than has hitherto been done in the colony; and, I should hope, with better success than appears to be generally the case in this country, where the tree, being planted in moist situations, can neither attain a large size, or a very great age. A sandy loam, with a dry bottom, is most congenial to its welfare; but it will grow in any soil on a dry sub-soil. Planted singly, this tree spreads very much, but when planted together in clumps, the main stem rises to a considerable height. The timber is valuable in house carpentry, and when aged, can scarcely be distinguished from oak.

To raise trees, and with a view to improvement, the largest and roundest formed nuts should be selected, and sown in beds of light earth, either in rows or broad-cast; at twelve months old they may be removed to nursery rows, where they may remain to gather strength for the reception of grafts or buds,

or be reserved for future plantations, without paying respect to the above operations; where it is desirable to obtain as early a crop as possible, a few plants may be reared in pots or boxes, and when large enough to receive grafts, the boxes may be fixed or raised to fruit bearing branches of an old tree, and the young ones grafted by approach, or arching, which, if well performed in the spring, may be separated from the parent stock in autumn, and the young trees will produce fruit the following season.

If the chesnut tree is planted in groups, they must be placed from thirty to fifty feet apart; and at a distance from the dwelling house, the strong spermatic odour of the flowers rendering them disagreeable to most persons.

This tree was introduced to this colony previous to 1695; and has been stated, erroneously, to be a native of South Africa; it is supposed to have been brought from Sardis to Italy, by Tiberius Cæsar.

The chesnut tree ranks amongst those which attain the greatest age in Europe, and in the southern parts of that continent affords a great portion of the food of the peasantry.

The kernels are nutritive and pectoral, and usually eaten raw, roasted, or boiled; they are also made into bread, stewed, and used as sauces to various dishes.

Bark astringent.

JUGLANS REGIA. Walnut. Okkernoot. Monoccia Polyandria, Linn. Nat. Ord. Juglandæ, Dec.

A similar treatment as practised in propagating the chesnut, is adapted to rearing the walnut, and on the final planting out of this tree due attention must be paid to their being planted in a loamy soil, with a mixture of sand or gravel, rather than clay.

Where the walnut is planted to any extent, they may be made to form a shelter to the orchard, by planting them in rows at twenty-five feet distance from the outward rows of the orchard trees, and from thirty-five to fifty feet distance from each other.

It is generally ten or twelve years before this tree comes into bearing, when raised from seeds; but in order to obtain as early a return of fruit as possible, grafting the young trees, and ringing must be resorted to, which last method is the mere taking away a ring of the bark from around the branches of the trees, the wounds being afterwards plastered with a mixture of cow-dung and clay. The trees by this treatment will become more prolific, and ripen the fruit sooner.

As the walnut is apt to produce varieties from seed, and of varying qualities, seeds only of the better kinds should be sown. The walnut may be increased by layers.

The thin or tender shelled varieties usually produce the best flavoured kernels; of the green fruit a favorite pickle is made, and for this purpose the entire fruit must be gathered before the nut becomes hard. The outer covering of the nut is useful to the dyer, and the juice of both it and the macerated leaves, diluted with water, and applied to the ground, will either kill or expel earth-worms. The sap of the tree yields sugar.

The kernels are cooling, but difficult of digestion; when old, acrid; yields half its weight of oil by expression, and will also yield a small quantity of sugar. Leaves detersive, and diaphoretic, anti-athritic, anti-syphilitic; inner bark emetic, and also cathartic, when given in pills.

The wood of this tree is a favorite with the cabinet-maker; and from its proportionate lightness to its strength and elasticity, is mostly used for gun-stocks.

The walnut is a native of Persia, and the southern side of Caucasus; and was introduced to this colony, from Europe, previous to 1695.
