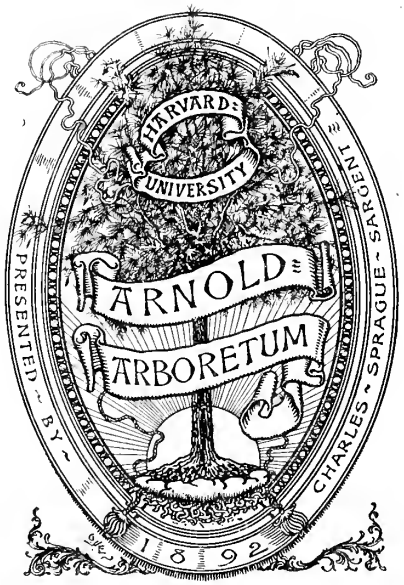
David Taggart
Northumberland
Dec 20. 1856



A

GENERAL SYSTEM

OF

TREES AND SHRUBS.

FOR ALL

USEFUL AND ORNAMENTAL PLANTATIONS,

IN

GARDENS, PLEASURE-GROUNDS, SHRUBBERIES, PARKS, PADDOCKS, WOODS, GROVES, WALKS, AVENUES, CLUMPS, THICKETS, HEDGES, HEDGE-ROWS, ARBOURS, ORCHARDS, FRUIT-TREE PLANTATIONS,

AND ALL OTHER

PLANTATION DISTRICTS, ELIGIBLE FOR THE IMPROVEMENT AND EMBELLISHMENT OF GARDENS, ESTATES, &c.

FORMING

A COMPLEAT GENERAL SYSTEM

OF

TREES AND SHRUBS,

AGREEABLE TO THE LINNÆAN SYSTEM;

Being arranged in their reſpective Genera or Families, under the Generical or Botanic Family Names, Latin and Engliſh.

By JOHN ABERCROMBIE,

(Author of EVERY MAN HIS OWN GARDENER.)

LONDON:

Printed for C. STALKER, Blackfriar's-Road, Surry; H. D. SYMONDS, Paternoster-Row; and ſold by all other Bookſellers in England, Scotland, and Ireland.

John Leighton

THE GARDENER's VEGETABLE SYSTEM, AND BOTANICAL DISPLAY OF ALL PLANTS, TREES, SHRUBS, FLOWERS, AND FRUITS.

PART I.

SYSTEM OF TREES AND SHRUBS,

For all USEFUL *and* ORNAMENTAL PLANTATIONS, *in Gardens, Pleaſure-Grounds, Shrubberries, Parks, Paddocks, Woods, Groves, Walks, Avenues, Clumps, Thickets, Hedges, Hedge-Rows, Arbours, Orchards, Fruit-Tree Plantations, and all other Plantation Diſtricts eligible for the Improvement and Embelliſhment of Gardens, Eſtates, &c.*

COMPREHENDING a general and ſyſtematic diſplay and deſcription of all the genera, ſpecies and varieties of the grand tribe of hardy trees and ſhrubs, both deciduous and ever-green kinds, valuable for compoſing the various profitable, ornamental and pleaſurable plantations as above; conſiſting of the great and uſeful collection of foreſt or timber trees for forming woods, groves, coppices, &c. the numerous tribe of ornamental trees and flowering ſhrubs for ſhrubberries and other decorative plantations in pleaſure-grounds; and all the ſorts of fruit trees for planting in gardens and orchards: the whole arranged ſyſtematically, claſſing all the numerous different ſpecies and varieties in their proper families or genera, agreeable to the Linnæan ſyſtem of botany, diſtinguiſhing and explaining the botanic claſſes and orders to which the different genera and their reſpective ſpecies belong; all the genera and ſpecies ranged under their botanic, Latin and Engliſh names; deſcribing the general growth and eſſential characters of the different genera, and general dimenſions of growth of the reſpective ſpecies of each genus or family, whether trees, ſhrubs, or under-ſhrubs, with their ſpecific diſtinction and difference of growth and general ſtructure; ſhewing alſo the places of their original reſidences, or where they grow naturally in the different parts of the world; explaining their reſpective merits, particular and general uſes for the ſeveral plantations, different methods of propagation, and manner of raiſing and training in the nurſery: together with the ſeveral orders

ders and methods of final tranſplanting, to form the various plantations for which the different kinds are adapted and deſigned, and with full directions for their eſſential culture in the ſeveral compartments.

That in the whole, by thus arranging the great and valuable tribe of hardy trees and ſhrubs under one diſtinct or ſeparate diviſion, it will prove materially convenient and eſſentially uſeful to gardeners, nurſerymen and planters in general, as well as to all owners and occupiers of eſtates, farms, &c. where improvement in plantations may be neceſſary, as they will readily diſtinguiſh the proper or particular ſorts wanted for the different occaſions of planting.

This firſt part, or diviſion, compriſing the ſyſtem of hardy trees and ſhrubs that are generally cultivated or eligible to cultivate in gardens and other diſtricts, for forming the various uſeful and ornamental plantations, &c. they conſiſt of many genera or families, ſome furniſhing ſeveral or many ſpecies, others but one, two, or three, and many of the reſpective ſpecies are ſportive in varieties, differing either in growth, flowers, fruit, &c. amounting in the whole to ſeveral hundred ſpecies and varieties, all of which are of ſufficiently hardy temperation to grow in the open ground, and will proſper in moſt common ſoils and expoſures, and in their different natures may be ſuited to various ſituations, or the greater part will grow freely almoſt in any; or as ſome ſorts are of a more tenderiſh nature, require a particular ſoil and ſituation, and ſometimes demand a ſheltered, warm, compartment: theſe particulars are generally intimated under their reſpective heads, in the directions explaining their general cultures; and as this ſyſtem compriſes all ſorts of foreſt trees, ornamental trees and ſhrubs, and the different ſorts of fruit trees, as alſo deciduous and ever-green kind, each is explained under their reſpective genera.

And as in the numerous different ſpecies, ſome are of upright growth, as in the greater part, and ſome are of trailing and creeping growth, others climbers; all of which have their particular uſes in the different plantations.

That as plantations of hardy trees and ſhrubs are importantly uſeful and ornamental in general gardening, and of great utility for the embelliſhment and improvement of eſtates, farms, &c. all the different genera, ſpecies and varieties thereof being collected under one general ſyſtem, the deſired ſorts for the purpoſes intended will be readily diſcovered; and of which, the forming any plantations deſigned, no time ſhould be loſt in furniſhing the allotted diſtricts, that they may be advancing in their reſpective growths, either of the ornamental kinds in ſhrubberries or other decorative compartments in pleaſure grounds, parks, &c. or of foreſt trees diſpoſed in out-grounds for timber and underwood, and of the fruit trees in gardens and orchards, moſt valuable in their annual productions of fruit, as it will be ſeveral years before many of the different ſorts of trees and ſhrubs acquire any conſiderable growth, either for appearance or utility; and as gardens and eſtates, however deſirably ſituated, and of favourable ſoils and expoſures, if deſtitute of plantation, or not furniſhed therewith, more or leſs in ſome degree proportionate to the extent of the ground, appear naked and leſs important, as well as prove much leſs valuable to the owners and occupiers thereof; and beſides the ornamental appearance of tree and ſhrubberry plantations, they afford ſhelter and ſhade to particular diſtricts, and thoſe of the foreſt-tree kind, in plantations for timber, &c. and of the fruit-tree tribe, for their fruit, yield great profit, both in many domeſtic occaſions, and for ſale, where it may be deſired to make all poſſible advantage of theſe productions.

And as moſt gardens, pleaſure grounds, &c. are of eligible ſoils, ſituations, and expoſures, ſuitable for plantations of the different or deſirable ſorts of hardy trees and ſhrubs, they may be admitted in any deſired collection, moſtly in the common or general ſoil of the allotted diſtricts; as likewiſe in moſt eſtates and grounds of any conſiderable extent, they, as well as fertile ſoils and ſituations eligible for principal, uſeful, and ornamental plantations of the more deſirable kinds, furniſh waſte lands, either in low and marſhy premiſes, or hilly and mountainous ſituations not well adapted for other cultivation, are often applicable to plantations of many ſorts of foreſt and other large tree kinds, both for profit, ornament, and to diverſify the reſpective diviſions, and afford ſhelter to others; as there are many hardy trees and ſhrubs which will grow in almoſt any ſoil and ſituation, and others require ſoils of a more favourable nature: though it may alſo be obſerved, that moſt ſorts will proſper in any common ſoil of gardens and other diſtricts, where it may be thought eligible or convenient to have any kind of plantations.

Therefore, in gardens and other grounds, either of ſmall, moderate, or large extent, having plantations leſs or more accordingly, either of various different ſorts of trees and ſhrubs, or only of the moſt deſirable kinds, ſuch as the moſt beautiful flowering ſhrubs, and of other principal ornamental ſhrubs and trees, both of the deciduous and ever-green tribes, diſpoſed in ſhrubberries, borders, clumps, and other compartments in a diverſified aſſemblage, and larger trees arranged in groves, thickets, woods, grand walks, avenues, rows, and in boundary plantations, in pleaſure grounds, parks, fields, hedge-rows, &c. they, in all of which different plantations, are great embelliſhments to the grounds, and diſplay an entertaining variety in their different reſpective growths, flowers, fruit, &c. and in extenſive out-grounds, having plantations of foreſt trees for their timber and underwood, are of important value, as likewiſe in gardens in general,

never

never omitting to have collections of fruit trees, which are particularly valuable in their annual productions, both for the service of a family and public supply, and may be admitted both in kitchen gardens, in standards, wall trees and espaliers, and in standards, in orchards, pleasure grounds, hedge-rows, &c.

As this division consists of TREES, SHRUBS, and UNDER-SHRUBS, and of deciduous and ever-green kinds, their principal difference is—that a tree is generally considered as differing from a shrub, principally in being of larger growth, and rising with a single upright stem or trunk to a considerable height before it divides into arms or large branches, growing fifteen or twenty, to fifty, sixty, or an hundred feet high.—A shrub either rises with several stems immediately from or near the root, or the main stem divides low into several smaller ones, and is every way of less growth and dimensions than a tree; and that the general growth of the various different species of shrubs is from two or three, to five, ten, or fifteen feet high—and the difference between a shrub and an under-shrubby plant is, a full or perfect shrub assumes a more woody, large, firm growth, next to a tree; the under-shrubs are of lower, more weak, and infirm growth, rising with smaller, more soft stems, somewhat between a woody and herbaceous nature, growing from six or eight inches, to one, two, or three feet high, as in thyme, sage, hyssop, winter-savory, southern-wood, and several sorts of heath; and some are of trailing growth, as periwinkle, &c.

In the general growth of trees, shrubs and under-shrubs, all the tree kinds are consequently of upright, strong, firm growth; the shrubs also, in the greater part, are upright; some are of declining and trailing growth, others are climbers, and the same of the under-shrubs; all of which being explained under their respective genera and species, as they occur, in the course of the following work.

Trees and shrubs differ from herbaceous plants, by having woody strong stems of long duration; the herbaceous tribe rising with soft, succulent, slender stems, mostly annual, or but of one summer's growth, rising in the spring, and in the greater part perish in autumn or winter following; but trees and shrubs are durable in stem and branches.

And as to the distinction between deciduous and ever-green trees and shrubs; the deciduous kinds are such as expand their leaves only in summer, from April or May till October, then decay and fall from the trees, &c. in that month, or wholly, early in November, remaining defoliated or leafless all winter and until May aforesaid; and the ever-green trees and shrubs continue in green leaves all the year, as in holly, &c. the old leaves continuing till displaced by the young ones in the spring.

All or most of the different species and varieties belonging to this system of hardy trees and shrubs, are raised and cultivated in the numerous nursery grounds in the different parts of the kingdom, for public supply, in furnishing the various plantations in noblemens and gentlemens gardens and estates, and of others, as may occasionally be required; and most of the principal sorts may be occasionally raised in private nurseries to assist in supplying the aforesaid plantations, as numerous sorts may be propagated and raised abundantly from seed, berries, nuts, &c. sowed in the natural ground; many by suckers, layers, cuttings, slips, &c. the whole, when, according to their nature and dimensions of growth, they are from one, two or three, to five or ten feet high, are of eligible size for final transplanting for the different occasions for which they may be designed; or some tree kinds may occasionally be transplanted when of more advanced growth, of from ten or twelve to fifteen feet high, or more; especially deciduous kinds, when required to form any conspicuous plantation as expeditious as possible, or for immediate shade, shelter, &c. in particular compartments; or also, for which occasions, some deciduous trees, as elm, lime, poplar, &c. admit of transplanting when of eighteen or twenty feet high, removing them with a full expansion of roots, or more successfully when convenient, to remove them with some ball of earth thereto.

However, for general planting of trees, those of five or six to eight or ten feet are in the greater part most eligible for good success, as young trees sooner strike good root to grow freely, and establish themselves effectually, than those removed of larger growth; and those designed for forest or timber trees particularly, it is of advantage to transplant them finally where they are to remain, while they are of young growth, of from one, two, or three, to five or six feet high, that they may root effectually from the beginning; and in many of the ever-green tree kinds, as pines, firs, cedars, &c. they are always considerably the most successful when finally transplanted while young, of two or three, to four, five, or six feet, in which they generally acquire a more free growth, advancing expeditiously in a straight lofty stature, and so of various other sorts; and as to the shrub and under-shrubby kinds in general, they, according to their smaller or larger growth, may be planted of from one foot, or half that size, to two, three, or four, to five or ten feet; always in the plantations, disposing the lower plants towards the front, and the larger more or less backward.

The general season for planting, is either autumn or spring; or the more hardy kinds, may be occasionally planted any time in open weather, from October or November, till March or April, more especially the deciduous tribe; though in a dry or light soil, it is of advantage to plant early in autumn, at the decay of the leaf, in October and November, and they will quickly

quickly take root the ſame ſeaſon; but in wet ground, or of a ſtrong loamy or clayey nature, the ſpring, about February or March, may be a more eligible time for planting in ſuch ſoils, or at leaſt either in that ſeaſon, or early in autumn, not too freely in winter, except in dryiſh, light ground; and as to ever-greens, it is adviſeable to plant them either principally in autumn, about September, October, and beginning of November, or in the ſpring, February, March, or April, as moſt of theſe kinds, when tranſplanted in cold ſeaſons, in winter, or early in ſpring, are more liable, before they ſtrike good root, to ſuffer by the ſeverity of froſt and other inclement weathers, than moſt of the deciduous ſorts, unleſs where they can be removed with balls of earth, eſpecially any of the more curious or tender ſpecies, ſo as not to receive any or but little check by removal.

And in the general planting of trees and ſhrubs for ornament, or alſo in woods, &c. for timber plantations, it is adviſeable to have the deciduous and ever-green kinds moſtly in ſeparate compartments, or in clumps alternately of the former and latter; or may occaſionally interſperſe ſome ever-greens in the deciduous plantations to encreaſe the variety, and for the ever-greens in their continuing leaves, to diſplay a more conſpicuous and lively appearance in the plantations in winter, when the deciduous kinds are deſtitute of their foliage.

But for the particular directions relative to the different ſpecies, &c. methods of propagation, planting, and general culture, ſee the reſpective articles under their principal heads, in the following ſyſtem and diſplay; to which, after the foregoing obſervations, we ſhall now proceed.

ACER MAPLE TREE and Sycamore.

In the Botanic Syſtem the Maples belong
to the
Claſs and Order
Polygamia Monoecia,
Many Marriages, One Habitation;
Or Flowers of different Sexes, as Hermaphrodite and Males, ſeparated on the ſame Tree.

THE family of Maples are principally of the tree kind, of middling and large growth, from twenty or thirty to fifty or ſixty feet high, or more; all of the deciduous tribe, and hardy to grow in any open ſituations, &c. ſome proper to cultivate for foreſt or timber trees, others principally to plant for ornament and variety, in pleaſurable plantations, both for the diverſity of their different growths and foliage; and ſome, for their ornamental flowering, are garniſhed in ſummer, to the end of autumn, with ſimple leaves of moderate, middling, and large expanſion, divided leſs or more into three or five lobes, and with ſmall flowers of five petals, in racemus cluſters, corymbus and aggregate bunches, ſucceeded by winged capſules, furniſhed with roundiſh ſeeds: ripe in ſummer and autumn, for ſowing the ſame ſeaſon, or in ſpring, to raiſe ſupplies of young trees; and which may alſo be propagated by layers and cuttings.

The *Generic Characters* are—Hermaphrodite and male flowers apart on the ſame plant—the calyx or outer cup one-leaved, deeply cut into five acute ſegments—corolla or flower, five oval ſpreading petals, containing in the centre eight ſhort ſtaminas or male organs, crowned with procumbent croſs-placed anthera—and in the hermaphrodite flowers, a compreſſed germen in the bottom of the calyx, ſurmounted by a double ſtigma or female part, which becomes two winged capſules, each furniſhed with one roundiſh ſeed.

The Species are,

1. ACER *campeſtre,* Champagne or common ſmaller Maple.

A moderate tree, growing twenty or thirty feet high; the bark rough, leaves (middling ſize) lobated, three-parted, obtuſe emarginated or end-notched.—Native of the ſouthern parts of Europe, England, &c. in woods and hedges.

2. ACER *Pſeudo-Platanus,* (Pſeudo-Platanus, or falſe Plane Tree) greater Maple or Sycamore.

A largiſh tree, growing forty or fifty feet high, or more; the leaves (large, broad) five lobed, unequally ſawed on the edges, and with flowers in large racemus cluſters, ſucceeded by bunches of winged ſeed veſſels.—Native of England, Switzerland and Auſtria.

Variety of this. Striped-leaved Sycamore.

3. ACER *rubrum,* Red or Scarlet flowering Maple of Virginia.

A moderate tree, growing twenty-five to thirty feet high; the leaves (middling) five lobed, a little indented or teethed, glaucous or whitiſh ſea-green underneath, and with ſimple peduncles or flower-ſtalks aggregated; the flowers reddiſh.—Native of Virginia, in North America.

Variety. Sir Charles Wager's flowering Maple; flowers pale red, in large bunches, appearing very ornamental in the ſpring, April, or May.

4. ACER *Platanoides,* (Platanoides, or Plane-Tree like) Norway Maple.

A largiſh tree, growing thirty or forty to fifty feet high; the leaves (largiſh, ſhining green) five lobed, pointed, ſharply indented, ſmooth, and with flowers in

in corymbus bunches.—Native of the northern parts of Europe, mountains of Stiria, and Savoy.

Varieties. Jagged-leaved Norway Maple.
Striped-leaved Norway Maple.

5. ACER *saccharinum*, Sacchariferous or Sugar Maple of America.

A middling tree, thirty or forty feet high; the leaves (largish, deep green) five-parted palmated, sharply indented, sea-green underneath.—Native of Pensylvania and other parts of North America, where, by tapping the growing trees in the spring, is extracted a saccharine juice, of which is made a tolerably good sugar.

6. ACER *tataricum*, Tartarian Heart-leaved Maple.

A smallish or moderate tree, twenty to thirty feet high; the leaves (middling, deep green) hearted, undivided, the lobes obsolete or slight, and flowers growing in long racemus clusters.—Native of Tartaria, Asia, &c.

7. ACER *pensylvanicum*, Pensylvanian American Maple.

A largish tree, thirty or forty feet high; the leaves (large) three lobed, pointed, fine-sawed, and with flowers in racemus clusters, (pendulous.)—Native of Pensylvania, in North America.

ACER *monspessulanum*, Montpelier French Maple.

A moderate size tree, growing eighteen or twenty feet high; the leaves (middling size, shining green) three lobed, very intire, and smooth.—Native of Montpelier, in France, also of Italy.

9. ACER *Negundo*, (Negundo) or Ash-leaved Virginia Maple.

A large tree, growing forty or fifty feet high; the leaves (largish, light green) compound, three and five lobed, and flowers growing in racemus bunches.—Native of Virginia, in North America.

10. ACER *creticum*, Cretan Ivy-leaved Maple.

A smallish tree, growing eighteen or twenty feet high; the leaves (middling size) three lobed, intire, and downy.—Native of the East, in the Levant.

11. ACER *Opalus*, (Opalus) or Italian round-leaved Maple.

A largish tree, thirty feet high or more; the leaves (large) lobated, slightly cut, and flowers and fruit growing in racemus bunches.—Native of Italy.

The foregoing being the principal species and varieties of hardy Maples at present known and cultivated in the British gardens and plantations, are all easily raised from seed sowed in autumn, or early in the spring, in beds of light earth; and most of the sorts also, by layers and cuttings of the young wood in the same seasons.

They are all deciduous trees, or such as defoliate or shed their leaves at the approach of winter; the leaves mostly simple, or of one expansion, from three or four to six or eight inches broad, in the different species, beginning their expansion in May, and continue till October, then decay and fall from the trees; and the trees flower in spring and early part of the summer, mostly in largish bunches on the young branches; the flowers small and greenish, except the Scarlet Maples, which, in particular, displays a good ornamental appearance in its numerous large clusters of flowers; and in most of the species the seeds ripen abundantly, in summer and early part of autumn, for sowing.

The trees are all of tolerably hardy growth, and will thrive in almost any common soil, situation, and exposure; and are eligible both for profitable and ornamental plantations: the Common Maple, Sycamore, and all the larger kinds, are proper to assemble in forest-tree, plantations for timber, in coppices for underwood, and in hedge-rows, fields, &c. and all the sorts are also adapted to arange with other trees in any considerable decorative plantations in extensive pleasure-grounds, shrubberries, parks, and any out-premises, as in their different growths, foliage, and modes of flowering, &c. will effect a conspicuous and agreeable variety; or for smaller plantation compartments, shrubberries, clumps, &c. may have only some of the more curious sorts, such as the Striped-leaved Greater Maple, Scarlet-flowering, Sacchariferous, Tartarian, Montpelier, and Cretan Maples.

To cultivate for forest trees in woods, to grow to large standards for timber, any of the larger growing kinds, as before observed, may be admitted; such particularly as the Common and Greater Maple, the Platanoides or Norway Maple, Pensylvanian and Sugar Maple, and the Negundo or ash-leaved kind. The wood of the Maples, for its whiteness, was formerly in much estimation for working into various articles in the cabinet-making branch, as tables, chairs, &c. and is useful for the turner, and several other trades, but not of any considerable value for strength in the building way, or any very strong purposes.

They may be planted for the above occasions, both in assemblage with other forest trees, and some in separate plantations, wholly of the Maple kind; and in all of which, may either be planted in close rows, only five or six feet distance, that they may draw up one another straight and more expeditiously in height, and

to allow for thinning by degrees in their advanced young growth, leaving a ſufficiency of the fineſt and moſt promiſing plants to run for full ſtandards; or ſome planted at once in wide rows or open groves, ten to fifteen, or twenty feet aſunder, to remain in full growth, to acquire a large ſize for timber.

For ornamental plantations, any of the deſirable ſorts of Maples may be introduced in aſſemblage with other tree kinds and large ſhrubs, and in which are eligible to admit in large boundary diſtricts, extending along next the outward fences of pleaſure-grounds, parks, &c. ſides of capacious lawns, and in conſiderable ſhrubberry compartments; and alſo in forming clumps of trees in any conſiderable open ſpaces of graſs ground, in extenſive lawns, parks, &c. and are very proper to aſſemble in plantations deſigned for ſhelter in particular diſtricts, to break off cutting blaſts and boiſterous winds from interior diviſions; as alſo to arrange in groves and other compartments of planting, for ornament, variety, and obſervation.

And for all of which plantation, ſupplies of young trees may be obtained in full collection at moſt of the principal public nurſery gardens; and the ſeaſon for planting them is any time in open weather, from October or November, to March or the beginning of April.

Or all the ſorts of Maples may be eaſily raiſed for the ſeveral plantations required, by the different methods of propagation following, as by ſeed, layers, cuttings, &c.

By ſeed all the ſpecies of Maples may be plentifully raiſed, eſpecially ſuch as ripen ſeed in ſufficient abundance in this country, or that can be obtained of the foreign ſorts from abroad, which, in the greater part, may be procured of the nurſery-men and principal ſeedſmen, in the proper ſeaſons, in autumn and ſpring, and may be ſowed either in autumn, about September, October, November, or in February and March, but moſt ſucceſsfully in autumn; all ſowed in beds of light earth, in drills or broad-caſt, and earthed in half an inch to an inch deep; they will germinate and come up in the ſpring: keep them clear from weeds all the ſummer, and by autumn following will be advanced ſix or eight to ten or twelve inches high; when in October, November, or the following ſpring, if they ſtand very thick, ſome may be thinned out and tranſplanted in nurſery rows, or all of them may be tranſplanted from the ſeed-bed the firſt or ſecond year, ſetting them in rows in the nurſery, two to three feet aſunder, by eighteen inches in each row, and in which to remain three, four, or five years, or more, till advanced five or ſix, to eight or ten feet high; then will be of proper ſize for final tranſplanting in the ſeveral plantations for which they may be deſigned.

Likewiſe, by cuttings and layers of the young ſhoots and branches, moſt of the ſorts of Maples may be propagated, performing it in autumn or ſpring, and will be rooted by the Michælmas following: obſerving generally for the cuttings, chuſe the ſtraight young ſhoots of the former ſummer, cut in lengths of ten or twelve inches, and dibbled in rows a foot aſunder, and after being well rooted may be tranſplanted at wider diſtances; and for layers, having young trees, for ſtools, cut down near the ground, to furniſh bottom ſhoots, which, when of one or two ſummers growth, ſhould be laid down, previouſly gaſhing or cutting a ſlit on the under ſide; then lay and peg them into the earth, having the tops upright ſeveral inches above ground; and in autumn, when rooted, cut them from the ſtools and plant them in nurſery rows.

In the ſeveral varieties of Maple, they are generally propagated by cuttings or layers to continue them permanent in their reſpective properties, as ſeedling-raiſed plants thereof may vary, though the Striped-leaved Sycamore in particular, will often, or in the general part, come the ſame from ſeed; or the deſirable varieties may alſo be propagated by budding and grafting, inſerting a bud or graft of the variety intended into young ſtocks raiſed from ſeed, &c. of the parent trees of the reſpective ſorts, as the Striped-leaved Greater Maple, budded upon ſtocks of the plain green leaved kind.

In raiſing the young Maples by any of the methods above, and being planted in nurſery rows for training to the proper ſize, their principal culture is to keep them clear from weeds, by hoeing between the rows in ſummer, and digging the ground in winter and ſpring; and according as the trees advance in growth, prune off the ſtrong ſide-ſhoots from the ſtem, preſerving the tops intire to aſpire in height, in an upright growth, continuing each to a ſingle ſtem, and a moderate head of branches above.

When the trees are advanced from three, four, five, or ſix, to eight, or ten feet high, or little more, they may be finally tranſplanted, where they are required, in the intended plantations.

They may be planted or tranſplanted finally any time in autumn, about October or November, or in open weather, till February, March, or beginning or middle of April: and as to future culture, after final tranſplanting into the reſpective plantations, is principally to prune off low and rude lateral ſhoots from the ſtems, caſual low ſtraggling branches of the head, with any ſtray or rambling branches above, and cut out dead wood, ſtill continuing the whole to one principal main ſtem, permitting the main top leader to aſpire in height.

ÆSCULUS,

ÆSCULUS, HORSE-CHESNUT Tree.

Claſs and Order.

Heptandria Monogynia,
Seven Males, One Female;

Or Hermaphrodite Flowers, having ſeven Stamina or Males, and one Piſtillum, or Female, all within the ſame Cover.

THE HORSE-CHESNUTS are hardy, deciduous trees, growing twenty to thirty, or forty feet high, or more; of a beautiful ornamental growth, garniſhed with moſt ample digitated foliage and numerous large and ſpecious ſpike of flowers; are peculiarly adapted to plant for ornament and ſhade, in pleaſure-grounds, parks, &c. not of material value for timber plantations: they grow with large, regular, branchy heads, of a conical form, cloſely garniſhed with conſiderable large leaves, digitated in the palmated order, into ſix or ſeven large, oblong-oval lobes, united at the baſe, and joined to the ſummit of one common petiole or foot-ſtalk, ſpreading out above like the expanded fingers of a hand, and with large pyramidal ſpikes of white, and ſcarlet flowers, of five oval petals, containing the ſtamina and ſtylus in the centre, ſucceeded by large, roundiſh, prickly capſules, furniſhed with ſub-globular nuts: ripe in autumn, but not eatable, except for deer and ſwine, and by which the trees are propagated by ſowing them in autumn or ſpring.

Generic Characters are—The flower Hermaphrodite, or containing both male and female organs, (Stamina and Stylus)—the calyx or cup ſwoln, one-leaved, cut into five parts; corolla or flower, five oval petals, with folded borders, narrow at the baſe, and inſerted into the calyx; Piſtillum, a roundiſh germen in the centre of the corolla, ſupporting a ſingle ſtyle crowned by a pointed ſtigma; Stamina, ſeven the length of the petals, declinated and terminated by aſcending anthera; and the calyx becomes a large, roundiſh, echinated, or prickly capſule, of three internal cells, furniſhed with one or two large ſub-globular nuts.

The Species of ÆSCULUS are,

1. ÆSCULUS *Hippo-Caſtanum,* (Hippo-Caſtanum) or Horſe-Cheſnut, (common.)

A large tree, of conical growth, forty to fifty, or ſixty feet high; the leaves *(large, palmated, dark green)* of ſeven oblong lobes, and with flowers having ſeven ſtamina.—Native of the northern parts of Aſia.

Varieties. Silver-ſtriped-leaved common Horſe-Cheſnut.

Gold-ſtriped-leaved common Horſe-Cheſnut.

2. ÆSCULUS *Pavia,* (Pavia) or Scarlet Horſe-Cheſnut.

A ſmall tree, growing eighteen or twenty feet high; the leaves (*large, palmated, light green*) ſix or ſeven lobed, and flowers having eight ſtamina.—Native of Carolina and the Braſils.

Varieties. Common Scarlet-flowered Pavia.
Yellow-flowered Pavia.

Both theſe ſpecies of *Æſculus,* and their reſpective varieties, are very deſirable trees to plant for ornament; are of ſwift and beautiful regular growth, particularly the common Horſe-Cheſnut, which ſoon runs up to a conſiderable height, making remarkable ſtrong ſhoots, advancing a yard in length, or more, in a few weeks; are all of the deciduous tribe, expanding their luxuriant foliage from May till October, and produce their numerous pyramidal, large, erect flower-ſpikes, in May and June, diſplaying a beautiful appearance; ſucceeded by the large prickly pericarpiums, pregnant with nuts, which, ripening in autumn, drop out of the capſules, and may then be gathered for ſowing or planting the ſame ſeaſon, or in the ſpring following.

Theſe trees have peculiar merit to plant for ornament and ſhade, and to introduce in large pleaſurable plantations.

The common Horſe-Cheſnut particularly, is a moſt deſirable tree to plant in groves, avenues, ſhady walks, and in rows in any out-boundaries; and to plant in aſſemblage in running plantations, towards the boundaries of parks, ſpacious lawns, and other extenſive premiſes; as alſo to diſpoſe in ranges, clumps, groups, and ſingly, on extenſive lawns, parks, and other capaciouſly open ſpaces of graſs ground; and in all of which methods of diſpoſition it may both be planted diſtinct, occaſionally, and in aſſemblage, with other tree kinds, and ſhould generally be planted at ſome conſiderable diſtance from one another and other trees, that each tree may have ſufficient ſcope to branch out freely all round in its natural order, without the extended branches of the ſeparate trees in advanced growth interfering, whereby they will branch moſt regularly, and form beautiful pyramidal heads, which in ſummer, being cloſely adorned with the luxuriant digitated foliage, and beautiful large ſpikes of white flowers at the ends of the branches, will effect a conſpicuouſly noble appearance, and, where in aſſemblage, make a very diſtinguiſhable variety in the plantation; the trees may alſo be admitted in the foreſt-tree plantations, only, however, in moderate ſupply, as the wood or timber is not valuable for any ſtrong occaſions, but may ſerve for various light purpoſes.

This ſort flowers in May and beginning of June, appearing very ornamental; the flowers white, tinged

with a bluſh red; and the nuts produced in ſummer ripen abundantly in autumn, which, when the trees are diſpoſed in parks, afford food for deer, as theſe animals and ſwine will eat them as they fall from the trees; and are not valuable for any other occaſion, except for ſowing, wherewith to raiſe ſupplies of young trees when required.

Though abroad, where the trees grow naturally in great abundance, the nuts are occaſionally cut or ground into a coarſe meal, &c. and given to horſes: hence the original name *Hippo-Caſtanum*, or Horſe-Cheſnut.

The Scarlet Horſe-Cheſnut, in its ſmaller growth, is alſo very deſirable to plant for ornament in large ſhrubberry compartments, and other ornamental plantations as above; its leaves nearly ſimilar to the others, and produces bright red flowers, in long looſe ſpikes —appearing in June or July.

Both theſe ſpecies, and their varieties, may be obtained, for planting, at all the principal nurſeries, or may be expeditiouſly and abundantly raiſed by planting the nuts, &c.

The ſeaſon for planting the trees is any time from the decay of the leaves, in October or November, till March or beginning of April.

They are propagated by ſowing or planting the nuts, either in October or November; or, for fear of rotting, in winter, or diſturbed by vermin, in that ſeaſon, may be preſerved in ſand for planting in February, generally allotting them a bed or beds of light earth, planting them in drills two or three inches deep, the drills a foot aſunder, or may be planted by dibble the above depth and diſtance; or alſo by raking two or three inches of earth off the beds into the alleys, place the nuts on the ſurface, preſs them a little into the earth, then earth them over from the alleys two or three inches deep: they will germinate freely in the ſpring, and generally come up in April or May, when keep them clear from weeds, and they will advance ſix or eight inches to a foot high, or more, by October following.

When they are of one or two ſummers growth, ſhould be planted out from the ſeed beds, taking them up with full roots; prune the downright tap root, and cut off ſide-twigs from the ſtems, preſerving the top leader intire; then plant them in nurſery rows a yard aſunder, by twelve to fifteen or eighteen inches diſtance in the lines, where let them continue in growth three, four, five years, or more, training each with a ſingle ſtem, pruning off ſide-ſhoots below, continuing the top leading-ſhoot always intire, as before intimated; and when the young trees are advanced about four, five, or ſix, to eight or ten feet high, are of a proper growth for final tranſplanting where they may be intended.

The two varieties of the Common Horſe-Cheſnut are propagated by budding them upon ſeedling ſtocks of the common ſort, in July or Auguſt, or alſo by grafting upon the ſame ſort of ſtocks in the ſpring; which methods of propagation is neceſſary in the varieties to continue them diſtinct in their reſpective properties, which cannot be effected with certainty from ſeed.

Likewiſe the Scarlet Horſe Cheſnut is alſo occaſionally propagated, by grafting and budding upon ſtocks of the common ſort.

The final tranſplanting of all the ſorts from the nurſery, &c. may be effected when the trees are advanced from four or five to ten or twelve feet high; though, if performed when in young growth, of five, ſix, or eight feet, they will generally ſtrike root more effectually, and grow more ſucceſsfully, than when removed of larger ſizes.

After the final tranſplanting in the reſpective diſtricts, the principal culture is, while in young growth, to defend or fence them from cattle, and give ſupport of ſtakes where it may appear neceſſary; and in their advancing ſtate, and large growth, may occaſionally prune lower and ſtraggling branches, to have a clean ſtem below and regular head above.

Amorpha, Bastard Indigo.

Claſs and Order.

Diadelphia Decandria,

Two Brotherhoods, Ten Males;

Or Papilionaceous Hermaphrodite Flowers, having ten Stamina or Males, in two Sets or Brotherhoods.

THE *Amorpha* is a very ornamental flowering ſhrub, of the deciduous kind, decorated with long pinnated or winged leaves, of many pairs of ſmall leaflets affixed to one common petiole; and long ſpikes of ſmall papilionaceous or butterfly-ſhaped purple flowers, furniſhed with ten ſtamina, and one ſtyle in the centre, ſucceeded by leguminous ſhort pods, furniſhed with roundiſh, kidney-ſhaped ſeeds, not always ripening in perfection in this country, but is raiſed plentifully by layers.

Generic Characters—Hermaphrodite flowers, or containing both male and female parts of generation *(the Stamina and Stylus)*—Calyx or cup monophyllous, or one-leaved, tubulous cylindric, and obtuſely five-parted at the brim.—Corolla, or flower papilionaceous, or butterfly-like, of four unequal petals, conſiſting of a ſtandard, two wings, and a carina or keel below; the ſtandard, or upper petal, ſmall concave, cover the other three.—Stamina ten, joined at the baſe, and terminated each by ſmall anthera.—Piſtillum, a roundiſh oblong germen in the centre, ſupporting an awl-ſhaped ſtyle,

ſtyle, the length of the ſtamina, and becomes an oblong-roundiſh pod, having two ſmall, roundiſh ſeeds.

One Species.

AMORPHA *fruticoſa*, ſhrubby Amorpha, or Baſtard Indigo of America.

A largiſh ſhrub, ten or twelve feet high, making large ſhoots; the leaves (large, very long) pinnated of many pair of ſmall folioles or leaflets, and ſmall purple flowers in ſummer.—Grows naturally in Carolina, where, of its young ſhoots, is made a coarſe ſort of Indigo.

This ſpecies is proper to cultivate as an ornamental flowering ſhrub, very eligible to aſſemble in the principal ſhrubberry compartments, pleaſure-grounds, &c. is hardy to grow in any common dry ſoil, and will ſucceed in moſt ſituations; and may be obtained for planting, at moſt of the public nurſeries, or may eaſily be raiſed from ſeeds and layers: they may be planted in ſhrubberries any time in open, mild weather, from October or November, till March or April.

It is propagated by ſeeds and layers: the ſeed may be had at the nurſeries and of ſeedſmen; and which generally ſow in the ſpring in a bed of light earth, and the plants tranſplanted in nurſery rows, till of a proper ſize for the ſhrubberry; or, in want of ſeeds, may eaſily be raiſed by layers of the young ſhoots and branches in the ſpring, which will be rooted in one ſummer, then planted off in a nurſery, to have one, two or three years growth, and may then be tranſplanted into the ſhrubberry compartments.

AMYGDALUS, ALMOND TREE, comprizing alſo the Peach and Nectarine.

Claſs and Order.

Icoſandria Monogynia,

Twenty or more Males, One Female;

Or Plants with Hermaphrodite Flowers, having twenty or more Stamina or Males, and one Piſtillum or Female Organ.

THIS Genus, Amygdalus, conſiſts principally of choice fruit trees, for training chiefly in the wall-tree order, and ſome for ſtandards, with ſome proper to introduce in ſhrubberries as beautiful flowering trees and ſhrubs; comprizing, in the different ſpecies, the Almond, Peach, and Nectarine, all of the moderate tree kind, ten or twelve to fifteen or twenty feet high, and ſome of low ſhrubby growth; all of the deciduous tribe, furniſhed with leaves in ſummer, moſtly ſpear-ſhaped, long and narrow, three to four or five inches length, and with pale red flowers growing by pairs, and ſingly along the ſides of the young ſhoots, compoſed of five oval petals, twenty or more ſtamina, and roundiſh germen in the centre, which becomes a large, oval, and roundiſh, downy fruit, furniſhed with an internal nut or ſtone, including a ſingle kernel, which, in the Almond in particular, is the only eatable part, but in the Peach and Nectarine the whole outer fleſhy ſubſtance, ſurrounding the ſtone, is the eatable part of the fruit: ripening from the end of July or beginning of Auguſt, till October, in the different varieties.

Generic characters.—The flowers all hermaphrodite, having male and female within the ſame cover—calix, or cup, one-leaved, obtuſely five parted at the brim.—Corolla, or flower, of five obtuſe concave petals inſerted into the cup.—Stamina, twenty or more, ſlender and ſhorter than the petals of the Corolla, crowned with ſmall anthera.—Piſtillum, a roundiſh, downy germen, in the centre of the flower, elevating a ſingle ſtyle, the length of the Stamina terminated by a headed ſtigma, ſucceeded in the germen by a large oval and roundiſh, downy, leathery, and fleſhy fruit, marked with a longitudinal furrow, incloſing a hard nut or ſtone furrowed and netted, and in which is included a ſingle ſeed or kernel.

The Species of AMYGDALUS are,

1. AMYGDALUS *communis*, Common Almond Tree.

A moderate tree, growing eighteen or twenty feet high; the leaves *(long, narrow, ſhining)* ſpear-ſhaped, ſawed on the edges, and ſmall glands at the baſe, and twin flowers, or in pairs, ſeſſile; fruit roundiſh-oval, compreſſed, downy and tough outer cover, incloſing the ſtone and kernel: ripe in the autumn.—Native of Mauritania, in hedges.

Varieties of the Almond.—Common red-flowered Almond Tree.
White-flowered Almond Tree.
Silvery-leaved Almond Tree.
Bitter-kernelled common Almond.
Sweet-kernelled common Almond.
Tender-ſhelled, ſweet, or Jordan Almond.

2. AMYGDALUS *nana*, Dwarf Peach-leaved Almond Tree.

A ſmall ſhrub, four or five feet high; the leaves *(ſmall, narrow)* ſpear-ſhaped, leſſened at the baſe; producing numerous flowers early in the ſpring, very ornamental.—Native of the northern parts of Aſia.

Varieties.—Common ſingle-flowered dwarf Almond.
Double-flowered dwarf Almond.

3. AMYGDALUS *Perſica*, (Perſica) or Peach Tree.

A moderate tree, growing ten or fifteen feet high; the leaves (*long, narrow*) ſpear-ſhaped, acute at both ends, ſawed, and flowers ſolitary or ſingly, and ſeſſile or cloſe-ſitting; ſucceeded by large, roundiſh, downy fruit,

fruit: ripening from July or Auguſt to October.—Native of Aſia.

Varieties of Peach Tree.—Common ſingle-flowered Peach Tree.
Double-flowered Peach Tree.
Dwarf Peach Tree.

Of the Fruit.

Early white nutmeg Peach; ſmall white fruit: ripe in July.
Early red nutmeg Peach; ſmall, round, red fruit, larger than the former: ripe the end of July or beginning of Auguſt.
Early Anne Peach; a middling-roundiſh fruit: ripe the beginning of Auguſt.
Early purple Peach; large, round, red fruit: ripe the middle of Auguſt.
Early ſmall Mignon; middle ſize, roundiſh fruit, red next the ſun: ripe the beginning of Auguſt.
Large French Mignon; large, oblongiſh-round fruit, ſwelling a little on one ſide, beautifully reddened: ripe the middle and end of Auguſt.
Early Newington Peach; middle ſize, roundiſh fruit, red next the ſun: ripe the end of Auguſt.
Late Newington Peach; large, beautiful, roundiſh fruit: ripe in September.
White Magdalen Peach; middling-largiſh, white fruit: ripe the end of Auguſt.
Red Magdalen Peach; large, round, red fruit: ripe the latter end of Auguſt.
Bellegarde, or Gallande Peach; very large, round fruit, deep purple-red next the ſun: ripe early in September.
Chancellor Peach; large, roundiſh-oblong, moſt excellent fruit: ripe the end of Auguſt and in September.
Admirable Peach; large, round fruit, red on the ſide towards the ſun: ripe the beginning and middle of September.
Rombouillet, or Rumbullion Peach; middling-large, roundiſh fruit, deeply furrowed, and red next the ſun: ripe towards the middle of September.
Montauban Peach; largiſh-middling ſize, roundiſh fruit, deep purpliſh-red towards the ſun: ripe the middle and end of Auguſt.
Nobleſſe Peach; large fine fruit, bright-red towards the ſun: ripe the end of Auguſt and in September.
Liſle, or Little Violet Peach; middle ſize, roundiſh fruit, violet-coloured towards the ſun: ripe the beginning and middle of September.

Varieties. Bourdine Peach; large, round, fine fruit, red towards the ſun: ripe the beginning of September.
Belle Chevreuſe Peach; middling-large, roundiſh-oblong fruit, beautiful red, and moſt excellent: ripe the end of Auguſt and in September.
Roſſana Peach; a large, oblongiſh fruit, reddiſh-purple towards the ſun, yellow-fleſhed, and very fine: ripe the beginning of September.
Yellow Alberge Peach; middling ſize, oblongiſh fruit, yellow fleſhed: ripe towards the middle of Auguſt.
Malta, or Italian Peach; middle ſize, roundiſh fruit, finely reddened towards the ſun: ripe the end of Auguſt and beginning of September.
(La Teton de Venus) Breaſt of Venus Peach; middling large, roundiſh oblong fruit, having a ſwelling or riſing reſembling a teat or breaſt, pale-red next the ſun: ripe the middle and latter end of September.
Late Purple Peach; large, round, purple fruit, very fine: ripe towards the latter end of September.
La Belle de Vitry Peach; middle ſize, round fruit, pale-red towards the ſun: ripe in September.
Portugal Peach; large, roundiſh, fine fruit, red towards the ſun, ſomewhat ſpotted: ripe about the middle of September.
Periſque Peach; large, oblongiſh, handſome fruit, reddened beautifully towards the ſun: ripe towards the end of September.
Nivette Peach; large, oblong, roundiſh, fruit, bright red towards the ſun, the other ſide yellowiſh, very fine: ripe about the middle of September.
Royal Peach; large, round fruit, deep red towards the ſun, the other ſide pale-reddiſh, a moſt excellent Peach: ripe towards the middle and end of September.
Royal George Peach; large, roundiſh, fruit, beautifully reddened towards the ſun: ripe the end of Auguſt and in September.
Swalch or Dutch Peach; large, roundiſh fruit: ripe in September.
Bloody Peach; middle ſize fruit, deep red towards the ſun, and red fleſhed: ripe in October.
Sion Peach; large, roundiſh, fruit: ripe in September.

Varieties.

Varieties. Monſtrous Pavy of Pomponne; very large, round fruit, beautifully reddened towards the ſun, the other ſide bluſh red: ripe the middle or end of October.

Catharine Peach; large, round, moſt beautiful fruit, deep-red next the ſun; a moſt excellent late Peach: ripe in October.

Golden Peach; largiſh, round, yellowiſh, and red fruit, very fine: ripe in September.

Incomparable Peach; a large, beautiful, roundiſh, fine fruit: ripe the end of Auguſt and September.

Hoxton Mignon Peach; moderately large, roundiſh fruit: ripe the end of Auguſt and in September.

Double Montagne Peach; large, fine fruit: ripe in September.

The above being the principal varieties of Peaches, the moſt generally known and cultivated in the Britiſh gardens and nurſeries, there are ſome other of leſs note, retained in ſome collections, diſtinguiſhed by the following names.

Vanguard Peach; ripe in September.
Cambray Peach.
Narbonne Peach.
Eaton Peach.
Yellow Admirable Peach.
Carliſle Peach.

4. Amygdalus *Nuci-Perſica*, (Nuci-Perſica) or Nectarine Tree.

A moderate tree, growing ten or twelve feet high; the leaves (*long, narrow*) ſpear-ſhaped, acute at both ends, generally ſawed, wholly ſimilar to thoſe of the peach, and with alſo ſolitary and ſeſſile flowers; ſucceeded by large, roundiſh fruit, ſmooth rinded and firm fleſhed: ripening in Auguſt and September.—Native of Aſia.

This tree, and its fruit, is by the botaniſts ſuppoſed to be accidental varieties of the peach, as the tree diſcovers no ſpecific diſtinction from that of the peach-tree, either in its growth, leaves, or flowers, though a very obvious difference in the fruit, which in the peach is always more or leſs downy-rinded, with a ſoft pulp, and the Nectarine a ſmooth, firm rind, and firm fleſh: however, ſome have aſſerted that they have ſeen Nectarines produced naturally and accidentally on a peach-tree, and on the ſame twig along with the peaches; but as we never have had the opportunity of obſerving this ſingularity, cannot either pretend to confute or inculcate the belief of it; though, as there is ſuch an apparent difference in the fruit, have arranged them ſeparate accordingly, conſiſting of the following varieties.

Varieties of the Nectarine. Fairchild's Early Nectarine; ſmalliſh, round fruit, beautifully red: ripe the beginning of Auguſt.

Elruge Nectarine; middle ſize, fine fruit, deep-red towards the ſun, the other ſide yellowiſh: ripe the beginning or middle of Auguſt.

Newington Nectarine; large, beautiful fruit, beautifully red next the ſun, the other ſide yellow: ripe the end of Auguſt and in September.

Red Roman Nectarine; large, fine, round fruit, moſtly of a deep-red, a little yellowiſh on the ſide next the wall: ripe the end of Auguſt and early part of September.

Scarlet Nectarine; a moderately large good fruit, moſtly of a fine ſcarlet colour towards the ſun, gradually paler on the other ſide: ripe the beginning of September.

Murry-coloured Nectarine; a middle ſize fruit, of a dingy-reddiſh colour towards the ſun, yellowiſh-green on the other ſide: ripe the beginning and middle of September.

Temple Nectarine; a moderate ſize fine-eating fruit, of a delicate red towards the ſun, yellowiſh-green next the wall: ripe towards the end of September.

Brugnon Italian Nectarine; a fine, large, beautiful fruit, of a deep-red towards the ſun, inclining to a yellow colour on the other ſide: ripe the end of Auguſt, or beginning or middle of September.

Violet Nectarine; a handſome, fine fruit, of a delicate violet colour: ripe in September.

Late Peterborough Nectarine; a moderate ſize fruit, of a pale-greeniſh colour on the outward ſide, the other whitiſh green: ripe in October.

White Brompton Nectarine; a middle ſize fine fruit, wholly white: ripe the end of Auguſt and in September.

Golden Nectarine; a largiſh, beautiful fruit, of a delicate reddiſh colour on the outward ſide, the other of a bright-yellow, and yellow pulp: ripe towards the middle of September.

Having thus far given the deſcription of the ſpecies and varieties of the Almond, Peach, and Nectarine Trees, with that of their reſpective varieties of fruit, all which, both ſpecies and varieties, agreeing in their

Generic

Generic characters, conformable to the ſexual botanic ſyſtem, the modern Botaniſts conſider them ſo nearly allied, that they range the whole in the ſame Genus or family, under the Generic name *Amygdalus*: we have accordingly followed the ſame order in their arrangement, diſtinguiſhing the varieties belonging to each ſpecies under its reſpective head; and as the trees are nearly ſimilar in growth and mode of bearing, there is but little difference in their general culture; are generally all propagated by budding the deſirable varieties of the reſpective ſorts, principally upon plum-tree ſtocks, to render the trees more hardy and durable, and ſometimes alſo, particular ſorts are inoculated upon Peach, Almond, and Apricot ſtocks; and the Common Almond is alſo raiſed from the ſtones of the fruit.

Though it may be proper to obſerve that all the different varieties of Peaches, Nectarines, &c. were originally obtained from ſeed or the nuts or ſtones of the fruit ſowed in the ſpring, and the young trees tranſplanted in nurſery rows, till they advance to a proper age for bearing; and then thoſe as produce fruit of good properties are propagated by inoculating buds thereof, in July or Auguſt, into proper ſtocks, generally one bud into the ſide of each; and in ſpring following, the head of the ſtock being cut off near the inſertion of the bud, this puſhes forth one ſtrong ſhoot, two or three feet long, the firſt ſummer, and forms the new tree, acquiring a bearing ſtate, in two, three, or four years, and produces fruit always conſtantly the ſame as that of the parent trees, from which the buds were obtained; which ſhews the great utility of propagation by budding; for the trees raiſed from ſeed never come of the ſame varieties, or produce fruit like the original, but vary to other different ſorts, and probably, in many ſo raiſed, ſome may produce fruit of deſirable properties, as above intimated; and that, to encreaſe or multiply theſe new varieties, it can be effected by no other method than by budding aforeſaid, and thereby always continued permanent in their reſpective kinds.

The trees of the Common Almond, Peaches, and Nectarines, are moſtly of ſimilar growth and mode of bearing, all producing their fruit principally upon the young ſhoots of a year old, and ſometimes upon ſmall ſpurs on the two or three years wood: they all make long, ſtraight ſhoots annually, for ſucceſſion bearing wood each following year, as the ſame ſhoots do not generally bear but once, except upon caſual ſmall ſpurs, as above remarked, but always produce the principal ſupplies of fruit upon the year-old ſhoots; the bloſſoms coming out early in the ſpring, riſe immediately from the eyes or buds of the ſhoots along the ſides of them, and the ſame ſhoots both produce fruit, and a ſufficient ſupply of young wood, for bearing, each ſucceeding year, particularly the Peach and Nectarine, which, being commonly trained in wall trees, require an annual pruning every ſummer and winter, to cut out the ſuperfluous or over-abundant, ill-placed, and uſeleſs ſhoots, to preſerve the regularity, &c. of the trees; and in performing which, great care is required to retain a general ſupply of the regular-placed, proper ſhoots, of each year, to train in for bearing the enſuing ſummer; and at the ſame time, in the winter-pruning, particularly, part of the former year's bearers, and naked old branches, are cut out to make room for the ſucceſſional ſupply of young bearers, which in ſummer are generally laid in at their whole length, but commonly ſhortened in the winter-pruning, to encourage or promote their producing more effectually an eligible ſucceſſion of young ſhoots, for future bearers, the year following; and trained in cloſe to the wall all ſummer, in proper abundance, to chuſe from in the winter-pruning aforeſaid; when cutting out the ſuper-abundant and ill-placed, leaving a general ſupply of the beſt moderately ſtrong ſhoots, in all parts of the tree, to train in about four, five, or ſix inches aſunder, and then nailed to the wall horizontally at that diſtance, to remain for bearing the following ſummer's fruit: and thus theſe trees, of Peaches and Nectarines, are managed every year in the article of pruning, as hereafter more fully explained.

Theſe trees in general, both Almonds, Peaches, and Nectarines, in all their varieties, bloſſom or flower early in the ſpring, from about the middle or latter end of February, and beginning of March, to April: the Almond, in its different varieties, is the earlieſt in flower, which, in all the above trees, ariſe principally on the young ſhoots, as before obſerved, generally twin on the Almond, though numerous on each ſhoot; and on the Peach and Nectarine are produced by pairs and ſingly; each flower furniſhed with the generative organs of ſtamina, ſtyle, and germen, in the centre; the latter roundiſh, becomes the fruit, oval and roundiſh in the different ſpecies and varieties, and which in the Almond and Peach has always a downy, ſoft rind, and in the Nectarine ſmooth, ſhining, and firm: in the Almond, the fleſh of the fruit is dry, tough, and not eatable, only in the kernel contained in the ſtone; but in the Peach and Nectarine, the fleſh is ſucculent, rich, and the only eatable part; ſoft and melting in the Peach, and in the Nectarine, is of a more firm texture, juicy, and rich-flavoured.

In the different ſpecies of the Almond, Peach, and Nectarine, the former has not equal merit as a fruit-tree as the two latter, the fruit being conſiderably leſs valuable, and only ſome varieties thereof ripen in good perfection in our gardens; particularly the Common Almond, which ſeldom ripens its kernel before autumn, generally about September, when the leathery cover opens naturally and diſcharges the ſtone, containing the kernel or eatable part, which in the two varieties of the Common Almond aforeſaid, comprifing the bitter and ſweet kernelled kinds, often ri-

pen

pen abundantly upon common ſtandard trees; though the trees are more generally cultivated for their ornamental flowering than as fruit trees; and the Jordan Almond, and the other varieties, ſeldom produce fruit in this country in good perfection, ſo are admitted principally for variety in pleaſurable plantations; but in the Peach and Nectarine, all the ſorts are valuable in their fruit, which, on wall-trees, againſt ſouthern walls, ripen in full maturity; and ſome of the varieties of the trees in ſtandards, are alſo introduced in ſhrubberies, &c. for ornament.

The fruit, in the different varieties of Peaches and Nectarines, attaining perfection of full growth, from July or beginning of Auguſt, to the latter end of October, they ripen in regular ſucceſſion for three months, for immediate eating; or, at leaſt, will not keep any conſiderable time after being gathered, like apples and pears, but are continued, occaſionally, in a preſerved preparation; and in their young, green ſtate, the Nectarines, in particular, when produced thick on the trees, are thinned off for making tarts, &c. generally in May or early in June, before the nut or ſtone hardens; but the Peaches, on account of their downy rind, are not ſo well adapted for that occaſion.

In the ripe ſtate of theſe fruit, Peaches and Nectarines, ſome are remarkable for quitting or parting freely from the ſtone, and others for adhering cloſe thereto; but in the Nectarines particularly, the greater part adhere cloſe, and ſome having a melting pulp, ſeparate from the ſtone freely in eating; and in which particularities, thoſe which quit the ſtone, have generally a more ſoft and melting, fleſhy pulp than thoſe as cloſely adhere.

The Amygdalus *communis*, or Common Almond, may be cultivated both as a fruit-tree, in its two varieties of the bitter and ſweet-kernelled kinds, and for the beauty of its ornamental bloom, early in the ſpring, in March, or April; and for both of which occaſions are generally trained in half and full ſtandards: raiſed both from the ſtones of the fruit, and by budding upon Plum, Almond, or Peach ſtocks, eſpecially for fruit-trees; and trained with clean, ſtraight ſtems, four or five, to ſix or ſeven feet high, branching out at top into full heads; and are then planted in gardens and orchards to produce fruit; alſo in pleaſure-grounds, ſhrubberies, fore-courts, &c. as ornamental flowering-trees, making a fine appearance in the ſpring, in their numerous reddiſh flowers: they are likewiſe trained, occaſionally in wall-trees and eſpaliers, to produce fruit in greater perfection; and in all which methods, they, in favourable ſprings, produce plenty of Almonds, ripening the kernels in autumn, very good for preſent eating: but as to the Jordan Almond, tenderer than the Common, requires a warm ſituation, or planted againſt a ſouth wall, if deſigned as a fruit-tree, though ſeldom produces fruit plentifully, or in good perfection, in this country; and therefore this, and the ſilver-leaved kind, are commonly planted for ornament and variety, in ſhrubberies, &c.

And the Dwarf Almond (Amygdalus *nana*) both in its ſingle and double-flowered varieties, being very ornamental flowering-plants, of low, ſhrubby growth, producing numerous pale-red flowers, ſurrounding the ſhoots their whole length, early in the ſpring, (March and April) make a conſpicuouſly pretty appearance: are commonly admitted in ſhrubbery collections as moſt beautiful flowering-ſhrubs; planted towards the front of the clumps and other compartments, and propagates abundantly by ſuckers and layers.

But the Peach and Nectarine being valuable, principally as choice fruit-trees, for the many fine varieties of their reſpective fruits, and being of the more tender kinds of fruit-trees, at leaſt in their bloſſom and young fruit, require to be trained in the wall-tree order, againſt warm ſouth walls, or others of a ſoutherly aſpect, as ſouth-eaſt and ſouth-weſt expoſures; but the principal ſupply allotted full ſouth walls, for, without the aſſiſtance of warm walls, both to defend the tender, early bloſſom and young fruit, in March and April, &c. as well as by the expanſion of the branches againſt the walls to have all poſſible benefit of the full ſun, in the advanced growth of the fruit, it will not acquire good maturity, nor ripen effectually, in the peculiar perfection and rich flavour; and therefore the trees of all the different varieties of theſe two deſirable ſpecies ſhould always be trained principally in dwarf and half-ſtandard wall-trees, planted againſt the beſt ſoutherly walls aforeſaid, at twelve to fifteen or eighteen feet diſtance, and the branches arranged horizontally cloſe to the wall, in the moſt regular order, that they may have the beſt protection thereof, when bloſſoming and ſetting their young, tender fruit, and to enjoy all poſſible benefit of the ſun's influence to forward its general growth, and ripening freely in proper ſeaſon; as in this country theſe fruit do not ripen effectually well on detached-ſtandard trees, nor in good perfection in eſpaliers; though, for variety and experiment, ſome dwarf-trees may be planted in both thoſe methods, in a warm, ſheltered ſituation.

For ornamental planting in ſhrubberies, and other decorative compartments in pleaſure-grounds, may introduce all the ſorts of Almonds and any varieties of Peaches, principally as beautiful, ſpring flowering-trees, and to encreaſe the variety in their general growth; particularly the Common Almond, in its two principal hardy varieties of the bitter and ſweet-kernelled kinds; or alſo the Jordan Almond, white-flowered and ſilver-leaved ſorts, admitted in warm ſituations; likewiſe the two varieties of Amygdalus *nana* or Dwarf Almond, both very ornamental flowering-ſhrubs; together with the double-flowered and Dwarf Peach; all of which are very deſirable ornaments for the ſhrubbery, in their great profuſion of early bloſſom in the ſpring; and for

which occaſions are trained the tree kinds in full and half ſtandards, to branch out in full heads in their natural order; and the dwarf ſorts, naturally of low, ſhrubby growth, ſhould be trained accordingly, and the whole diſpoſed conſpicuouſly in the principal ſhrubbery compartments in aſſemblage, with other ornamental trees and ſhrubs, in a diverſified manner.

Having thus far, in the foregoing general obſervations, given intimations of the nature and general and particular utility of the ſpecies and varieties of the Almond, Peach and Nectarine, we now proceed to explain the general culture of each under ſeparate heads.

1. The Culture of the Almonds.

The Almond trees, as before remarked, are cultivated both occaſionally for fruit-bearing, in the principal varieties of Amygdalus *cummunis* or Common Almond; and theſe, and the other varieties thereof, alſo principally for ornamental planting; and for which latter purpoſe the two varieties of the Amygdalus *nana*, have alſo particular merit as very pretty flowering-ſhrubs, to aſſemble in the front part of principal ſhrubberry compartments; likewiſe the Common Almond is generally in greater eſtimation to cultivate for the beauty of its flowers than the value of its fruit; as are alſo the white-flowered, Jordan and ſilvery-leaved; though the three latter are ſeldom very fruitful in the Britiſh gardens.

All the varieties of the Common Almond are propagated or raiſed by budding them either on Plum ſtocks, obtained from ſuckers, ſeed, or layers, or on ſeedling ſtocks of Almond or Peaches; or the common varieties of Bitter and Sweet Almond may be raiſed from the ſtones of the fruit; but when deſirous to continue the improved or particular ſorts permanent in their reſpective kinds or for fruit-trees, it is effected moſt eligibly by budding them as above, as the ſeedling-raiſed trees vary to different or inferior ſorts, and are longer before they bear than thoſe propagated by budding or inoculation; and therefore, to continue any principal ſorts for their fruit, always propagate them by inoculating buds thereof into Plum, Almond, or Peach ſtocks, as above mentioned, and the reſpective kinds will be continued, and ſooner become bearers than thoſe raiſed from ſeed.

However, to raiſe them from the ſtones, they may be ſowed either in October or November, or preſerved in ſand till February or March, for ſowing in that ſeaſon; and in either of which they may be ſowed in drills, or bedded in two inches deep; and when the ſeedling plants are of one or two years old, ſhould be tranſplanted, in autumn or ſpring, into nurſery rows, two or three feet diſtance, and trained each with a ſingle ſtem, three or four feet for half, and five to ſix or ſeven feet for full ſtandards, clearing their ſtems from lateral ſhoots; and then may either inoculate them at the above-mentioned heights, with buds of the deſirable varieties; or others, that may be intended to continue in their own natural heads, ſhould be topped in the ſpring with the pruning knife, at the heights it is required they ſhall branch out; thereby promote a more regular ſpread of branches to form a full head; the ſame ſhould alſo be obſerved in the budded trees, by pruning down the firſt ſhoots to a few eyes, to obtain lateral branches, to form a regular head as aforeſaid: and when they have effected this, with heads of one, two, three, or ſeveral years old, they are proper to tranſplant where they are deſigned to remain for the purpoſes for which they may be intended; continuing to keep them to clean ſingle ſtems, and permit the heads to branch out freely in a full expanſion, keeping them to ſomewhat regular order; eſpecially in their advancing young growth, by giving occaſional pruning to retrench or reduce any ſingularly rampant and rambling diſorderly ſhoots, or to thin others, where conſiderably crowded; but, except in theſe occaſions, permit the whole to advance in their natural manner.

But in the propagation of the Almond trees, budding is the moſt adviſeable, general method, both whereby to continue the deſirable or improved varieties with certainty, and to have them ſooner acquire a plentiful flowering and bearing ſtate; and which is performed by inoculating buds of the deſired or intended ſorts, into Plum, Almond, or Peach ſtocks raiſed from the ſtones of the fruit, as directed, for raiſing the ſeedling Almond trees; and the young ſtocks being tranſplanted in nurſery rows, train them to clean ſtems the proper height for half and full ſtandards; and then perform the budding in July or beginning of Auguſt, inſerting a bud into the ſide of each ſtock, at three, four, to five or ſix feet high, for half and full ſtandards: or may occaſionally be budded low, within a foot or ſix inches of the bottom, to form dwarf trees, or alſo, occaſionally for ſtandards, and the firſt bud-ſhoot run up to form a ſtem the height above-mentioned; and, in either method, the head of the ſtock to remain intire till March following, and the inſerted bud remaining dormant till that time, when ſhould top, head, or cut down the ſtock, a little above the inſertion of the bud; which after this, will puſh forth with vigour, producing each one ſtrong ſhoot, two or three feet long, or more, the ſame year; and this ſhould generally, either the ſame ſummer, in June, or in the following ſpring, in March, be pruned down to four or five eyes, to obtain a ſupply of lateral ſhoots below, near the ſtem, to form the firſt proper ſet of branches for the regular formation of the head; or in low budded trees, which are deſigned for ſtandards, the main ſhoot muſt run a proper height for a ſtem, then ſhould be headed in the part where it is intended to have the firſt ſet of branches commence; and thus, in each method, having obtained three, four, or five, lateral ſhoots below, for the beginning branches, theſe form a proper baſis, as

it

it were, to furniſh others eligibly ſituated to form the head in a regular expanſion.

Or where it may be intended to have any of the above Almonds trained for wall and eſpalier fruit trees, for variety, or to obtain earlier and finer fruit, they ſhould be budded lower in the ſtocks, within ſix or eight inches of the bottom, and the firſt main ſhoot from the inſerted bud be headed down in March, to a few eyes, as adviſed above, in order to gain a ſupply of lateral ſhoots from thoſe lower eyes, to form a firſt regular ſet of branches, proceeding from near the ground; and that theſe may alſo furniſh an encreaſed ſupply of others, ſo as to cover the wall or eſpalier in a proper expanſion, regularly from the bottom upward; and for which allot them an expoſure to the full ſun, planted in autumn or ſpring, twelve to fifteen or eighteen feet diſtance; training the general branches from the beginning in a ſpreading, fanned order, horizontally to the wall, &c. four to five or ſix inches aſunder; and continue to encreaſe the number of branches every year, giving an annual pruning to cut out the ſuper-abundant and ill-placed ſhoots, and to retain a proper ſupply of each year's beſt well-placed ſhoots for bearers; cutting out part of the old in winter, to make room for training in the bearing ſhoots, generally extended at their full length all ſummer; and in winter-pruning, thoſe ſelected for bearers, &c. may be ſhortened about one third, or a little more, or leſs, according to their ſtrength; not however to cut below the bloſſom buds, and generally leave the ſtrong ſhoots longeſt, the others in proportion; obſerving in the whole, nearly the ſame as directed for the Peaches and Nectarines.

The Dwarf Almond, in both the varieties thereof, ſingle and double-flowered, propagate plentifully by ſuckers, ariſing annually from the roots, which may be readily taken up with root fibres to each, in autumn or ſpring, or any time in open weather, from October or November to March, and planted either in a nurſery, for a year or two, or till of a proper ſize for the ſhrubberry; or ſome of ſtronger growth may be planted at once where they are to remain.

Or theſe two varieties may alſo be propagated by budding upon Plum, Almond, or Peach ſtocks, to have them of larger growth, inſerting the buds at two or three to four or five feet, to form clean ſtems, elevating the head that height, to plant for particular occaſions.

2d. The Practical Culture of the Peach and Nectarine.

Having, in the foregoing, given the deſcription of the different ſpecies and varieties of the Peach and Nectarine, and relative obſervations thereon, we now come to give the particulars of the practical culture of both the ſorts, which being very deſirable fruit, the trees of each claim admittance as principal wall trees; and for which they are propagated and raiſed by inoculating or budding the approved kinds and the varieties in general, principally upon Plum ſtocks; and when the young trees are of from one, two, or three, to four or five years growth, theſe are proper for planting againſt walls, where they are to remain, performing the planting in autumn or ſpring, or almoſt any time in mild weather, from October or November, to the middle or end of March: they will begin bearing at two or three years old, and in their advancing and general growth, require an annual pruning, and nailing every ſummer and winter; all of which different operations of culture, to be performed according to the following general directions.

As the Peach and Nectarine are ſimilar in their general growth, and manner of bearing, one method of propagation and culture being applicable to both, ſhall accordingly include them in the following general directions, conſiſting of the method of propagations, raiſing, training, planting, pruning, &c. and in each of which the ſame directions ſerve for all the different varieties of both theſe ſpecies of trees.

All the varieties of Peaches and Nectarines being of the choiceſt kinds of ſtone fruit, of rich, delicious flavour, deſerve principal culture in every garden, more or leſs, where there is the accommodation of proper ſouth walls or good cloſe palings, of proper height.

For the trees of all the varieties of Peaches and Nectarines ſhould always be trained as wall-trees, principally againſt ſouth walls, on account that as they flower early in the ſpring, when ſharp cold weather often prevail, and that the bloſſom and young fruit being of tender nature, require the aſſiſtance of the warmeſt walls, to protect and forward them in proper growth; and having the branches arranged cloſe to the wall, in a thin, ſpreading order, to admit the full power of the ſun to ripen the fruit effectually, in good maturity, in their peculiar rich flavour, as without the trees being trained in that order, to walls of a ſouth or ſoutherly aſpect, theſe fruit cannot be obtained in tolerable crops, nor in any deſirable degree of perfection, in the proper ſeaſons, and therefore ſhould allot ſouth walls for the trees of the principal varieties; and others may be planted againſt ſouth-eaſt and ſouth-weſt walls, in which they will alſo, in fine ſeaſons, ripen fruit tolerably well, and in ſucceſſion to thoſe in full ſouth expoſures; and in which different aſpects they are planted twelve or fifteen to eighteen feet aſunder.

They are ſeldom trained in detached ſtandard-trees, as on which, not having the advantage of walls, the fruit does not ripen in good perfection; though, for variety, a few might be trained in dwarf and half ſtandards, and planted in a warm ſituation in the full ſun.

But for wall trees, they are trained both in common dwarf trees, with low or ſhort ſtems, only ſix or eight inches high, to branch out low, to cover the wall regularly, from the bottom to the top, and are the common wall-trees for the general ſupply; and in half ſtandard wall-trees, with ſtems three or four, to five or ſix feet high, branching out at theſe heights, and are planted occaſionally, between the common dwarf wall-trees abovementioned, to cover the upper parts of high walls, while the others are advancing below.

Theſe trees will grow freely in borders of any good, rich garden earth, of two ſpades, or, at leaſt, one full ſpade, deep; or where the ground is poor, it ſhould be improved with plenty of rotten dung; or would be of much benefit if augmented alſo with a quantity of freſh, loamy ſoil; or where the borders are naturally of that kind of earth, it will be of particular advantage, enriching it alſo occaſionally with a ſupply of good, rotten dung, as above obſerved.

Young trees for planting may be obtained, of the different varieties, or as required, at all the public nurſery-grounds, either of one or two years old, for training by degrees in the requiſite form; or may be procured in ready-trained trees of two, three, to four or five years old, or more, with a large expanſion of regular branches, and of a proper growth for immediate bearing; and thereby have the walls either wholly, or in part, furniſhed at once with bearing trees that may produce fruit the firſt ſeaſon; and in which the planter can ſuit his convenience or inclination, as there is ſome conſiderable difference in the prices between thoſe of the quite young trees of only one or two years old, and thoſe as are trained of ſeveral years growth.

Or the different varieties may be eaſily propagated, raiſed, and trained to a bearing ſtate, according to the following directions.

The general method of propagating Peach and Nectarine trees, is by budding the different or deſirable varieties, principally upon Plum ſtocks; or ſome of the more curious or particular ſorts, are alſo inoculated occaſionally on Almond and Peach ſtocks, raiſed from the ſtones; but for the principal ſupply, the Plum ſtock is adviſeable, as the moſt hardy, durable, and making the moſt proſperous trees; raiſing the ſaid ſtocks from the ſtones of the fruit, ſowed in autumn or ſpring, in drills, or bedded in two inches deep; and when the ſeedling plants are a year old, they ſhould be tranſplanted in nurſery rows, or may alſo be raiſed by ſuckers ariſing from Plum-tree roots: though as the Muſcle-Plum ſtock, in particular, is generally preferred, as the moſt favourable and proſperous for Peaches, &c. that to obtain thoſe with certainty of the particular kind, they are raiſed by layers, cuttings, ſuckers, as if raiſed from ſeed, (ſtones of the fruit) they vary to other ſorts of a different quality; and in either method of raiſing the ſtocks, they, when from two, or three, to four, five, or ſix feet high, and of half an inch to an inch thick below, are of proper ſize for budding, keeping them pruned up from lateral ſhoots; and of which ſizes, they are budded low or near the ground, for common dwarf wall-trees; and at three, four, to five or ſix feet, for half and full ſtandard wall trees, to plant between the common or dwarf trees, eſpecially where high walls, and deſirous to have all parts thereof covered as expeditiouſly as poſſible.

The operation of budding them is performed in July, and beginning to the middle of Auguſt; obſerving, as above hinted, thoſe for common wall-trees muſt be budded low, inſerting the bud within ſix or eight inches of the ground, whereby to obtain branches proceeding near the bottom, to cover the wall therewith, in a regular expanſion, from the bottom to the top; and for half or full ſtandard wall-trees, to plant between the dwarfs, in high walls: the budding is performed either on tall ſtocks, at three or four feet for half, and five or ſix feet for tall ſtandards, and each to be trained with a fanned, ſpreading head, or for theſe two latter, they may be budded low in the ſtock, and the firſt ſhoot from the bud trained up for a ſtem, to the above-mentioned height.

Obſerving, for this occaſion of budding, to provide cuttings of the young ſhoots of the year, from trees of the ſorts intended, chuſing the moderately-ſtrong ſhoots, cutting them off nearly at full length, and from which ſhoots, after cutting off the leaves all to about half an inch of the petiole or foot-ſtalk of each, the buds are to be detached one at a time, and inſerted into the ſide of the ſtock, at the height from the ground above-mentioned, for common and half ſtandard wall-trees; the head of the ſtocks continued intire, till the ſpring following, and the inſerted buds uniting with the ſtocks, the ſame year, but remaining dormant till next ſpring aforeſaid; at which time, generally in March, juſt before the buds begin to puſh, cut down the head of the ſtocks, a little above and behind the place of inſertion of the bud, which will then, ſoon after, advance in one ſtrong ſhoot, attaining two feet or a yard in length, or more, by the end of the enſuing ſummer, forming the new tree of the reſpective kind with which it was budded; and which, in the autumn, or ſpring following, may either be tranſplanted into the garden, againſt the proper walls to remain, or planted againſt any fence in the nurſery, or where convenient for training, one, two, or three years, or more, in a proper expanſion, in the wall-tree manner, to a bearing ſtate, and then tranſplanted finally into the garden aforeſaid, againſt ſouth walls, at twelve or fifteen to eighteen feet diſtance; and being thus previouſly trained, will commence immediate bearers the enſuing ſeaſon.

But

But generally obſerve, in reſpect to the firſt requiſite training, that as the firſt proper ſhoot, produced immediately from the budding, commonly runs up into a ſtem, naked below, it muſt be headed down when a year old, in the ſpring, after its firſt ſummer's growth, to force out a regular ſupply of lower branches from the beginning; therefore, generally about March, juſt as the young trees begin to make an effort for ſhooting, cutting them down to about five, ſix, or eight eyes, in a ſloping cut upward, next the wall; and will then ſoon after produce ſeveral lateral ſhoots, from the remaining lower eyes, to give the head its beginning formation, arranging the ſaid ſhoots horizontally to the wall, equally to the right and left, in a regular expanſion, as before obſerved; or, in order to form the head, as above, as expeditiouſly as poſſible, the firſt principal ſhoot advancing immediately from the bud, might be pinched or pruned to a few eyes, the ſame ſummer it is produced, about the beginning or middle of June, and it will furniſh laterals the ſame ſeaſon for training to the wall, &c. and thereby gain a year's growth in furniſhing the firſt ſet of branches.

Obſerve likewiſe, that in either of the above methods, in heading down the firſt leading ſhoot, and obtaining a ſupply of lateral ſhoots below, theſe, either the ſame year, early in June, or in the following ſpring, ſhould alſo be pruned ſhort, to about ſix, eight, ten, or twelve inches, according to their ſtrength, to obtain a further ſupply of lower branches from the beginning, that they may form a regular full ſpreading head, advancing immediately from or near the bottom, to furniſh the wall regularly upward; and of which new-acquired ſhoots, rub off or cut away all the fore-right productions, and others that are ill-placed, and train in all the reſt to the wall, at their full length, all ſummer; or may occaſionally pinch particular ſhoots, in May or June, in vacant parts, to provide a requiſite ſupply of wood the ſame ſeaſon: and thus continue the management of the young trees, the firſt two or three years; for in this depends the whole ſucceſs in giving them the proper formation for wall-trees, covering the walls completely from bottom to top, in a regular expanſion of branches; and, as they will produce numerous ſhoots in ſummer, theſe muſt be regulated, by pruning out the ill-placed and uſeleſs, and the others trained to the wall at their whole length, all that ſeaſon till winter-pruning, when the beſt of which being ſelected for bearers, cutting out the ſuperabundancy, the retained ſhoots muſt generally then be ſhortened more or leſs, as hereafter explained.

Thus far relating to the methods of raiſing and firſt training, ſhall proceed to give ſome neceſſary intimations for planting and general culture.

For the planting of Peach and Nectarine trees, allotting principal ſouth walls, &c. having proper borders under them, three, four, or five, to eight or ten feet wide, and two feet depth of good earth, which, if of a loamy nature, will be of the greater advantage; but if the ſoil is unfavourable, or of a very light, unſubſtantial kind, it ſhould be improved with a ſupply of freſh ſurface loam, from a common or paſture-ground, or where convenient, either immediately applied, or after being prepared with a portion of rotten dung, for ſeveral months, in a compoſt heap, or in default of loam, have any good mellow earth and rotten dung; and which improvements may either be added wholly, or only for the preſent, to the parts where the trees are to be planted; or where the borders or places intended for the trees, is gravel, rubbiſhy, very ſtony, or ſhallow, of proper ſtaple, the bad or ſhallow ſoil ſhould be removed, or rough-ſcreened, and a proper depth, and the place ſupplied with ſubſtantial good earth and rotten dung, as above.

Though it may alſo be proper to remark, that thoſe trees will thrive ſufficiently well in borders, conſiſting of any common, mellow, garden earth, as that of a kitchen garden, &c. or, if rather poor, may be augmented with rotten dung, or that, and ſome good loam, added either fully, or to the places where the trees are to ſtand, three or four feet width.

The ſeaſon for planting is either in autumn, about the decay of the leaves, in October and November, or in the ſpring, in February and March; though may be performed any time in open, mild weather, from October or November till March aforeſaid; however, if performed ſoon after the leaves begin to decay in autumn, it will be of advantage, as they will almoſt immediately ſtrike root the ſame ſeaſon, and be more effectually rooted before the drought of next ſpring and ſummer.

The trees for planting, as before remarked, may either be of one or two years old heads, or ſuch as are of three, four, or five years training, furniſhed with ſome conſiderable expanſion of branches, and advanced to a proper growth, for immediate bearers, either wholly of that ſize, or part, and thereby have the walls covered at once with bearing trees; and is of importance to have a collection, more or leſs, of the principal varieties, both of early, middle, and late kinds, to have a regular ſucceſſion of the fruit: ripening from July, or beginning of Auguſt, to the end of October, all of which, or any of the varieties, if not furniſhed with home-raiſed trees, may be obtained at the nurſeries, either in young or trained growth, as ſhall be required, agreeable to former intimations, being careful to chuſe thoſe of good growth, with moderately-ſtrong ſhoots: and have them digged up with a full ſpread of roots, as intire as poſſible.

Then mark out the places for the trees, allotting the principal ſupply the beſt ſouth walls, both of Peaches and Nectarines, not leſs than twelve or fifteen, nor more than eighteen feet diſtance; ſome may alſo be planted againſt ſouth-eaſterly, and weſt walls, at the ſame

ſame diſtances; and for all of which, dig a wide, round hole for each tree, a foot, or more, deep, and ſufficiently capacious to receive the roots freely in their full ſpread.

The trees then ready, let the roots be pruned as required, by cutting or ſhortening any long ſtraggling parts; prune the end of all the others, and cut out any that are broken or bruiſed; and as to the head, if one-year-old trees, continue them intire for the preſent; or if trained trees, cut off only any fore-right and other ill-placed ſhoots; and thus prepared, proceed to planting: place the trees one in each hole, with the ſtem about three, to four or five inches from the wall, inclining the head thereto, making the roots ſpread equally in the hole; break and trim in the earth regularly over the roots; ſhake the tree gently by the ſtem up and down, that the earth may fall in cloſe about all the roots and fibres, filling up the holes, and tread down the earth moderately, firſt towards the outſide, continuing to the middle, round the ſtem of the tree; and then, if dry ground, in early autumn planting, or late in the ſpring, give each tree a tolerable watering to the earth, about the roots; after this, juſt nail the head or principal branches to the wall, to ſecure them being diſturbed by the winds, till pruned; likewiſe, mulch the ground over the roots, both to keep out froſt in winter, and the drought in ſpring and ſummer, till the trees have taken good root; and in very dry weather, in ſpring, and beginning of ſummer, give occaſional waterings to the earth, and ſometimes over the heads, after they begin to ſhoot.

Having thus planted the young trees of the Peaches and Nectarines, the next care is the article of pruning and training; obſerving firſt, that if the new-planted trees are only one year old, and with the firſt head from the budding intire, this muſt be cut down in the beginning or middle of March, to four, five, or ſix eyes, as formerly adviſed, to obtain lateral ſhoots below; or if the trees are ſuch as have been previouſly trained, and the head already furniſhed with ſome tolerable expanſion of branches and ſhoots, theſe being continued, ſhould be pruned according to the general method, either ſoon after planting, or in the ſpring, about February or March, agreeable to former intimations, and as fully explained hereafter, under the pruning directions, cutting out the fore-right, and other ill-placed, and very weak, trifling ſhoots, and ſuch as are ſuperfluous, or too abundant, in any part; as alſo, any as caſually appear ſingularly more luxuriant than the generality, eſpecially if one, or more, advances irregularly on one ſide of the tree; retaining the well-placed moderately-ſtrong ſhoots; and prune them from ſix or eight, to ten, twelve, or fifteen inches, according to their ſtrength, and then nailed to the wall horizontally, four to five, or ſix inches diſtance; and reſpecting the younger trees of one year, adviſed above to be headed down in the ſpring; if they, in conſequence of that operation, produced ſeveral lower ſhoots in ſummer, theſe ſhould be trained in at full length, rubbing off, or diſplacing, any of fore-right growth; or if only two or three ſhoots are produced, theſe, the ſame ſeaſon, in May, or the beginning of June, may be pinched or pruned at top, or cut to five or ſix eyes, whereby they will furniſh an increaſed ſupply of more ſhoots in ſummer, to furniſh the wall ſooner with a proper ſpread of branches; continuing all the proper ſhoots, both of the young and trained trees, nailed in regularly to the wall all ſummer, till winter-pruning; and the whole afterwards, in the ſummer and winter regulation, managed according to the following directions in the general pruning.

With regard to general culture of Peaches and Nectarine trees, after their firſt training, agreeable to the foregoing obſervations, they, in their advanced growth, and full trained ſtate, will require pruning and nailing every ſummer and winter, to preſerve regularity and fruitfulneſs; a ſummer-pruning, &c. to regulate the ſhoots of the year; and a winter-pruning, to give a general regulation, both in the young and old branches; and in all of which it muſt be obſerved, that as theſe trees bear principally upon the young wood, or ſhoots of the preceding ſummer's production, a general ſupply of theſe muſt be every where retained annually, for ſucceſſional bearers and part of the former bearers and old wood cut out in proportion, in winter, to make room for the young ſupply; which being trained at their full length all ſummer, they, in the winter-pruning, ſhould be ſhortened more or leſs, to promote their producing a more plentiful ſucceſſion of ſhoots, eligibly ſituated to ſelect for next year's bearing wood; as the ſame ſhoots both produce fruit, and a ſupply of ſucceſſion bearers at the ſame time.

The ſummer-pruning of Peaches and Nectarines ſhould be commenced in May or June, when the ſhoots of the year are advanced from three or four, to ſix or eight inches, to a foot long; though it is adviſeable to proceed in this operation in the early growth, or when the ſhoot-buds are advanced only two or three inches, in which, juſt to rub off the fore-right and other evidently ill-placed and unneceſſary productions, which, before they become long and woody, may be expeditiouſly detached with the finger and thumb; but which, in a more advanced woody ſtate, muſt be effected with the pruning-knife; ſo diſplacing all fore-right ſhoots iſſuing immediately from the front part of the branches, and all others, which by their ſituation cannot be trained with proper regularity to the wall; and is of much importance to commence this operation before the ſhoots are conſiderably advanced, or grown into confuſion, as the buſineſs can be conſiderably, more expeditiouſly and accurately performed, as well as prove of more particular advantage to the growth and regularity of the trees, and beneficial to the advancing

vancing fruit; but when the work is delayed too long, till the trees are run into great diſorder in the ſhoots of the year, is both very unſightly, and of great diſadvantage; more particularly to the fruit in its advancing growth, as well as cauſe conſiderable perplexity in making the neceſſary regulation.

Therefore, after proceeding in the early regulation in diſplacing the uſeleſs ſhoot-buds, begin the general operation in the more advanced growth of the ſhoots in June at fartheſt, taking off any remaining fore-rights, and others ill-placed; and carefully ſelecting a large ſupply of all the beſt regular-placed ſide-ſhoots, and a leading one to each branch, for ſucceſſion bearers next ſummer, diſplace the ſuperfluous or ſuch as are evidently over-abundant, or more than can be trained in with proper regularity; and where two advance from the ſame eye, leave but one, taking off the moſt unpromiſing: likewiſe cut out cloſe any that aſſume a bad habit of growth, bunched, crooked, very weak, or of a long, ſlender infirm, ſtate; as alſo any very rank, or ſingularly luxuriant ſhoots, appearing conſiderably more vigorous than the generality, not being adapted for bearing, but which would draw the nouriſhment from the others of more moderate growth, proper for the production of fruit the year enſuing: though where any tree caſually aſſumes a general luxuriant, unfruitful ſtate, cut out the moſt unfavourable, and retain as many of the beſt-placed, ſtrong ſhoots thereof as can be conveniently trained in with ſome tolerable regularity, in order to divide and carry off the exuberancy of ſap amongſt a great number, more effectually than would be the caſe in a ſmaller quantity, and thereby have the trees ſooner reduced to a moderate ſtate of growth for good bearing; and then, according to the above obſervations, diſplacing or pruning out all fore-right, other uſeleſs and unneceſſary ſhoots, taking them off quite cloſe, leaving plentifully of the proper moderately-ſtrong ſhoots, as before adviſed, both of the ſide production and leaders to the branches in all parts of the tree; the whole preſerved at their full length at this ſeaſon, and nailed in cloſe and regular to the wall, all ſummer, in an abundant ſupply to chuſe from in the winter-pruning to retain for next year's bearing wood; not ſhortening any of the ſhoots during their ſummer growth, except in any caſual, vacant parts; may occaſionally pinch off the top, or prune down any contiguous young ſhoot in May or June, to furniſh laterals the ſame year to ſupply the deficiency, or any extending conſiderably out of the proper bounds, either ſide-ways or over-topping the wall, may be diſcretionally ſhortened more or leſs, as may ſeem expedient; but, except in theſe caſes, keep all the other ſhoots extended at their whole length all ſummer, as ſhortening at this ſeaſon makes them throw out a great quantity of uſeleſs wood, hurtful to the ſaid ſhoots in their preſent growth, and detrimental to their bearing the year following.

After the general ſummer regulation, in pruning out the uſeleſs and training in the uſeful ſupply of ſhoots, continue a proper attention during their ſummer's growth, by going over the trees once a week or fortnight, to keep them diveſted of all uſeleſs after-productions; and according as the retained general ſupply of ſelect ſhoots encreaſe in length, or any caſually detach from the wall, nail or train them in cloſe and regular, both to preſerve the requiſite uniformity and beauty of the trees; and that, by continuing the whole cloſely trained in regular order, admits the full benefit of the air, ſun, rain, &c. eſſentially neceſſary to improve the growth and goodneſs of the fruit, and to promote its ripening with a proper flavour.

The winter-pruning of the Peach and Nectarine Trees, compriſes a general regulation both in the ſupply of young wood produced and trained in the preceding ſummer, and in the whole expanſion of older branches, in pruning out the moſt unſerviceable, to make room for the ſucceſſional ſupply of young, bearing wood, and the whole new trained and nailed in regular order; in which operation keeping in mind, as obſerved in the ſummer-runing, that as the trees produce their fruit principally upon the young ſhoots of the preceding ſummer, and occaſionally in the two years wood, upon ſmall, natural ſpurs thereon; though the general ſupply is always produced upon the laſt year's ſhoots, and which ſeldom bear after, except ſometimes on caſual ſmall ſpurs, aforeſaid, the ſecond and third year; and therefore a general ſupply of theſe young ſhoots of laſt ſummer muſt be annually preſerved in all parts of the trees, now in the winter-pruning for bearing the enſuing ſeaſon; and at the ſame time part of the former bearing wood, and naked old branches, not furniſhed with proper bearers, cut out, to give room for introducing the requiſite ſupply of young, bearing ſhoots, about four or five to ſix inches diſtance, cutting out the ſuper-abundancy; and all the retained ſhoots, or the greater part, to be ſhortened more or leſs in this pruning to promote a ſucceſſional production of ſhoots from the lower eyes, which otherwiſe would moſtly advance towards the upper parts, and the trees would thereby, in time, become naked below.

This general winter-pruning may be commenced ſoon after the fall of the leaf in autumn, or continued any time in open, mild weather, from November till the ſpring, and ſhould be wholly finiſhed in February or March.

In proceeding to this pruning, as it conſiſts of a general regulation, it is proper to un-nail moſt of the principal branches and all the young wood, both that you may more conveniently examine and determine what to cut out and retain, have liberty for the operation of the knife, and, after pruning, to have the opportunity of new-training the trees accordingly; and generally,

generally, for this buſineſs, have a ſmall, narrow-pointed pruning-knife, that it may be admitted readily between the ſmall cliſts or forkings of the branches, having a larger knife for cutting out large, ſtubborn wood.

Then proceeding to the operation, ſelecting a proper ſupply of the laſt ſummer's young ſhoots, for the following year's bearing wood, to retain in all parts of the tree, for laying in four to five or ſix inches diſtance; chuſing the beſt, moderately-ſtrong, well-placed ſhoots, ſituated principally on the upper and under ſide of the mother branches; and from which cut out the ſuperabundancy, with any fore-right, and others not well-placed for training with regularity; as alſo weak twigs and caſual, rank luxuriants, cutting the whole cloſe to the old wood; at the ſame time, to prune out a proportional part of the laſt year's and other former bearers, cut down either to the firſt moſt eligible young ſhoot ſituated thereon, or ſome quite out to their origin, as it may ſeem expedient, according to the ſupply of proper young wood in particular parts, and to make room for the requiſite ſupply in general; likewiſe, for the ſame occaſion, in old trees, cut out caſual, old, naked branches, advanced of ſome conſiderable length, unfurniſhed with any eligible ſupply of young, bearing wood, or not ſupporting branches ſupplied therewith, cutting them down either to their origin or to ſome younger and more fruitful branch, where any is ſituated on the lower part thereof, and hereby making room for training contiguous branches ſupporting young wood for bearing; and, as you proceed, ſhorten the retained ſhoots, more or leſs, about one third, or ſmall ones, half; and diveſt them of all lateral twigs, to have all the main ſhoots clear and ſingle; obſerving if any particular, very luxuriant ſhoots occur, cut them out, or if, in or near vacant ſpaces, one or more of which may be retained and ſhortened, to produce laterals of more moderate growth to ſupply the deficiencies.

Obſerve in this pruning, that as the young wood, now proper to retain for bearers the enſuing ſeaſon, is produced principally upon the bearers of laſt year, or on the two years branches, having probably two, three, or more ſhoots on each; and as it may now be neceſſary to retain on ſome branches but one, others two, or more, as the caſe may require, ſhall here endeavour to explain it as well as poſſible; in which examining what may be proper, and how many neceſſary to retain, or leave on the particular or different branches or former bearers, that if the uppermoſt ſhoot, and only one appears neceſſary to remain, cut away all thoſe below on the ſaid branch; or if the lowermoſt or middle ſhoot may ſeem moſt eligible to continue, cut down the upper part of the branch and ſhoots thereon, to the continuing ſhoot, cutting alſo away any ſhoot below this on the ſame branch; or if two or more ſhoots, on particular branches, appear requiſite to be retained, either the lower and uppermoſt, or ſuch as may appear moſt favourable for the purpoſe, prune out any intervening ſhoots, or others, above or below; and if any part of the reſpective branches extends above the uppermoſt ſhoot proper to retain thereon, cut that part of the branch cloſe to the ſaid ſhoot, ſo as every branch may terminate in a good ſhoot for a leader; or any particular branches having but one ſhoot, there is no choice; this, if neceſſary, muſt be retained either ſituated naturally at the termination of the branch, or if in the lower part, prune down the branch to the ſaid ſhoot, both for a terminal thereto and for bearing as the others; all which ſhorten more or leſs, as formerly adviſed; and where they have any lateral orſide-twigs, theſe ſhould be cut clean off to their origin.

Further obſerve, that as you proceed in the above pruning and retaining the proper ſhoots for bearing, as it is moſtly adviſeable to ſhorten the ſaid ſhoots, more or leſs, it ſhould be performed as you go on; for, as before noticed, the ſhortening the ſhoots of theſe trees in winter-pruning is neceſſary, whereby to have them produce more effectually a ſupply of future bearing ſhoots from their lower parts, next ſpring and ſummer, which otherwiſe would riſe moſtly above, and leave the bottom naked; therefore, prune each ſhoot according to its ſtrength, and that of the trees, leaving the ſtrong ſhoots longeſt, the others in proportion, or generally pruning the ſtronger ſhoots about one third or fourth of their natural length; as for inſtance, a ſtrong ſhoot of two feet may be cut to fifteen or eighteen inches, and in proportion to others of ſtronger growth; the more moderate or weak ſhoots, may be cut about one third, or near half their length; and generally obſerving, agreeable to thoſe intimations, that in ſtrong, healthy trees, to leave the ſhoots longer than in thoſe of a more weakly ſtate; and in all of which, commonly perform the cut ſloping behind, and a little above a ſhoot-bud, to advance for a terminal leader.

Obſerving, however, in the operation of ſhortening, that where you prune principally for fruit, not to cut below all the bloſſom buds, eaſily diſtinguiſhed by their round, turgid, or ſwelling appearance, and generally cut either to a ſhoot-bud, diſcoverable from the others, by being more oblong and thinner, ſometimes placed diſtinct, or ſometimes at the ſame eye with a bloſſom-bud, or prune to a twin bloſſom, or where two flower buds are at the ſame eye, and which often furniſhes a ſhoot-bud between them for a leader; for it is eſſential that each bearer have a leading terminal ſhoot produced in ſummer, to draw nouriſhment to the fruit.

But where neceſſary to prune particular ſhoots, principally to furniſh wood for ſupplying vacancies, they may be cut ſhorter than intimated in the above general directions, for the bearing ſhoots, and without paying any particular regard to the bloſſom buds; ſo, according to their ſtrength, may be cut to ſix, eight, ten, or twelve

twelve inches, or ſome in particular parts; ſmall ſhoots may be pruned to three or four eyes.

Or in trees aſſuming a luxuriant habit, having in general, or moſtly, very ſtrong, vigorous ſhoots, as ſometimes occur in Peaches and Nectarines, running moſtly to wood, without furniſhing much fruit, they ſhould be but very moderately ſhortened; ſome not more than about one fourth, others, more luxuriant, not ſhortened at all, or, but only topped a few inches down; for, in ſuch vigorous trees, the more they are ſhortened, they will ſhoot with greater luxuriance, and never form good bearers; but by leaving the ſhoots thicker, or more abundant, and but very moderately ſhortened, the exuberancy of ſap, or redundant nouriſhment, being thereby divided amongſt a greater number and larger extent of branches, reduces them, by degrees, to a more moderate habit of growth, adapted for fruit bearing: then may be pruned agreeable to the general method.

Generally obſerve, in pruning the Peach and Nectarine Trees, to retain a ſufficient ſupply of proper ſhoots in all parts, bottom, middle, and upper expanſion, advancing, as it were, one under or after another, in the moſt regular order, and always keep the lower parts, and all vacant ſpaces, well ſupplied.

Likewiſe obſerve, that as theſe trees alſo ſometimes bear upon ſmall ſpurs on the two or three years wood, of from half an inch to an inch, or longer, they may generally be retained, where of a fruitful ſtate, in being furniſhed with ſeveral bloſſom buds.

According as each tree is pruned, agreeable to the foregoing obſervations, it ſhould be nailed directly; in which, arrange the general ſhoots and branches more or leſs horizontally, in proportion to the expanſion of the head; and as the allotted ſpace of walling, both ſide-ways and in height, admit, extending them equally to the right and left, at regular diſtances, one above another, beginning with the lower branches firſt, laying them in ſtraight, ſo proceed with the others upwards, equally on both ſides; or where any are irregular and crooked, they may be extended ſtraight, by means of the nails, &c. in nailing, by bending the branch, leſs or more, up or down, as required, to have it in its regular poſition; for the branches ſhould generally range in a ſtraight, darting direction, as it were, and in a parallel manner, four, to five or ſix inches aſunder, and nailed cloſe to the wall; in which generally place the ſhreds neatly between the joints or eyes of the ſhoots, &c. with both ends meeting even, and nail them accordingly.

For nailing, theſe trees, as above, ſhould be furniſhed with proper nails and ſhreds; the nails generally ſhortiſh and thick-pointed, that will occaſionally drive into the bricks as well as in the joints between, and which may be obtained at all the iron-mongery ſhops, at per thouſand, &c. or cheaper by weight, where large quantities are required; or for nailing to palings, thinner-pointed nails may be eligible; and for ſhreds, have either broad-cloth liſting, which generally rend down the middle, half an inch broad, or but little more, cut into lengths of two or three inches, for ſmall and general nailing; longer for larger branches; or, in default of liſting, any cuttings of cloth may be uſed, cut to the above breadth and length, the ends ſquare or even: never have the ſhreds too long, for the ends to hang down looſe, which has a ſlovenly appearance.

Having now finiſhed the principal obſervations relating to the general culture of Peaches and Nectarines, ſhall conclude with ſome further remarks with regard to the management of the trees when flowering and fruiting, and ſome other eſſentials.

As Peach and Nectarine trees bloſſom early in the ſpring, when cutting, cold weather, and froſts, often prevail, that it is adviſeable to give them occaſional protection, by covering them with mats, &c. eſpecially ſome principal trees of the choicer kinds; and which care is neceſſary principally about March or April, when the bloſſom expands, and while the young fruit is ſetting; when, in froſty or very cutting weather, either nail up ſome large mats againſt the trees every night, or continued, occaſionally, of days, when ſharp froſt and no ſun; but when ſunny, or mild open weather, remove the covering; and thus continued, occaſionally, till the fruit is ſet and out of danger; or, inſtead of mats, or not having a ſufficiency for the covering intended, either uſe cuttings of evergreen trees and ſhrubs, as being furniſhed with the leaves, and ſtick them between the branches in a ſpreading manner, to cover the bloſſom, &c. as well as poſſible, and to remain conſtantly night and day, till the fruit is ſet, and advanced a little in ſize; or may uſe large, old fiſhing nets, nailed up before the trees, to continue conſtantly, as obſerved of the evergreen cuttings, both of which will break off part of the keen cutting effects of the froſt; or may ſometimes ſtick the trees with branches of dried fern, where attainable, as adviſed for the ever-greens aforeſaid, which will alſo afford ſome protection to the bloſſom and young ſetting fruit; and all of which protections ſhould generally be continued till the crop of fruit is ſet, and increaſed to the ſize of large peas, or middling green gooſeberries, or nuts, and then, in the end of April, or beginning or middle of May, according to the ſeaſon or advanced growth of the fruit, the coverings may be wholly diſcontinued and removed away.

In favourable, warm ſeaſons, ſometimes theſe trees ſet very abundant crops of fruit, and often too many, or cloſe together on the reſpective ſhoots, as to require thinning; for if permitted to remain too abundantly, they would both prove greatly detrimental to the trees, ſo as to draw the whole nouriſhment, weaken and pre-

vent their making proper ſhoots for ſucceſſional bearers, and the fruit would be impoveriſhed, and, in their advanced cloſe growth, thruſt one another off the trees, or would not acquire proper ſize, or perfection of maturity; therefore this ſhould be timeouſly attended to, while the fruit is in young growth, in May, or early in June, at fartheſt; when, examining the general branches, and where the fruit is croudedly thick, thin off the moſt unpromiſing, leaving the others, four to five, or ſix inches aſunder; or, according to the ſtrength of the different trees, and that of the bearing ſhoots, in which leave the fruit thinner upon thoſe of a weakly or moderate ſtate, than others of a ſtronger, free growth.

The thinned-off young fruit of the Nectarines particularly, as being ſmooth-rinded, and more poignant taſted than the Peaches, may be uſed for tarts, eſpecially before they begin to ſtone hard in the heart.

In the advancing ſtate of the fruit, continue the trees always diveſted of the uſeleſs ſhoots of the year, and the others trained in cloſe and regular to the wall, as adviſed in the ſummer-pruning, to admit the neceſſary benefit of the ſun, air, rains, dews, &c. all very eſſential to forward and improve its growth, both in ſize, colour, and goodneſs; and when advanced towards maturity, be particularly careful to keep all the ſhoots cloſely trained, to give free acceſs to the action, or power of the ſun; or alſo, where the leaves are very thick, ſhading the fruit too conſiderably, ſome ſhould be removed in a moderate, thinning manner, not to expoſe the fruit fully, or ſuddenly, at once, but to continue ſtill a ſlight ſhade, where any was before; and by thus keeping the general ſhoots trained cloſe, and thicket leaves thinned, that the beneficial influence of the ſun is admitted, the fruit will ripen in all deſirable perfection.

According as the fruit ripens in its reſpective ſeaſon of the different varieties, it ſhould be gathered while in beſt perfection, moderately mellow, when in full flavour, and before too ſoft, and the rich flavour evaporated; and during hot weather, it would be adviſeable to gather it in the early part of the day, before heated too much, and the flavour reduced by the power of the ſun; and depoſited in a cool, dry place, till ſerved to table.

Theſe trees being ſometimes attacked by blights and inſects, in ſummer, the former often attacking them ſuddenly, either general, or ſometimes only particular branches, frequently in a ſevere degree, that the malady cannot be prevented, eſpecially a dry blight, or blaſt; in others, it comes on more gradually; ſometimes the leaves and young ſhoots become clammy, the former crumpled, and the latter bunchy at the ends, &c. and neither theſe nor the fruit make any progreſs in growth; in which, as it is often occaſioned by the depredations of numerous ſmall inſects, may ſometimes pull off the worſt of the infected leaves, and cutting away the diſtempered part of the ſhoots; afterwards, may ſtrew tobacco-duſt, ſnuff, &c. over the general branches and leaves; and ſometimes in dry, hot weather, water over the whole trees, with a garden engine pump, diſcharging the water with force againſt the branches, which repeated, will prove beneficial; alſo, water the borders plentifully out of a watering-pot, ſufficient to reach the roots.

And as blights and inſects are ſometimes occaſioned by a weakly habit of the trees, or ſome internal diſtemper in the branches, or root, it would be proper, when the trees aſſume a weakly, or diſeaſed appearance, or attacked with the above-mentioned maladies, to dig the ground open about the roots, not to diſturb them; and apply ſome freſh earth, or compoſt of loam and thoroughly-rotted dung, cloſe about the extreme and general roots; give water, and cloſe the earth over the roots a proper depth; or, in weakly, ſtunted, or diſtempered trees, may, in autumn, or ſpring, open the ground about the extreme roots; prune the ends thereof ſloping on the under ſide, and cut out any decayed parts that appear, then add freſh earth, or compoſt, as above; the roots, where pruned, will emit freſh fibres into the renewed ſoil, which may prove beneficial in promoting a revived growth above in the head of branches.

To the borders in general, in which theſe trees are growing, ſhould give occaſional manure of dung, applied in autumn, winter, or ſpring, once in two years, or as convenient; and if good, rotten dung, it will be of greater advantage, digged in one ſpade deep; it will prove beneficial, both to the trees, in continuing them in a healthful, free growth, and promote the production of good fruit, large, and well flavoured.

To obtain the Fruit early by forcing.

Early Peaches and Nectarines, by forcing, are obtained, by having trees of the deſirable varieties, planted in forcing ſtoves, and forwarded by artificial heat of fire, or ſometimes aſſiſted alſo by bark-bed heat; beginning the forcing about the end of January, or beginning, or middle of February, continuing it till May; and by which, ripe fruit are acquired in that month, or in June, &c.

For this occaſion, proper glaſſary apartments are erected, ranged long ways, eaſt and weſt, twenty, or thirty, to fifty feet long, or more, as may be required, ten, to twelve, or fifteen feet wide; a brick wall behind, on the north ſide, upright glaſs work in the ends and front, and ſloping ſaſhes above, and with flues within, ranged along the ends, front, and back wall; and having internal borders of rich earth ranged long ways, towards the back and front, in which

to

to plant the trees; or ſome forcing-houſes have alſo na internal pit, nearly the whole length, five or ſix feet wide, or more, formed by a ſurrounding, thin, brick wall, raiſed two feet, or more, above the floor, or bottom ſpace; to have the pit a yard deep, for a bark-bed.

The trees of Peaches and Nectarines, for planting in theſe apartments, ſhould generally be ſuch as have been trained in the open-ground, two, three, or four years, to a proper age and growth for immediate bearers; and which ſhould be planted in autumn, about October, or beginning of November, in the borders within the forcing-houſe; and having a trellis of poles, or rails, cloſe behind the trees, train the branches thereto, in the wall-tree manner; and have occaſional pruning, as directed, for thoſe in the full ground.

The forcing by fire-heat is commenced in the end of January, or beginning or middle of February; or alſo, make the bark-bed at the ſame time where intended, or that there is the accommodation of a pit for that purpoſe: the fires to be made moderately every evening, about ſun-ſet, till nine, or ten o'clock; and alſo, in cold mornings, or ſupported all day in very cold weather; and the bark-bed, if any, continued conſtantly: admit air, in mild, ſunny days, in the warmeſt time, by opening ſome of the glaſſes a few inches; and ſometimes give moderate waterings to the borders, when the earth appears dry; as likewiſe occaſionally to the branches of the trees, before and after they bloſſom, but never while they are in flower, and ſetting the fruit; continuing the fire heat, as before-mentioned, every night, and all cold weather, but more moderate, as the warm ſeaſon advances, and only principally in the evenings, and cold mornings, &c. in warm, ſunny days will not be required, but when cloudy, will be occaſionally neceſſary; and thus ſupport the fire-heat, in a regular, moderate degree, till beginning or middle of May, according to the temperature of the ſeaſon; and the bark-bed, if any, will remain in a good heat, two or three months; being careful to encreaſe the admiſſion of air every day, according to the advanced warm weather, by ſliding open ſome of the glaſſes, more or leſs, about ten or eleven o'clock, when a warm ſun, and always ſhutting cloſe, towards the afternoon, or evening, to preſerve the internal heat of a proper temperature.

The trees will thus bloſſom early, and ſet fruit in March or April, encreaſe in growth till May or June, &c. when attaining full ſize: will ripen, ſome probably in May, or the principal part in June and July.

When the fruit of theſe forced trees is all gathered, generally remove the glaſſes, to admit the full air, &c. to ſtrengthen the trees and ſhoots of the year, and to harden the latter to a mature ſtate, proper for producing fruit the following ſeaſon.

ANDROMEDA, (ANDROMEDA) or Marſh Ciſtus.

Claſs and Order.

Decandria Monogynia.
Ten Males, One Female;

Or Plants with Hermaphrodite Flowers, furniſhed with ten Stamina, or Males, and one Piſtillum, or Female Part.

The Andromedas are moſtly low, buſhy ſhrubs, ſome ever-green, others deciduous, adapted principally to aſſemble in ſhrubbery compartments, for variety; grow from two or three, to four, five, or ſix feet high, producing ſlender branches, adorned with ſmall, oval, oblong, and lance-ſhaped leaves, and with bunches and ſpikes, of ſmall bell-ſhape, greeniſh flowers, conſiſting of a cup, five-parted, a monopetalous, bell-ſhape corolla, five-parted and reflexed, containing ten ſtamina, one ſtyle, and a roundiſh germen, ſucceeded, by pentangular capſules, furniſhed with roundiſh ſeeds, by which the plants are occaſionally raiſed; alſo by ſuckers and layers.

Generic Characters are—Hermaphrodite flowers; the calyx one-leaved, coloured, cut into five parts, and permanent; corolla, or flower, one bell-ſhape petal, five-parted, the ſegments reflexed; ſtamina, ten, awl-ſhape filaments, ſhorter than the petal, and crowned with nodding, two-horned anthera; Piſtillum, a round germen, long, cylindrical ſtyle, crowned with an obtuſe ſtigma, and the germen becomes a pentagonal, quinquelocular capſule, filled with roundiſh ſeeds.

The Species are,

1. ANDROMEDA *mariana*, Maryland Broad-leaved Andromeda.

A ſmall under-ſhrub, two feet high; the leaves (ſmall) ovate, intire, and placed alternate; and the peduncles or flower-ſtalks aggregate; the corolla, or flower cylindric.—Native of Maryland, in North America.

2. ANDROMEDA *paniculata*, Panicle flowering Andromeda.

A low ſhrub, three or four feet high; the leaves *(ſmall)* oblong, crenulated, or fine-notched, and placed alternate; flower-ſpikes panicled, naked, the flowers ranged on one ſide; and the corolla or flower ſub-cylindric.—Native of Virginia.

3. ANDROMEDA *calyculata*, Calyculated or Double-cupped, Box-leaved Andromeda.

A low, ſhrubby plant, two or three feet high; the leaves (ſmall) oval, lance-ſhape obtuſe, punctured, and placed alternate; and with leafy racems of flowers, ranged on one ſide, the corolla ſub-cylindric.—Native of Virginia, Canada, Siberia, and Ingria.

4. ANDROMEDA *Polifolia*, (Polifolia, or Mountain Poly-like) Roſemary-leaved Andromeda.

A ſmall, ſhrubby plant; the leaves *(ſmall)* ſpear-ſhape, reflexed, placed alternate; and peduncles or flower-ſtalks aggregate; the corolla, or flower, ovate. —Native of the northern, cold parts of Europe, *in bogs*.

5. ANDROMEDA *racemoſa*, Racemus-flowered Andromeda.

A low, ſhrubby plant; the leaves (*ſmall*) oblong, ſawed, and placed alternate; and ſmall racemus cluſters of flowers, ranged on one ſide, bracteated, or floral-leaved, being ſmall leaves between the flowers, the corolla, or flower gibbous-cylindric.—Grows naturally in Penſylvania.

6. ANDROMEDA *arborea*, Arboraceous, or Tree Andromeda.

A largiſh, tree-like ſhrub, ſix or eight feet high, with ſlender, drooping branches; the leaves (ſmalliſh) oblong-ovate, acuminated, or pointed; and long racems of flowers ranged on one ſide, naked; the corolla roundiſh-ovate.—Native of Virginia, Carolina.

7. ANDROMEDA *Daboecii*, (Daboecii) or Cantabrian Heath, or Iriſh Andromeda.

Low, ſhrubby plant; the leaves (ſmall) ovate-ſpear, ſhape, downy underneath, placed alternate; and terminal long racems of flowers.—Native of Hibernia, on the mountains of Galloway, &c.

The above ſeven ſpecies, being thoſe the moſt generally known and cultivated, there are ſome others which are leſs common or noted, ſhall juſt mention the names by which they are diſtinguiſhed.

8. ANDROMEDA *myrtifolia*, Myrtle-leaved Andromeda,

9. ANDROMEDA *pilulifera*, Pill-bearing Andromeda.

Producing pill-ſhaped flowers.

10. ANDROMEDA *globulifera*, Globular, or globe-bearing Andromeda.

Producing globe-ſhape flowers.

11. ANDROMEDA *lucida*, Lucid or ſhining-leaved Andromeda.

12. ANDROMEDA *axillaris*, Axillary-flowering Andromeda.

Flowers produced at the axillas, or angles, of the branches.

Moſt of theſe ſpecies of Andromeda, are ſmall, ſhrubby plants; the tree Andromeda is conſiderably largeſt; but of the others, the greater part are creeping-rooted plants, ſending up ſeveral ſuckers; and in all the ſpecies the branches are cloſely garniſhed with their ſmall leaves; the flowers are alſo ſmall, greeniſh, growing in ſpikes and cluſters, at the ſides and ends of the branches; appearing principally in June and July; the plants are moſtly hardy, to grow in any common ſoil and ſituation, though, are moſt ſucceſsful in mioſt ground, as they are naturally inhabitants of ſuch ſituations: but the Andromeda *arborea*, a native of warmer countries than the others, is rather more tender, and ſhould generally have a warmer ſituation, and ſometimes be ſheltered from ſevere froſts; or of which ſort may alſo be kept a plant or two, in pots, to place under ſhelter in winter.

All the ſorts may be employed, to diverſify the ſhrubbery compartments, moſtly towards the front part, in aſſemblage with other low, ſhrubby kinds, of ſimilar growth; they are all cultivated in the nurſeries, for ſale, where they may be obtained for planting; which perform in autumn or ſpring; and are propagated by ſuckers from the roots, layers of the young branches, and by ſeed; all generally in the ſpring.

To propagate or raiſe theſe ſhrubs, may ſow the ſeed in the ſpring, in a bed of lightiſh, moiſt earth, half an inch deep; and when the plants are one or two years old, tranſplant them into a nurſery, &c. or by ſuckers from the root, moſt of the ſorts may be more expeditiouſly raiſed, and which may be tranſplanted in autumn or ſpring, with roots to each, either into a nurſery, or at once where they are to remain; and may alſo be raiſed by layers of the lower, young branches, in the ſpring, &c. aforeſaid.

In ſhrubberies, &c. they may be planted in autumn or ſpring, or any time in mild weather, from October to March or April, and in which they do not require any particular culture, only to detach encreaſed ſuckers occaſionally, and to prune any ſtraggling ſhoots, &c. of the heads.

ANNONA, PAPAW TREE, (or Cuſtard Apple)

Claſs and Order.

Polyandria Polygynia,
Many Males, Many Females;

Or Plants having Hermaphrodite Flowers, which are furniſhed each with many Stamina, or Males, and many Piſtillums, or Females.

THE ANNONA furniſhes two hardy ſpecies of deciduous trees, of moderate growth.—Natives of America, curious, and deſirable to introduce in ſhrubberies, and other ſimilar pleaſurable plantations: grow

tne

ten to fifteen, or twenty feet high; ornamented with large, ſpear-ſhaped leaves and bunches of largiſh flowers, dark coloured, of ſix petals, alternately large and ſmall, containing many minute ſtamina and ſtigmas; and ſucceeded by large, oblong, or ovaliſh, ſoft, yellow fruit, having many oval ſeeds; but the fruit and ſeeds ſeldom ripen in this country, being obtained moſtly from America, and by which the trees are raiſed.

Generic Characters.—Hermaphrodite flowers; the calyx three concave, pointed leaves.—Corolla, or flower, ſix petals, alternately larger and ſmaller.—Stamina, many very ſmall filaments, crowned with anthera.—Piſtillum, an oval germen at the bottom, no ſtyles, but many ſtigmas; and the germen becomes a large, oval or oblong, ſcaly-rinded fruit, of one cell, furniſhed with many ſmooth, oval, or roundiſh ſeeds.

The hardy Species are,

1. ANNONA *triloba*, Three-lobed or Trifid-fruited Annona, or Common Papaw.

A ſmall tree, ten to fifteen or ſixteen feet high; the leaves (middling-large) ſpear-ſhaped, and trifid fruit, ſomewhat pear-ſhaped inverted.—Native of Carolina.

2. ANNONA *glabra*, Smooth-fruited Annona.

A larger tree; the leaves *(largiſh, broad)* ſpear-ſhaped, ovate; large, conical, ſmooth fruit.—Native of Carolina.

Both theſe ſpecies of Annona are in eſtimation as ornamental trees to adorn ſhrubberies, &c. in aſſemblage with other deciduous kinds; are moderately hardy after the firſt two or three years of their young growth, and may then be planted in any warm, dry ſituation.

Theſe trees merit admittance in all curious ſhrubbery plantations of the deciduous tribe, in which they will effect a very conſpicuous variety and ornamental appearance: may be had at moſt of the nurſeries, and planted in autumn or ſpring.

They are propagated by ſeeds, which are commonly obtained from America, and ſhould be ſowed in the ſpring in a bed of light earth, ſome in pots, to have ſhelter in winter; or if the pots are placed in a hot-bed, the plants will come up ſooner; and which, when of one ſummers growth, may be planted, part in pots, to have ſhelter of a frame in winter, the firſt two or three years, others planted in a warm ſituation in the ſpring; and when the whole is advanced two or three feet, or more, in growth, may be tranſplanted into the ſhrubbery, &c. where they are to remain.

Their after-culture in the ſhrubbery, &c. is only to give occaſional pruning when required, to regulate any diſorderly growth, or to cut out decayed wood, &c.

ARALIA, ANGELICA TREE, (Berry-bearing Angelica.)

Claſs and Order.

Pentandria Pentagynia,
Five Males, Five Females;

Or Plants producing Hermaphrodite Flowers, having each five Stamina, or Male, and five Piſtillums, or Females.

THIS Genus furniſhes but one ſpecies for this place, principally of the large, ſhrubby, deciduous tribe; a plant of curious ſingularity to admit in ſhrubbery compartments, for ornament and variety; is of hardy growth, riſing with an upright ſtem ſix or eight feet, adorned with large, ſingular, compound, winged leaves; and conſiderable umbellate bunches of ſmall, greeniſh, quinquepetalous flowers; ſucceeded by oblong-roundiſh berries, containing each five ſeeds; ſeldom ripening in England, &c. but generally obtained from America, by which to raiſe the plants.

Generic Characters.—Hermaphrodite flowers, growing in umbellate bunches, each compoſed of many florets; each umbel having a ſmall involucrum, or general calyx underneath.—Corolla, or flower, the florets formed each of five ſmall, oval, reflexed petals; five awl-ſhaped ſtamina, terminated by roundiſh anthera; a piſtillum, conſiſting of a roundiſh germen under the cup, ſupporting five ſhort ſtyles, crowned each with a ſingle ſtigma; and the germen becomes a roundiſh, channelled-berry, five-celled, each cell furniſhed with an oblong, hard ſeed.

The Species is,

ARALIA *ſpinoſa*, Spinous or Thorny Angelica Tree.

A largiſh, ſhrubby plant, growing ſix or eight feet high; having a tree-like, thorny ſtem; and large, compound, branching, ſpinous leaves, of many oblong lobes; and produce large umbels of greeniſh flowers.—Native of Virginia.

This is a curious, ſhrubby plant in its general growth, large, compound, branching leaves, and conſiderable looſe umbels of flowers at the ends of the branches; and deſerves a place in every principal collection of ornamental ſhrubs and trees: is cultivated for ſale at all the nurſeries, and may be planted in autumn or ſpring, in ſome moſt conſpicuous compartments in a dry ſoil.

It is propagated by ſeeds, and occaſionally by cuttings of the root.

The

The ſeeds are moſtly obtained from North America, by the principal ſeedſmen, arriving generally in the ſpring. When in March, or April, ſow them in a bed or pot of light earth, placing them in a ſhady ſituation, to have only the morning ſun all ſummer, and under ſhelter of a warm wall, or garden frame, in winter; or if expoſed in the full air, cover them, in froſty weather; or if the pots are plunged in a hot-bed in the ſpring, the plants will come up ſooner in a free growth: give water in ſummer, and defend them in winter from the rigours of froſt, one or two years; then, in the ſpring, when a year or two old, tranſplant them, ſome into pots ſingly, others into the nurſery, and in both of which may continue till they acquire proper ſtrength and ſize, of two, three, or four feet; and may then be finally tranſplanted into ſhrubberies, &c. to remain.

Or to propagate them occaſionally by roots, theſe generally ſpreading horizontally, take off ſome cuttings in the ſpring, five or ſix inches long, plant them in pots, and, placed in hot-beds, they will grow and produce ſhoots above.

The culture of this ſpecies in advanced growth, in the ſhrubbery, &c. is principally to prune to order any irregular productions of ſhoots, &c. and, as ſometimes, in rigorous winters, the froſt kills the extreme or upper ſucculent parts of the ſhoots, cut off the dead parts, and the ſtems and branches of more hardy and woody growth below will ſhoot out again in ſpring and ſummer.

ARBUTUS, STRAWBERRY TREE.

Claſs and Order.

Decandria Monogynia,
Ten Males, One Female;

Or Hermaphrodite Flowers, containing ten Stamina, or Males, and one Piſtil, or Female, within the ſame Cover.

THE ARBUTUS conſiſt of ſeveral ſpecies and varieties, moderate tree, and ſmall ſhrubby kinds, all of the ever-green tribe; very beautiful, both as principal, ornamental ever-greens, and moſt elegant flowering-trees and ſhrubs, as well as ſingularly ornamental in their production of Strawberry-like fruit; are adorned at all ſeaſons, with oblong and oval leaves, and numerous pendulous cluſters of ſmall, monopetalous, pitcher-ſhaped, white flowers in autumn, ſucceeded by large, ovate, and oblong red berries, ripening in the following autumn and winter; furniſhed with many ſmall ſeeds, by which the trees are propagated by ſowing them in the ſpring; alſo by layers of the young ſhoots.

Generic Characters.—Hermaphrodite flowers, in ſmall, pendulous cluſters;—the calyx ſmall, five-parted.—Corolla, or flower, monopetalous, or of one pitcher-ſhape petal, five-parted and reflexed at the brim; ten ſhort ſtamina, crowned with bifid anthera.—A piſtillum, conſiſting of a globular germen at the bottom of the flower, having a cylindric ſtyle terminated by an obtuſe ſtigma; and the germen grows a roundiſh berry of five cells, filled with ſmall, hard ſeeds.

The Species are,

1. ARBUTUS *Unedo*, (Unedo) or Common Strawberry Tree.

A moderate tree, or large ſhrub, growing eight, ten, or twelve feet high.—A tree-like ſtem; the leaves (middling ſize) ovate, ſmooth, ſerrated or ſawed, and large red berries, having many ſeeds.—Native of the ſouthern parts of Europe, the Eaſt, and of Ireland.

Varieties of this.—Common Arbutus, with ſingle flowers.

Double-flowered Common Arbutus.
Scarlet-flowered Common Arbutus.
Waved-leaved Common Arbutus.
Oval-fruited Common Arbutus.
Round Berried.
Yellow Berried.
None of theſe berries are eatable.

2. ARBUTUS *Andrachne*, (Andrachne) or Eaſtern Broad-leaved Arbutus.

A moderate tree, growing ten to twelve, or fifteen feet high, or more: the ſtem tree-like, branching irregular; leaves (largiſh) ovate, ſmooth, intire; and large, red berries, having many ſeeds.—Native of the Eaſt—in the Levant.

3. ARBUTUS *Uva-urſi*, (Uva-urſi) Bear-berry, or Dwarf Arbutus.

A low, trailing, ſhrubby plant; the ſtems ſlender, branchy, and procumbent; leaves *(ſmall)* ovate, and intire; and ſmall, red berries.—Native of the cold parts of Europe, Canada, &c.

4. ARBUTUS *alpina*, Alpine, or Mountain, trailing Arbutus.

A ſmall, trailing, ſhrubby plant; the ſtems ſlender and procumbent; leaves (ſmall) oblong, roughiſh, and ſawed; and ſmall berries, black when ripe.—Native of the mountains in Lapland, Switzerland, Siberia, England, &c.

Of

Of the above four ſpecies of Arbutus, the firſt two are of the ſmall and moderate tree kind, growing with an upright ſtem, and branchy head; and the Common Arbutus particularly, has generally red ſhoots: are both very beautiful ever-greens, and ſingularly ornamental in their numerous cluſters of flowers, in autumn, about September, October, and November, ſucceeded by the fruit in the ſame ſeaſon; but do not attain perfection till autumn following, requiring a whole year to grow to maturity: ſo that the trees, in autumn, being in full flower, and furniſhed with young and ripe fruit, all at the ſame time, make a remarkably fine appearance, and the greateſt ornaments of the ſeaſon; and the different varieties of the Common Arbutus diſplay an entertaining diverſity, eſpecially the Double and Scarlet-flowered kinds, more particularly the latter; and all of which, both of the ſpecies and varieties, are moſt deſirable furniture to introduce in principal ſhrubberies, in aſſemblage with other tree and ſhrub kinds, placing them conſpicuouſly, or ſome diſpoſed ſingly, upon lawns and other graſs-plats; generally allotting them a ſheltered, warm ſituation.

The other two ſpecies are dwarfiſh, trailing, ſhrubby plants, ſometimes admitted in collections to increaſe the variety; placing them towards the front of ſmall compartments, in moiſt ſituations; or, as in the places of their natural growth, they generally inhabit boggy, or moiſt, moſſy ground, if they could be allotted ſomewhat ſimilar ſoils in gardens, or in pots placed in ſuch ſituations, the plants may prove more proſperous and durable. They are propagated by ſowing the ſeed, and by layers and cuttings of the trailing branches; though they are plants rather reluctant to culture.

However, for ornamental purpoſes in pleaſure-grounds, the Common and Eaſtern Arbutus have particular merit; the former of which is the moſt prevailing, and generally cultivated, as producing more plenty of ripe berries and ſeed, wherewith to raiſe the plants in greater abundance than the other ſort: both the ſpecies are ſomewhat tender in their young growth, but ſufficiently hardy, in their more advanced ſtate, to ſucceed in the open ground in any common ſoil, in a ſheltered ſituation, or in any principal compartments where they may enjoy the ſun in winter, and if where ſomewhat defended from the northerly blaſts, it will be the greater advantage.

Theſe deſirable, ornamental trees are cultivated abundantly in all the principal nurſeries, more particularly the Common Arbutus, and where they may be obtained for planting, either in young or more advanced growth, from two or three, to five or ſix feet.

The beſt ſeaſon for planting the Arbutus is, principally, either in autumn, about the middle or latter end of September, if rain has fallen abundantly, or in October and November; otherwiſe in the ſpring, in mild weather, from February or March to the beginning or middle of April; and, where convenient, to remove or tranſplant them, with balls of earth to their roots, that they may not receive much check by removal, will be of beneficial advantage; and, in either caſe, give water at planting; eſpecially if early in autumn, or advanced part of the ſpring ſeaſon.

The Arbutus is propagated principally by ſeed contained in the berries, which, ripening in autumn, gather in dry weather, and ſowed, ſome at that ſeaſon, in a bed or pots of light earth; or the berries may be preſerved in dry ſand till February or March, then ſowed; previouſly bruiſing the berries to ſeparate the ſeed, which then ſow, ſome either in beds, half an inch deep, or wholly, or part, in pots of light earth; and if in ſpring the pots are placed in a hot-bed it will forward the germination of the ſeed, and the growth of the young plants, which give frequent waterings, and plenty of free air; or removed fully therein at the approach of ſummer, to where they may be ſhaded from the mid-day ſun; and in autumn, or ſpring following, tranſplant them, ſingly, in ſmall pots, in order to move under ſhelter of a frame, the firſt two or three winters; giving, however, the full air all that ſeaſon, in mild weather, and only defended with glaſſes or mats, &c. in ſevere froſt; and when the ſeedling plants are two or three feet high, ſhould be tranſplanted with balls of earth into the open ground; and when of two or three to four or five feet, are proper for the ſhrubbery. &c.

Or they may be raiſed by ſowing in the open ground, in the ſpring, planting ſome of the young plants in pots as above, to have occaſional protection in ſevere weather in winter, for a year or two.

The Eaſtern Arbutus is propagated alſo by the ſame method as above; but, as the berries do not ripen ſo plentifully in this country, they are obtained from the Levant, where the trees grow naturally in great abundance.

Both theſe ſpecies and the varieties are alſo propagated, occaſionally, by layers of the lower young wood, in autumn or ſpring, and ſometimes by cuttings, but is often two years before they make any progreſs; and the cuttings ſeldom root freely; or the latter may be forwarded in a hot-bed in the ſpring: but generally obſerve, the different varieties of the Common Arbutus muſt be propagated either by layers or cuttings, or more certainly by budding or inarching them upon ſeedling ſtocks of that ſpecies, as they will not come the ſame in their diſtinct properties when raiſed from ſeed.

Aristolochia, BIRTHWORT.

Class and Order.

Gynandria Hexandria,
Male and Female joined, Six Males, or Stamina;
Or Plants with Hermaphrodite Flowers, having the Stamina, or Males, growing either upon the Style, or Female, or both Male and Female upon a Style-Form Receptacle, and having six Stamina, or Males.

FOR this diviſion, the Ariſtolochia furniſhes a low, under-ſhrubby plant for the ſhrubbery, &c. adorned with ſpear-ſhaped, hearted leaves, and irregular flowers, ſingly; ſucceeded by oblong capſules, furniſhed with ſeed.

Generic Characters.—Hermaphrodite flowers, no calyx or cup; corolla, or flower, irregular, gibbous, or ſwelling at the baſe, cylindric-tubulous upward, ſpreading at the brim, extended in the under part, tongue-form: ſix ſtamina, or rather only anthera, placed on the ſtyle under the ſtigma. Piſtillum, an oblong, angular germen, under the flower, ſupporting a globular, ſix-parted ſtigma; and the germen grows a large, trivalved, unilocular capſule, different formed, filled with numerous ſmall ſeeds.

The Species is,

Aristolochia *arboreſcens*, Tree or Shrub Birthwort.

A ſmall under-ſhrub, two or three feet high; the ſtems and branches ſhrubbyiſh, erect; leaves hearted-ſpear-ſhape, and dark-purpliſh flowers, ſingly at the axillas of the leaves.—Native of North America.

This ſmall, ſhrubby plant, is proper to admit in ſhrubberies towards the front part; but being ſomewhat tender, ſhould have a warm, ſheltered ſituation, or, occaſionally, protected in ſevere froſts; or ſome may alſo be kept in pots, to move under ſhelter in winter: it may be propagated by ſeeds ſowed in the ſpring, in a bed or pots of light earth: give ſhelter in winter; and when the plants are one or two years old, tranſplant them in nurſery beds or pots, till of proper ſize for final tranſplanting.

Artemisia, (Mugwort) WORMWOOD, &c.

Class and Order.

Syngeneſia Polygamia Superflua,
Conjoined Males, Many Marriages, Superfluous Females;
Or compound Flowers, compoſed of Hermaphrodite and Female Florets; the Stamina, or Males, joined together at top; and Female Florets ſuperfluous or unneceſſary.

OF the Artemeſia family, are two hardy ſpecies, of ſhrubby and under-ſhrubby plants, of the ever-green and deciduous tribes, valuable principally for ornament and variety in ſhrubbery compartments; growing upright, three to four or five feet high; adorned with compound, multifid, and finely-divided leaves; and the branches terminated by ſpikes and heads of ſmall, greeniſh, compound flowers, of many ſmall florets within one general cup, each floret ſucceeded by a naked ſeed.

General Characters.—Compound flowers, of many ſmall florets, in one general calyx: the calyx roundiſh ſcaly, and round ſcales. Compound flower, compoſed of female florets on the border or radius, furniſhed each with a ſmall, germen, ſlender ſtylus, crowned with a bifid ſtigma; and hermaphrodite, tubulous florets in the diſk, or middle, five-parted at the brim, having each a ſmall germen, ſtile and ſtigma, as the females, and five ſtamina crowned by cylindric anthera, five-dented; and in all the florets the germen becomes a naked, ſingle ſeed.

The Species are,

1. Artemesia Abſinthium *arboreſcens*, Tree Wormwood.

Ever-green ſhrub, four to five or ſix feet high; the ſtem ſhrubby, upright; leaves compound, *(ſmall, hoary)* multifid, or divided into many linear ſegments; and ſmall, ſub-globular, greeniſh flowers.—Native of Italy and the Eaſt.

2. Artemisia *Abrotanum*, (Abrotanum) or Southernwood.

A deciduous under-ſhrub, three feet high; the ſtems and branches ſhrubby, upright; the leaves branching, finely-divided into numerous, briſtly ſegments; and terminal ſpikes of ſmall, greeniſh flowers.—Native of Styria, Cappadocia, Italy, Montpelier, &c. on hills.

Varieties of this.—Common narrow-leaved Southernwood.
Broad-leaved Southernwood.
Dwarf Southernwood.
Broad-leaved, Scentleſs, Southernwood.
Hoary narrow-leaved Southernwood.

Both the above ſpecies of *Artemiſia*, and the reſpective varieties, being ſhrubby plants of moderate and ſmall growth, are adapted for the ſhrubbery, to diverſify clumps and other compartments; the firſt as an ever-green, effecting a conſpicuous variety in its hoary, compound-leaves, at all ſeaſons of the year; the ſecond as a deciduous under-ſhrub, eſteemed for its fragrant ſcent; and is proper to introduce towards the front of ſhrubbery-clumps, &c. and to adorn flower borders, or to plant in pots occaſionally; and of which two ſpecies, the ever-green ſort, or Tree Wormwood,

wood, being ſomewhat tender, ſhould generally have a defended, warm ſituation; but the Southernwoods may be planted any where, as they grow freely in any ſoil and ſituation: are all eaſily propagated by cuttings or ſlips of the branches, and the Southernwood alſo by ſuckers; training the whole generally with a ſingle ſtem below, and branchy, buſhy heads above; and as the Southernwood particularly, ſends up numerous bottom ſuckers, theſe ſhould be occaſionally detached in winter or ſpring, to preſerve the plants ſingle, to grow with more regular, full heads; and the ſlipped-off ſuckers, if wanted, are proper for planting, and each will immediately form a new plant.

Theſe ſhrubs are raiſed in all the nurſeries, for public ſupply; and of the Southernwood particularly, the ſetting gardeners, in the vicinity of London, raiſe amazing quantities, trained with buſhy heads, for the ſupply of the markets of that city, and the hawkers, to ſell about the ſtreets, and environs of the metropolis, for furniſhing their ſmall gardens, courts, balconies, &c. as they will grow any where.

The ſeaſon for planting theſe ſhrubs is any of the ſpring months, till May, and in autumn, from September to November; or the Southernwood, as it readily removes with a ball of earth, may be tranſplanted at almoſt any ſeaſon, occaſionally.

The propagation, or method of raiſing theſe two ſpecies, is by cuttings, ſlips, layers, ſuckers, according to the following direction.

The tree Wormwood is propagated either by cuttings or ſlips of the young ſhoots and branches, in ſpring or ſummer, till July, detaching them ſix or eight inches long; clear off the under leaves, and plant them in a ſhady border; give water, and they ſoon ſtrike root the ſame ſeaſon; or may alſo be propagated by layers of the young branches in ſpring, which will be well rooted, for planting off, in autumn following; and when, in either method, they are two, three, or four feet high, are proper for the ſhrubbery, &c. or may likewiſe plant ſome in pots, to remove under ſhelter in winter, when froſts prevail.

And the Southernwood propagates abundantly both by ſuckers advancing from the bottom, and by cuttings and ſlips of the ſhoots and branches: the ſuckers may be detached in any of the ſpring or autumn months; either ſlip them off from old plants, or large plants, conſiderably increaſed in many ſuckers, may be taken up and ſlipped, or divided into ſeparate ſets, each furniſhed with roots, planted in any beds, or borders, a foot apart, or larger ſuckers, planted at once where they are to continue; and by ſlips or cuttings of the branches, may be performed in March, April, and May; the ſhoots ſlipped, or cut off, ſix or eight, to ten or twelve inches, planted in a ſhady border, or any beds of common earth, in rows, ſix to twelve inches aſunder, well watered; and they will all ſoon emit roots, and grow freely: generally train the whole with a ſhort, ſingle ſtem below, and with regular full heads, either permitted to run, or the long top ſhoots cut down occaſionally, to keep the heads buſhy; and when, from one to two, or three feet high, may be tranſplanted into ſhrubberies, flower-borders, &c.

The principal culture of both the above ſpecies, after final planting, is chiefly to prune cauſual, irregular growths; or to cut rambling ſhoots on the ſides, or above, as may ſeem neceſſary, and where the Southernwood increaſe conſiderably in bottom ſuckers, they ſhould be ſlipped off more or leſs, to preſerve the main plants in regular growth.

ASH TREE (FRAXINUS.)

In the Botanic Syſtem, the Aſhes belong to the Claſs and Order

Polygamia Dioecia,
Many Marriages, Two Habitations;
Or Male, Female, and Hermaphrodite Flowers, on two ſeparate Trees.

THE ASHES, compriſing ſeveral ſpecies and varieties, are all of the tree kind, growing from twenty or thirty to fifty or ſixty feet high, or more; ſome of which are of conſiderable valuable, as foreſt or timber trees, both in their large ſtandard growth, and in underwood, for coppices, &c. and of which the Common Aſh is ſuperior, for its loftieſt ſtature and greateſt magnitude in the body: its timber abundantly uſeful in many employments, and moſt eligible to aſſemble largely in foreſt-tree plantations; and the others are proper to introduce in ſmaller ſupplies, and for variety: are all of the deciduous tribe, or ſuch as defoliate, or ſhed their leaves in winter; the leaves all of the compound, pinnated kind, compoſed of from three, four, to five pair of ſmall folioles, or leaflets, terminated by an odd or end foliole; and ſmall, greeniſh flowers, collected into ſpiked bunches, moſtly apetalous, (without petals, or flower leaves) and ſucceeded by bunches of compreſſed, lanceolate pericarpiums, or ſeed-veſſels, called Aſh-keys: ripe about October; eſpecially in the Common Aſh in this country; proper for ſowing the ſame ſeaſon, or the following ſpring, for raiſing ſupplies of young trees of the ſorts required.

The Species of FRAXINUS are,

1. FRAXINUS *excelſior*, Loftieſt, or Common Aſh Tree.

A lofty-growing large tree, ſixty or ſeventy feet high; the leaves pinnated or winged, moſtly of ſeven

ven leaflets ſawed; and the flowers without petals.—Native of England and other parts of Europe, &c. in hedges and woods.

Varieties of this.—Silver-ſtriped-leaved Common Aſh.
Gold-ſtriped-leaved Common Aſh.

2. FRAXINUS *americana*, American Intire-leaved Aſh.

A tree of middling growth, thirty or forty feet high; the leaves pinnated, of ſeven or nine folioles or leaflets intire, and the petiole or foot-ſtalk round.—Native of Carolina and Virginia, in North America.

Varieties of this.—Black American Aſh.
White American Aſh.

3. FRAXINUS *Ornus*, (Ornus) or Flowering-Aſh.

A ſmall tree, fifteen or twenty feet high; leaves pinnated, of three or four pair of leaflets ſawed, and the flowers furniſhed with a corolla, or petals.—Native of the ſouthern parts of Europe and of America.

Varieties of this.—Dwarf, Flowering-Aſh.
Panicled Flowering-Aſh.
Round-folioled Flowering-Aſh, or Manna-Aſh of Calabria.

All theſe ſpecies and varieties of Aſh are hardy, deciduous trees, that will ſucceed in any common ſoil and ſituation; are valuable to cultivate or plant, ſome for uſeful and others for ornamental plantations, and variety, in aſſemblage with other hardy trees and ſhrubs; of which the Common Aſh ſurpaſſes all the reſt in its ſtraight, ſwift procerier growth, with a trunk or ſtem of conſiderable ſubſtance; proper to rank as a firſt rate foreſt, or timber-tree: the next in growth and value, is the American Aſh, which may alſo arrange in the foreſt-tree collection, in a moderate proportion; and the *Ornus*, or flowering Aſhes, with the different varieties thereof, and thoſe of the other ſpecies, are admitted principally in large decorative, or pleaſurable tree plantations and ſhrubberies; or may alſo, for the ſame occaſion, introduce the Aſhes in general, eſpecially in any conſiderable outward plantations, in pleaſure-grounds, parks, boundaries of capacious lawns, and in any out-grounds, in extenſive premiſes, to increaſe the variety in a diverſified manner.

But the Common Aſh in particular, conſidered as a principal foreſt-tree, deſerves general culture in all plantations of that kind, for its ſuperior growth and great uſefulneſs of its timber, &c. in various material occaſions, and for which it is valuable to cultivate both in woods, &c. in large ſtandard trees, for timber, and in coppices for underwood; and may alſo be planted in hedge-rows of fields, for the ſame purpoſes, as the trees will proſper in any common ſoil, and in any ſituation where convenient, not ſubject to ſtanding water; and in which plantations the ſtandards will advance in a ſwift, ſtraight growth, for timber trees, and the underwood will run up expeditiouſly for poles, and other occaſions, to fell in a thinning order, while in young growth, of from ten to fifteen or twenty feet high, leaving plenty of the moſt promiſing to run up for large ſtandards.

The different ſpecies and varieties of Aſhes are raiſed in all the nurſeries, for public ſupply of common plantations; but where conſiderable plantations are intended to form woods and coppices, for timber and underwood, it would be much ſaving to raiſe them in home nurſeries, on the eſtate where ſuch plantations are deſigned to be formed.

The ſeaſon for planting Aſhes is any time after the fall of the leaves, in October or November, or during the winter months, in open weather, or to compleat the whole in ſpring.

The Aſhes are propagated, or raiſed from ſeed, and the varieties are continued permanent by raiſing them by layers, grafting and budding, &c.

The ſeed may be ſowed in autumn, about October, November, or December, or in the ſpring, in February and March, on beds of light earth, either in drills, ſix inches, or a foot aſunder, or on the ſurface, and earthed over one or two inches thick, they will come up in the ſpring; and when the young trees are of two years growth, ſhould be tranſplanted from the ſeed-beds, in autumn or ſpring, and placed in nurſery rows, two feet, or two and a half aſunder; kept clear from weeds, by hoeing in ſummer, and by digging between the rows in winter, or ſpring; and according as they advance in growth, prune up ſtrong ſide-ſhoots of the ſtem, preſerving the main top-ſhoot intire, to aſpire in height; and thus, when the young trees are advanced from three, four, five, or ſix, to eight or ten feet high, they are of proper ſize for final tranſplanting in the different plantations intended.

To raiſe the varieties by layers, have ſome young trees cut down to the bottom to produce lower ſhoots, near the earth convenient for laying, which may be performed in autumn or ſpring, and will be rooted in one ſummer for planting off in autumn, into nurſery rows, as adviſed for the ſeedling trees, to acquire a proper growth for final tranſplantation.

The Flowering-Aſh, or any particular variety, may be propagated by innoculating buds thereof into ſtocks of the Common Aſh, or any other ſpecies of the ſame family.

When the trees, raiſed by either of the above methods, are three or four, to ſix, eight, or ten feet high,

high, they are of eligible growth for final tranſplanting, or occaſionally, young trees of twelve or fifteen feet, or more, may be tranſplanted; though, when planted younger, they ſooner root more effectually, and advance in a more free growth; and for timber plantations particularly, if planted where they are to remain, when from about three or four, to five or ſix feet, they will root freely, and eſtabliſh themſelves more effectually, to make handſomer large trees, in the end, than thoſe planted of larger growth: however, for this occaſion, ſhould never be more than eight or ten feet high for any general plantation.

To plant Aſhes for timber and underwood, they may be planted both in aſſemblage with other deciduous foreſt-trees, as maples, birches, &c. and ſome in diſtinct plantations, wholly of the Aſh kind; and in both of which, when deſigned to plant in cloſe rows, to allow for thinning in advanced growth, or to remain cloſe, for coppices, to fall every ſix, ſeven, eight, or ten years for ſmall wood, it would be of advantage, if the ground, where practicable, could be prepared, by ploughing, &c. but where intending to plant at wide diſtances, to continue wholly for large ſtandards, may only dig apertures for the trees: the cloſe planting for the above occaſions, may be in rows, from three or four, to five or ſix feet aſunder, by the ſame diſtances in the rows; or for wider planting, to continue in full growth, they may be from ten to twelve, or fifteen feet aſunder, or at greater diſtances, in particular places, as may be thought convenient.

Or ſometimes plantations of Aſhes are raiſed by ſowing the ſeed in the places where the trees are always to ſtand, both ſeparately and ſometimes with thoſe of other foreſt-trees; either ſowed in ſhallow drills, drawn by a plough, &c. three or four, to five or ſix feet diſtance, or ſometimes broad-caſt, and ploughed in a moderate depth; and when the young trees come up, ſome may be thinned out, where too thick, and planted in other places, if wanted.

The young plantations, in either methods, ſhould be defended with outward fences, as ditches, hedges, &c. from the depredations of cattle.

In the advancing young growth of the trees, keep them clear from large over-topping weeds; and in thoſe deſigned for continuing ſtandards, prune away lower lateral ſhoots from the ſtem, that they may run up clean and ſtraight, and occaſionally lop low ſtraggling branches of the head, continuing the main-top leader, and other general top-branches, in full growth; and the plantations of cloſe planting, deſigned for thinning by degrees, for poles and other ſlight purpoſes, or thoſe allotted for coppices, they, when advanced in growth, ſhould be thinned accordingly, ſelecting a ſufficiency of the fineſt, ſtraight plants, at moderate diſtances, to run for ſtandards, cutting down the others; the ſtools remaining will ſhoot out again, and will thus afford a cutting once in ſeven, eight or ten years, or according to their increaſed growth, or the purpoſes for which they may be intended; the ſtandards alſo being left at ſmall diſtances at firſt, theſe, in advanced growth, may likewiſe be thinned for particular occaſions, leaving enough, at from ten to fifteen or twenty feet, to advance to full ſize for large timber.

ATRIPLEX, (ORACH) SEA PURSLANE TREE.

Claſs and Order.

Polygamia Monoecia,
Many Marriages, One Habitation;
Or Flowers of different Sexes, as Females and Hermaphrodites, ſeparate, on the ſame Plant.

THE *Atriplex* furniſhes two hardy ever-green ſhrubs, curious in their whitiſh-green leaves, to aſſemble in the ſhrubbery; are plants of moderate and ſmaller growth, in the different ſpecies, adorned with delta-form and ovate, ſilvery leaves, and apetalous flowers, ſucceeded each by one roundiſh, orbicular ſeed; but which is ſeldom uſed in propagating the plants, they being generally raiſed by cuttings, &c.

Generic Characters.—Female and hermaphrodite flowers, ſeparate on the ſame plant; calyx, in the hermaphrodites, five-leaved; the leaves oval, concave, and permanent, no corolla or petals; five awl-ſhape ſtamina, crowned with double anthera, an orbicular, central germen, ſhort two-parted ſtyle, terminated by reflexed ſtigma; a two-leaved calyx in the female flower; no petals nor ſtamina, but a germen and ſtyle, &c. and in each the germen becomes an orbicular ſeed, lodged in the calyx.

The Species are,

1. ATRIPLEX *Halimus*—(Halimus) or Broad-leaved ſhrubby Atriplex, called Sea-Purſlane Tree.

Ever-green ſhrub, growing five or ſix feet high, or more; the ſtem ſhrubby, branches ſpreading; leaves *(moderate ſmall)* delta-ſhape, ſilver-coloured.—Native of Spain, Portugal, and Virginia, in hedges, &c. near the ſea. *(Any common ſoil.)*

2. ATRIPLEX *Portulacoides*—(Portulacoides) Purſlane-leaved Atriplex, or narrow-leaved Sea-Purſlane Shrub.

Ever-green under-ſhrub, three or four feet high; the ſtem ſhrubby, head buſhy; leaves (*ſmall, narrow*) obovate, whitiſh-green.—Native of England and other northern parts of Europe, by the ſea-ſide. *(Any ſoil.)*

Theſe two ſhrubby ever-greens are eligible to introduce in the pleaſure-ground, for ornament and va-

riety, in aſſemblage with other ever-green ſhrubs, and occaſionally deciduous kinds, in clumps and other ſhrubbery compartments; in which they will diſplay a very conſpicuous and agreeable variety and diverſity, in their white, ſilvery-coloured leaves; generally allotting them ſome principal diſtricts: are both of hardy growth, to ſucceed in any ſituation, and in moſt ſoils of a moderately dry temperature.

They may be obtained at moſt of the nurſeries, of a proper ſize for planting, which may be performed in the ſpring or autumn.

Both the ſorts are propagated by cuttings of the young ſhoots, in ſpring and ſummer: planted in a ſhady border, and frequently watered in dry weather, they will root freely the ſame ſeaſon, to admit of tranſplanting in autumn or ſpring following, either in nurſery rows, to acquire a proper growth for the ſhrubbery; or ſome, of larger growth, may be tranſplanted at once into the places where they are to remain.

As to general culture, may only give occaſional pruning, to reduce to order any irregular branches, and to cut out dead wood when any occurs, and in common with other ſhrubs kept clean from weeds in ſummer; and the ground digged in autumn, winter, or ſpring.

AZALEA, AMERICAN HONEYSUCKLE.

Claſs and Order.

Pentandria Monogynia,
Five Males, One Female;

Or Plants having Hermaphrodite Flowers, furniſhed each with five Stamina, or Males, and one Piſtillum, or Female Part.

THE *Azaleas* are deciduous flowering ſhrubs, producing very ornamental flowers; deſirable plants to aſſemble in principal ſhrubberies, borders, &c. in the pleaſure-ground: are of moderate and middling ſhrubby growth, advancing moſtly with ſeveral ſtems, four or five, to ſix or eight feet high; adorned in ſummer with lanceolate and ovate ſimple leaves; and at the extremity and axillas of the branches, cluſters of white and red, long tubulous, fragrant flowers, five-parted at top; having five internal ſtamina and one piſtil, ſucceeded by roundiſh capſules, filled with roundiſh ſeeds, by which (obtained from America, where the plants grow naturally) they may be raiſed; but in default of which, are propagated by ſuckers and layers.

General Characters.—Hermaphrodite flowers; the calyx ſmall, five-parted, acute, coloured, and permanent; corolla or flower, funnel-ſhape, with a long naked tube, five-parted above, the two upper ſegments reflexed back, the two ſides bent inward, and the lower ſegment turning downward: ſtamina, five ſmall, unequal filaments, terminated by oblong anthera; piſtillum, a round germen, long, ſlender ſtyle, crowned with an obtuſe ſtigma; and the germen grows a roundiſh capſule, containing many roundiſh ſeeds.

The Species of AZALEA are,

1. AZALEA *viſcoſa*, Viſcous-flowered White American Honeyſuckle.

A moderate, deciduous ſhrub, growing three or four feet high; the leaves ſpear-ſhape, (*middling ſize*) with rough edges; and corolla of the flower hairy, glutinous or clammy; (flowers white, &c.)—Native of Virginia. *(Moiſt or any ſoil.)*

2. AZALEA *nudiflora*, Naked-flowered Red Azalea.

Middle ſize deciduous ſhrub, growing ſix or eight feet high; the leaves ovate (middle ſize) and corolla of the flower hairy, and longeſt ſtamina; (the flowers red, on long naked foot-ſtalks.)—Native of Virginia. *(Moiſt or any ſoil.)*

Varieties of the two Species are.—Early White-flowered.
Late White-flowered.
Red-flowered.
Pale-Red-flowered.
Scarlet-flowered.
Late Red-flowered.

Theſe ſhrubs flower very ornamentally in July; the flowers long, tubulous, deeply cut at top into five parts, and ſomewhat reſembling thoſe of the common honeyſuckle, and impart an agreeable odour; ſo that the plants have great merit to arrange in principal ſhrubberies, and other compartments of the pleaſure-ground; and are hardy to grow in any common ſoil and ſituation, though they generally thrive more ſucceſsfully in moiſt ground.

They are cultivated plentifully in the nurſeries, where they may be procured for planting, at the proper ſeaſons.

The ſeaſons for planting them is either in autumn, about the decay of the leaves, in October and November, or in the ſpring, before they begin to ſhoot; or may be planted in any of the winter months, in mild, open weather; diſpoſing them generally in ſhrubberies, and any ornamental plantations, in aſſemblage with other deciduous ſhrubs, &c. placed according to their ſizes, more or leſs forward in the deſtined compartments, to arrange conſpicuouſly with ſhrubs nearly of ſimilar growth.

They are propagated principally by ſuckers produced from the bottom, which may be taken up in autumn

autumn or ſpring, with roots to each, and planted either in a nurſery, or ſome of the largeſt, at once where they are to remain; and the others, when of two, three, or four feet growth, may alſo be tranſplanted into the places where they are finally to continue; likewiſe, may propagate them by layers of the young ſhoots of the year, or preceding ſummer, layed down in autumn, or following ſpring: they will be moſtly ſufficiently rooted for planting off in the autumn or ſpring enſuing; alſo by ſeed, where attainable, ſowing it in the ſpring, in a bed of light earth; and when the plants are one or two years old, tranſplant them in nurſery-beds to acquire a proper growth for the ſhrubbery, &c. though in general, the propagation by ſuckers is the moſt common and expeditious method; and when the plants, raiſed by either method, are two or three feet high, or more, they are proper for the intended plantations.

In their future culture in the ſhrubbery, &c. they will only require a little occaſional pruning to reduce any irregular growth.

BACCHARIS, (Ploughman's Spikenard) GROUNDSEL TREE.

Claſs and Order.

Syngeneſia Polygamia Superflua,
United Males, Many Marriages, Superfluous Females;

Or compound Flowers, compoſed of Hermaphrodite and Female Florets diſtinct; the Stamina or Males united by their Tops; Female Florets ſuperfluous, or unneceſſary.

THE *Baccharis* has one hardy, ſhrubby ſpecies, a largiſh, curious ever-green, to admit in the ſhrubbery, decorated with ovate, glaucous leaves, and ſpikes of compound, white flowers, having one general calyx or cup, containing many ſmall hermaphrodite florets in the diſk, and females in the circumference; the former having five ſmall ſtamina and one piſtil, and the females a ſmall germen and ſtyle; ſucceeded in all the florets, by one ſeed in each: ripe in autumn for ſowing; but the plant is more generally propagated by layers and cuttings.

One Species.

BACCHARIS *halimifolia*, Sea-Purſlane-leaved Baccharis, or Groundſel Tree.

Ever-green ſhrub, four to five or ſix feet high; the leaves ob-ovate, (glaucous or ſea-green) the upper ones emarginated-crenated.—Native of Virginia. *(Any ſoil.)*

This ſhrub claims a place in the collection of evergreens, or to introduce in any principal ſhrubbery compartments, in a conſpicuous ſituation, where it will effect an agreeable variety in its glaucous, whitiſh-green leaves, at all ſeaſons; may be procured at moſt of the nurſeries, for planting, in autumn or ſpring; and is propagated by layers and cuttings of the young wood, in the ſame ſeaſons or early part of ſummer, which will be rooted by the autumn following; and may be forwarded in the nurſery till of two or three feet growth, and is then proper for the ſhrubbery, &c. where it requires only the common culture of other hardy ſhrubs; as hoeing the ground occaſionally in ſummer, to keep down weeds, and to dig the ground annually in autumn, winter, or ſpring.

BERBERIS, BERBERRY TREE.

Claſs and Order.

Hexandria Monogynia,
Six Males, One Female;

Or Hermaphrodite Flowers, furniſhed with ſix Stamina, or Males, and one Piſtillum, or Female.

The BERBERRY conſiſts of two ſpecies, and ſeveral varieties, of the ſmall tree, or large ſhrub kinds, all of the deciduous tribe; in eſtimation both for their production of fruit, (ſmall berries) for domeſtic occaſions, and to plant in ſhrubberies, or any ornamental compartments, in pleaſure-grounds, for variety, &c. in their general growth, foliage, flowers and fruit, grow about ſix or eight, to ten feet high, armed with triple thorns, and garniſhed in ſummer with ſmall, oval leaves, and ſmall, pendulous cluſters of yellow flowers; the flowers ſmall, having each a ſmall calyx or cup of ſix leaves, ſix ſmall oval petals, ſix ſhort ſtamina, a piſtillum, conſiſting of a ſmall germen and one ſtyle; and the germen becomes a cylindric berry, containing an oblong ſeed; the berries growing many together, in ſmall, looſe bunches: ripen in autumn, for uſe, to preſerve, pickle, &c. and for ſowing, by which to raiſe the trees, or are alſo propagated by layers, ſuckers and cuttings.

The Species of BERBERIS are,

1. BERBERIS *vulgaris*, Common Berberry Tree.

A ſmall tree or large ſhrub, (deciduous) growing eight or ten feet high; the head buſhy, leaves oval, *(Smalliſh, light-green)* and peduncles or flower-ſtalks, having flowers in racems or cluſters, ſucceeded by ſmall pendulous cluſters of red berries of an acid taſte. —Native of England and moſt parts of Europe, in woods, the Eaſt, and Mount Lebanus. *(Any ſoil.)*

Varieties.—Common Red-fruited Berberry.
Red-fruited, without ſtone or ſeed.
White-fruited Berberry.
Black-fruited Berberry.

2. BER

2. BERBERIS *canadenſis*, Canada broad-leaved Berberry, *(Suppoſed a Variety of the Common.)*

A ſmall tree, or moderate ſhrub (deciduous) growing ſix or eight feet high; the leaves oblong-oval, *(larger, light-green)* and flowers in cluſters.—Native of Canada. *(Any ſoil.)*

Both theſe ſpecies and varieties of *Berberis* are very hardy to grow in almoſt any ſoil and ſituation; they riſe with an erect ſtem, branching out low into many upright branches, defended with three-parted ſpines; and the trees commonly ſend up ſeveral root ſuckers.

They are eligible to cultivate in gardens and orchards, both as ſmall ſtandard fruit-trees, in a moderate ſupply, where the berries may be in requeſt, for candying, &c. and to introduce in ſhrubberies for variety and ornament, in which the flowers in ſummer, and the cluſters of berries in autumn, effect an agreeable diverſity; and may be admitted in any plantation compartments of the pleaſure-ground, where thought neceſſary; or planted ſingly in capacious borders, &c. and, in any method of planting, they produce plentiful crops of berries, ripe in autumn, about September and October; and which, in many families, are in great eſtimation for preſerving or candying, being of an agreeable, acid reliſh; and are alſo ſometimes pickled, and uſed occaſionally for garniſh to diſhes ſerved up to table; but for theſe occaſions the Common Red-berried kinds only are proper; and for candying particularly, the ſtoneleſs-fruited ſort is conſiderably preferable to the Common.

For the above different occaſions, the trees are trained in ſtandards, generally each with a ſingle ſtem, three to four or five feet, and then permitted to branch out at top in full growth; they were alſo, formerly, ſometimes planted for garden hedges, and in which, by proper clipping, will grow cloſe and regular.

The different ſpecies and varieties are cultivated in moſt of the public nurſeries, where they may be obtained for planting, which may be performed any time from the decay of the leaves, in October and November, in open weather, to March or beginning of April; and may be planted in any common ſoil and ſituation; though, where the berries are required for uſe, the trees growing in an open expoſure to the full ſun will produce them in the beſt perfection.

They are propagated by ſeed, ſuckers, layers, or cuttings; but by ſeed, is eligible occaſionally, only for the common ſort, as in the varieties, the ſeedling plants do not always come the ſame; and of which, the ſtoneleſs ſort being deſtitute of ſeed in the berries, it can be propagated only by the other methods; and which is alſo the moſt certain way whereby to continue any other varieties diſtinct: however, when required to raiſe any ſorts indifferently from the ſeed or berries, ſow them in October or November, &c. in a bed of light earth, an inch deep; and when the young plants are of one or two ſummers growth, tranſplant them into nurſery beds, &c. Suckers advancing from the roots of old trees, may be taken up with roots, in autumn, winter, or ſpring, and planted in a nurſery, they at once form proper plants; and layers and cuttings of the young wood in autumn or ſpring, will be rooted in one year; and in which methods continue them trained in the nurſery, with a ſingle ſtem below, and a full head above; and when from three or four, to five or ſix feet growth, are of proper ſizes to tranſplant finally where they may be intended.

In their general culture in gardens, &c. keep them cleared from root ſuckers, prune out rampant ſhoots of the ſtem and head, with any irregular branches and dead wood.

BETULA, BIRCH TREE, including alſo the ALDER.

Claſs and Order.

Monoecia Tetrandria,
One Habitation, Four Males;

Or Male and Female Flowers, ſeparate on the ſame Plant or Habitation; and Male Flowers, with four Stamina.

THIS Genus, or Family of *Betula*, compriſing alſo the *Alnus*, or Alder, furniſhes ſeveral ſpecies of large, moderate, and ſmall deciduous trees, valuable both for timber and underwood plantations, and to introduce in large pleaſurable plantations, ſhrubberies, &c. for variety; are all of moſt hardy growth, twenty or thirty, to fifty or ſixty feet high, one of dwarfiſh ſize; and garniſhed with ovate, and heart-ſhaped, oblong, and roundiſh leaves, all ſimple, ſmall, middling, and largiſh; and with ſmall male and female flowers, in ſeparate, cylindric, and roundiſh amentums, or catkins, compoſed of ſcaly calyxes, and very ſmall florets, ſucceeded in the female amentums, by a ſingle ſeed in each floret: ripe in autumn, proper for ſowing to raiſe ſupplies of the trees; and which are alſo propagated by layers, and ſome moſtly by cuttings.

Characters.—Male and female flowers, apart, on the ſame tree, in ſeparate amentums; the males collected in cylindric, looſe, ſcaly amentums, each ſcale having three ſmall florets, of one petal, four-parted, and have each four ſtamina; and female flowers in ſcaly, imbricated amentums, and roundiſh heads, two florets in each ſcale, no viſible petals, a minute oval germen,

germen, two briſtly ſtyles, and ſucceeded in each female floret by an oval ſeed.

The Species of BETULA are,

1. BETULA *alba*, White, or Common European Birch Tree.

A lofty-growing, ſtraight tree, forty or fifty feet high; the bark white, leaves *(ſmalliſh)* ovate, acuminated or pointed, and ſawed on the edges.—Native of Britain and the cold parts of Europe, &c. *(Moiſt or any ſoil.)*

2. BETULA *nigra*, Black Virginia Birch.

A lofty tree, ſixty feet high or more; the leaves *(ſmalliſh)* rhomboid-ovate, pointed and doubly-ſawed.—Native of Virginia and Canada, in North America. *(Any ſoil or moiſt.)*

Varieties of this.—Common ſmaller-leaved Black Birch.
Broad-leaved Black Birch.
Poplar-leaved Black Birch.
Paper-barked Black Birch.
Brown Birch.

3. BETULA *lenta*, Lenta-twigged, or Poplar-leaved Canada Birch.

A lofty, large tree, growing ſixty feet high or more; the leaves *(ſmalliſh, dark green)* hearted-oblong ovate, pointed and ſharply ſawed.—Native of Canada and Virginia. *(Any ſoil or moiſt.)*

4. BETULA *nana*, Dwarf Lapland Birch.

A ſmall tree, ſhrub-like, four or five feet high; the leaves (ſmall) orbicular or roundiſh, and crenated.—Native of the Alps of Lapland, Swamps of Sweden and Ruſſia. *(Any moiſt or other ſoil.)*

5. BETULA *Alnus*—*(Alnus)* or Alder Tree (Common.)

A middling tree, growing twenty-five to thirty feet high; the leaves *(middling large)* ovate-oblong, and the peduncles or flower-ſtalks branching; roundiſh fruit.—Native of England and other parts of Europe, and in America. *(Moiſt ſituations.)*

Varieties.—Long-leaved American Alder Tree.
Glutinous, Round-leaved Turky Alder Tree.
Hoary-leaved Alder Tree.
Black Alder.
Scarlet Alder.

Theſe five ſpecies of Betula are all deciduous, or expand their leaves only in ſummer; the leaves ſimple, from one or two, to three inches broad, two or three, to four inches long, in the different ſpecies.

All the above ſpecies and varieties, both of the Birches and Alder, are very hardy, deciduous trees, eaſily propagated or raiſed abundantly by ſeed, layers, and the Alders alſo by cuttings; and are all adapted to grow in any ſituation where they may be required, for profitable or ornamental planting, or for variety; the common Birch and Alders growing naturally in moſt parts of Britain, the former both in moiſt, ſwampy ſoils, dry and other ſituations, and the latter chiefly in ſwampy grounds and near water: the trees of both the ſpecies are proper to cultivate accordingly in ſimilar ſoils, as are likewiſe all the other ſorts of Birches and Alder, they being equally hardy; and the Birch kinds in general may occupy any ſituation, moiſt, dry, low, or upland; the Alders principally in moiſt land, though they will alſo grow almoſt any where; ſo that the trees of all the ſorts of Birch and Alder admit of cultivation in moſt ſituations, and are eligible to introduce in waſte or other grounds, either diſtinct, or to aſſiſt in compoſing any plantations of large, deciduous trees, deſigned for profit, variety, ſhade, ſhelter, &c. in extenſive or other premiſes, as may be thought convenient; or the Alders being naturally aquatics, they always grow the moſt thrivingly in moiſt, ſwampy, or watery places.

In regard to the particular and general utility of the different ſpecies in plantations, all the tree kinds are eligible to cultivate both as foreſt-trees, in full ſtandards, for timber, and in coppices of under-growth, to cut for ſmall wood; or likewiſe any particular ſpecies, or the whole occaſionally to introduce for variety, or to diverſify any hardy tree plantations, in extenſive pleaſure-grounds, parks, and other capacious diſtricts, diſpoſed in groves, thickets, woods, clumps, &c. and in any running boundary plantations extending along the borders or verges of parks, paddocks, and other ſimilar diſtricts; and for all of which purpoſes, theſe hardy trees may be admitted in any ſituations; though the Alders particularly, as aforeſaid, may be cultivated to the moſt conſiderable advantage, for profit, in any marſhy land, or by the ſides of water, and in waſte, ſwampy ground, adapted principally for the growth of aquatic trees; likewiſe the Birches will grow in low, ſwampy ſituations, and will alſo proſper in upland grounds, moiſt or dry, and barren ſoils, as ſcarcely any place comes amiſs to theſe trees in their general growth.

Of theſe trees, both of the Birches and Alders, might be planted in any low, moiſt lands, to very beneficial improvement and profit, both to grow for large ſtandards, for timber, and to form coppices, to cut in ſmall growth, for poles, &c. and the Birches alſo for the bruſh-wood loppings for the broom-makers, which,

which, in large cities and towns, is in great demand, and of which, amazing quantities are brought to London by land and water carriage, and ſtacked up in yards and warehouſes for uſe as wanted.

The wood of the Birch and Alder is uſeful in ſeveral trades; the ſmall wood for poles, ſtakes, &c. and that of the Birches, for hoops to caſks or tubs, barrels and other veſſels; and the ſmaller loppings is in great requeſt for birch-brooms, and in both ſorts, the larger wood is uſed by the turners, and for making ſeveral huſbandry implements; and that of the Alder is alſo adapted for any under-ground occaſions, or laid in water, &c. as it will continue ſound in long duration; and the wood of both ſorts is eligible for fuel.

So that for profitable plantations, theſe trees deſerve admittance plentifully in all extenſive ſituations, and particularly in any infertile or waſte lands, or uncultivated grounds, where but few other plants will proſper; or in any ſituation where it may be thought eligible or convenient, and where of ſome conſiderable extent.

The Alders, as before obſerved, may be planted to much advantage in ſwampy, waſte grounds, or contiguous to water, as in which places they proſper exceedingly, advancing expeditiouſly to a large ſize, requiring but very little culture; and are profitable both to have in cloſe growth, for coppice wood, to cut every five, ſix or eight years, for various ſmall purpoſes, and in plantations for large ſtandards for timber; and in both of which, they, in their ſwift vegetation, afford a quick profit, eſpecially as they may occupy ſituations and ſoils not eligible for other cultivation; and in each falling or cutting, they, being cut down low, will ſhoot up again from the bottom: this tree is alſo very uſeful to plant occaſionally in young plants, or in ſmall or large cuttings along river ſides, or other running water, where liable to undermine the banks; and being planted in a cloſe row along the edges, will root thickly and ſupport the banks ſecurely; and is likewiſe well adapted to plant for hedges in any low, marſhy ſituations, either as boundary or diviſion fences, to ſuch places where it may be thought neceſſary; and for which different occaſions they may be raiſed from ſeed, cuttings and layers in a nurſery, and afterwards tranſplanted as above, or by ſmall or large cuttings or truncheons, half a yard to three or four feet long, or more, planted in the ſpring at once where they are to remain; in which generally making a deep hole with a ſtake or inſtrument, &c. for each cutting; or in moiſt, ſoft ſoils, the ends of the cuttings being ſharpened, may be thruſt into the ground; but in planting rooted trees, a wide aperture muſt be opened with a ſpade for each plant; and of which, thoſe planted cloſe for coppice wood, ſhould be headed down low, to have each advance with ſeveral ſtems from the bottom; but thoſe deſigned for full ſtandards, ſhould moſtly run with a ſingle ſtem.

Likewiſe, all the tree Birches may be planted in ſimilar plantations, as above, in any ſituation or ſoil, where it may be convenient, or thought eligible; and for which, are raiſed principally from ſeed in a nurſery, and planted therein till of proper growth, of three, four, five or ſix feet, or more, then tranſplanted finally for the above occaſions; or they ſometimes propagate by ſuckers; and likewiſe, for the ſame purpoſe, young ſeedling plants, riſing naturally in Birch woods, or in thoſe where Birch trees abound, are collected for planting in the proper ſeaſon; and in all of which methods, the trees being planted in the continuing plantation, are managed as obſerved before, for the Alders, to have them for underwood and large ſtandards.

As to the Dwarf Birch *(Betula nana)* it being of low, ſhrub-like growth, is principally for variety, and is ſometimes admitted in ſhrubbery collections.

All the ſorts of Birches and Alders are raiſed in moſt of the public nurſeries, where they may be procured in ſufficient ſupplies, to introduce in plantations, for variety, &c. and other occaſions; though, where conſiderable quantities are required for timber and underwood plantations, it would be of much advantage to raiſe them in private nurſeries, to plant occaſionally as required: propagated by ſeed principally, in all the Birches; alſo the Alders, and the latter likewiſe, by cuttings and layers, and ſometimes the Birches, by ſuckers from the roots of the trees; all the plants raiſed by either method, being forwarded in a nurſery, till of two, three, to five, ſix or ſeven feet growth, for final tranſplanting.

The ſeaſon for planting all the ſorts is any time in open weather, from October or November, to March.

When deſigned to plant theſe trees in any general plantation, for variety, &c. either in aſſemblage, or occaſionally in diſtinct clumps; they are of proper ſize for this, when of five or ſix, to eight, ten or twelve feet high, and which may be planted both in a thickety order, and in more open plantations, groves, clumps, &c. occaſionally in extenſive out-grounds and parks; or ſome might be diſpoſed in ſeparate compartments, Birches and Alders diſtinct.

But to plant them as foreſt-trees, in woods, for full ſtandards, and in coppices, for underwood, it is moſt adviſeable to perform it while the trees are in young growth, three or four, to five or ſix feet, eſpecially for continuing large ſtandard trees; and for both purpoſes they may either be planted in cloſe rows, four to five, or ſix feet aſunder, to draw each other up more expeditiouſly in a ſtraight growth; and to admit

mit of thinning, by degrees, in their advanced ſtate, leaving a ſufficiency to grow for large ſtandards, at moderate diſtances; or ſome planted at wider diſtances, in groves or other open plantations, ſet ten or fifteen feet aſunder, wholly to remain for acquiring a conſiderable ſize, before any is thinned or cut down; and where intending to plant principally for underwood growths, the trees may be ſet only three or four, to five or ſix feet ſquare; and may alſo be headed, that they may advance with ſeveral bottom-ſtems, and that when advanced of five, ſix or ſeven years growth, they may admit of cutting for various ſmall uſes, and for fuel, &c. and the Birches to cut for hoops once in ſeven, eight, ten or twelve years; generally, in both caſes, retaining ſome fineſt ſtems, ſingly, to run for ſtandards; and the underwood trees, when cut down, ſhoot again from the bottom, for cutting on future occaſions.

The propagation or method of raiſing all theſe trees of Birches and Alders, is by ſeed, for principal large ſupplies; eſpecially of the Birch trees, or likewiſe, occaſionally, the Alders, and both the ſorts alſo by layers; and the Alders particularly, propagate freely by cuttings, and by which they are commonly raiſed, and ſometimes both the Birches and Alders by ſuckers; all the methods of propagation performed either in autumn or ſpring, or by ſeed and layers, principally in autumn, about October or November; and the cuttings moſtly in the ſpring ſeaſon, February or March: the ſeeds ripen in autumn, and ſhould then be gathered in proper time, before the ſcales of the amentums open to diſſeminate them on the ground.

Sow the ſeed in beds of any common earth, broadcart or in drills, and earthed in, not exceeding an inch deep; and when the ſeedling plants are come up, and advanced one or two years in growth, tranſplant them in nurſery lines two or three feet aſunder, to attain proper ſize for the plantations intended.

Or by cuttings and layers all the ſorts of Alders may be propagated, and the Birches alſo by layers occaſionally; and by which two methods of propagation is generally the moſt certain proceſs whereby to increaſe and continue the different varieties of the particular ſpecies, diſtinct in their reſpective kinds; however, by cuttings, may raiſe the Alders in general in the ſpring, both of the young ſhoots and larger branches in truncheons or poles, three or four feet long, or more, planting the ſmaller cuttings in a nurſery, for a year or two, or more; the others, of a larger ſize, may be planted at once where they are to remain, in moiſt grounds, looſening the ſoil, if hard, and make deep holes with a ſtake or iron inſtrument, to inſert the cuttings half a yard or two feet in the ground; or to raiſe any of the ſorts by layers, perform it in autumn or ſpring, taking the lower young ſhoots and branches, ſlit-cut them a little on the under ſide, lay them down into the earth, and they will be rooted in one year; then in autumn, &c. plant them off into the nurſery, or large plants ſet at once where they are to continue.

In the above different methods of raiſing the Birches and Alders, thoſe advancing in a nurſery to obtain proper ſize for final planting, generally train thoſe for ſtandards with ſingle clean ſtems, cutting away lateral or ſide-ſhoots below, continuing the top-ſhoots intire; and when advanced three or four, to ſix, eight or ten feet, are eligible for the reſpective plantations, in which they may be tranſplanted, as required, in the ſeaſons and order before intimated.

In final planting, all the nurſery-raiſed plants, furniſhed with roots, both Birches and Alders; looſen the ground, and dig a hole for each, a moderate depth, plant them regular in the holes, upright, cover in the roots directly with the earth, and tread it down.

The general culture of all theſe trees, after their final planting in their deſtined diſtricts, is principally in thoſe growing for ſtandards, to prune up ſide-ſhoots of the ſtem, or ſtraggling under-branches of the head, to have the ſtems advance in a clean, ſtraight growth; or likewiſe in underwood plantations, the young plants in the beginning, may have lateral ſhoots below cut away, to encourage the ſtems to run up clean and ſtraight; and in the young plantations in general, while the trees are ſmall, keep down large, tall weeds in ſummer, the firſt year or two, till the trees advance in their top growth.

The cutting or felling theſe trees in ſmall or large growth, may be performed any time after the decay of the leaves in autumn, or principally towards the ſpring.

From Birch trees of large growth, in woods, the ſap is extracted wherewith to make Birch wine, effected by tapping the growing trees in the ſpring, when the liquid ſap will flow abundantly.

BIGNONIA, TRUMPET FLOWER.

Claſs and Order.

Didynamia Angioſpermia,
Two Powers, Seeds covered;

Or Plants with Hermaphrodite Flowers, having four Stamina, two of them longer than the other two; and the Seeds contained or covered in a Veſſel.

THE Genus *Bignonia* furniſhes an elegant, upright tree, and ſome ſhrubby climbing kinds; all for ornament and variety in the ſhrubbery plantations: one ſpecies being a beautiful, deciduous tree, adorned with large heart-form leaves; the others ſhrubby climbers, deciduous and ever-green, garniſhed with

nated, lance-ſhape and ovate leaves; and all the ſpecies produce cluſters of bell-ſhape, long tubulous, and trumpet-ſhape flowers; ſome beautifully ornamental, formed of one long tubulous ſwelling petal, five-parted at top, and ſucceeded by bivalvous pods, containing many ſeeds; by which the ſpecies may be propagated, alſo by layers and cuttings.

Characters.—Flowers hermaphrodite; the calyx cup-ſhaped, one-leaved, quinquefid or five-parted; corolla or flower, ringent or grinning, long tubulous, bell-ſhape, five-parted at top, the two upper parts reflexed, the others ſpreading. Stamina, four awl-ſhape filaments, two longer than the others; and crowned with reflexed anthera. Piſtillum, an oblong germen, ſlender ſtyle, having a roundiſh ſtigma; and the germen grows a bilvalvous pod, filled with compreſſed, winged ſeeds, placed imbricatim.

The Species of BIGNONIA are,

1. BIGNONIA *Catalpa*—*(Catalpa)* or Tree Bignonia.

A deciduous tree of moderate growth, twenty-five to thirty feet high; ſtem erect, branchy upward—the leaves (very large, light-green) ſimple, heart-ſhape, by threes and oppoſite; and large panicles of whitiſh flowers, having but two ſtamina or anthera.—Native of Carolina and Japan. *(Moiſt, warm ſoil, or any common.)*

2. BIGNONIA *radicans*, Radicant, or rooting-ſtalked climbing Bignonia, or Scarlet Trumpet Flower.

A climbing, deciduous ſhrub, aſcending thirty or forty feet high; the ſtem and branches climbing, rooting at the joints—leaves *(large, dark-green)* pinnated or winged, of many pair of folioles or leaflets, deeply cut at the edges; and large bunches of long tubulous, reddiſh and ſcarlet flowers, moſt beautiful. —Native of America. *(Dry ſituation.)*

Varieties.—Greater Trumpet Flower.
Minor, or ſmaller Trumpet Flower.

3. BIGNONIA *unguis cati*, (Cat-claw tendrilled) or Four-leaved climbing Bignonia.

A climbing, ſhrubby plant, mounting twenty to thirty feet high—the leaves *(largiſh)* conjugated, or by two pairs together, oppoſite, with cirrhi or tendrils, ſhort, arched or hooked, and three-parted; and bunches of yellow flowers.—Native of Barbadoes, Domingo, &c. *(Warm, dry ſituations.)*

4. BIGNONIA *ſempervirens*, Ever-green climbing Bignonia.

Evergreen climbing ſhrub, aſcending thirty feet high; the ſtem volubilate or twining, climbing—the leaves ſimple, *(middling ſize)* ſpear-ſhape, oppoſite; and odorous yellow flowers.—Native of Virginia. *(Warm ſituation.)*

Theſe four ſpecies of hardy tree and ſhrub Bignonia, are deſirable furniture for the ſhrubbery and other decorative plantations; the firſt of which, *Catalpa*, to introduce as a beautiful, upright ſtandard tree, adorned with ſingularly, large elegant leaves, and large branching cluſters of dingy-white flowers; the other three ſpecies being all climbers, are eligible to plant as ſuch, in any principal compartments, and againſt walls, buildings, ſtems of trees, arbours, and other ſupport, by which they will aſcend many feet high; ſome climbing by their tendrils, others by their twining ſtems, and the *Bignonia radicans* alſo by its radicant or rooting ſtems, emitting roots into the walls, ſtems of trees, or any adjacent ſupport, thereby mounting to a lofty growth; and is very ornamental in its trumpet-ſhape, beautiful, ſcarlet flowers in ſummer.

In their temperature of growth, the firſt and ſecond ſpecies are very hardy to ſucceed in any common ſoil and ſituation, the others are more tender, and in this country, demand a ſomewhat ſheltered, warm compartment in the ſun.

For principal ſhrubbery plantations, never omit having ſome of the Bignonia *Catalpa*, as a moſt elegant ſtandard tree, cloathed with noble, beautiful leaves in ſummer, and is proper to occupy the moſt conſpicuous ſituations; and the climbing ſorts are proper to admit in particular compartments, and will effect an agreeable variety in their aſcending growth; and of which the Radicant Bignonia is a very beautiful flowering-climber, which, and the other climbing kinds, ſhould either be planted againſt ſome ſupport, or have ſtakes to aſcend upon, or planted againſt walls, buildings, ſtems of trees, &c.

All the ſorts are cultivated in the nurſeries, where they may be had in autumn or ſpring, for planting.

They are propagated by ſeeds, moſtly obtained from America, &c. by the ſeedſmen in the ſpring; and are alſo raiſed from cuttings and layers of the young wood: ſow the ſeed in the ſpring, either in a bed, or pots of light earth, in a warm ſituation, or ſome in pots, placed in a hot-bed or moderate bark-bed, to forward the germination of the ſeed, having moſtly the free air, and the plants, when up, fully expoſed, by degrees, all ſummer, giving them occaſional ſhelter the firſt year or two, in winter from froſt; and afterwards in the ſpring, planted into the nurſery in a warm compartment: cuttings of the Catalpa, young ſhoots, may be planted in the ſpring months; and if ſome are alſo planted in pots, and aſſiſted in a bark or other hot-bed, they will root more expeditiouſly

oufly in a free growth; or may alſo be raiſed by layers of the young wood; and the climbing ſorts alſo propagate freely by cuttings or layers, ſome alſo by ſuckers from the roots, and which methods of raiſing theſe ſorts is the moſt adviſeable, as the plants will flower much ſooner than ſeedlings; the cuttings of which climbing ſorts will moſtly root freely in the full ground, eſpecially the Radicant Bignonia, or which, and the others, may be forwarded in a hot-bed occaſionally.

For final planting in ſhrubberies, &c. the *Bignonia Catalpa* is of proper ſize, when three or four, to ſix or eight feet high, or more; the others when two or three, to ſeveral feet, in their climbing growth.

They may be planted in the allotted plantations, either in autumn, about October or November, &c. or in any of the ſpring months, till April, or occaſionally any time in winter, in mild, open weather, diſpoſing them according to their growth before explained; and in their advancing ſtate, the principal care is to train the climbers to ſome ſupport, and the *Catalpa*, in its ſtandard growth, will only need to have caſual, ſtraggling branches pruned to order in winter; likewiſe in the climbers, when of advanced growth, have the ſmall, weakly ſhoots cut out in winter, the ſtrong ones retained, and occaſionally ſhortened more or leſs, to obtain plenty of lateral young ſhoots for flowering in ſummer.

BUPLEURUM, (HARTWORT) or Hare's Ear.

Claſs and Order.

Pentandria Digynia,
Five Males, Two Females;

Or Flowers having five Stamina or Male Parts, and two Piſtillums or Females.

THE BUPLEURUM furniſhes for this place a pretty ever-green ſhrub, of upright, buſhy growth, and eligible for the ſhrubbery; garniſhed with ovaliſh leaves, and umbelliferous yellow flowers; the main umbel formed of ten ſmaller, each compoſed of many ſmall florets of five petals, ſucceeded by roundiſh fruit, furniſhed with two ovate ſeeds, by which may raiſe the plants, and alſo by cuttings.

General Characters.—Flowers growing in umbels, of many hermaphrodite florets in each; the main umbel formed of ten ſmaller, having, to the general umbel, a many-leaved involucrum, and five-leaved in the ſmaller or partial umbels; the corolla of the florets five heart-ſhape petals; ſtamina five filaments, crowned with roundiſh anthera; piſtillum, a germen under the floret, ſupporting two ſmall reflexed ſtyles; and the germen grows a roundiſh-compreſſed, channelled, two-parted fruit, having two oblong ſeeds.

One Species, viz.

BUPLEURUM *fruticoſum*, Shrubby, Willow-leaved Hare's Ear, or Æthiopian Hartwort.

An ever-green ſhrub, ſix or eight feet high; the ſtem ſhrubby, branching in a buſhy growth—leaves *(middling ſize)* ovate-oblong and intire, ſmooth, ſea-green; and yellow umbels of flowers, July or Auguſt. —Native of the South of France and the Eaſt, upon rocks, near the ſea. *(Warm, dry ſoil.)*

This ſpecies being an ornamental ever-green, and a flowering-ſhrub of buſhy growth, claims a place in principal ſhrubbery compartments, aſſigning it a ſomewhat warm ſituation and dry ſoil; and for which occaſion it may be procured at the public nurſeries, for planting in autumn or in the ſpring; and is raiſed from ſeeds and cuttings.

To propagate this ſhrub, may ſow the ſeed in the ſpring, in a warm border, or in pots, and forwarded in a hot-bed; and cuttings of the young ſhoots planted in pots of loamy or other good earth, in autumn or ſpring, and if aſſiſted by a hot-bed in the ſpring, they will ſooner emit roots, or if planted in the full ground in April or May, they will alſo grow and form proper rooted plants by autumn; when, or in the ſpring following, may be tranſplanted into the nurſery to acquire two, three, or four feet growth, then is proper for final tranſplanting into the intended plantations.

BUXUS, BOX TREE, or Box.

Claſs and Order.

Monoecia Tetrandria,
One Habitation, Four Males;

Or Male and Female Flowers, ſeparate on the ſame Plant, and the Male Flowers having four Stamina.

THE family of Buxus conſiſt of ſmall tree kinds and low under-ſhrubby plants, all of the hardy ever-green tribe, to introduce in ſhrubberies, and the dwarf ſort eminent for edgings to beds and borders; are moſtly of buſhy growth, garniſhed with ſmall, oval leaves, and very ſmall male and female flowers, of two petals the former, the latter three; ſucceeded by ſmall, roundiſh, trilocular capſules, furniſhed with two oblong ſeeds; ſometimes uſed for ſowing; but the plants are more commonly raiſed by cuttings, ſlips, and ſome abundantly by bottom-rooted ſuckers or off-ſets.

Generic Characters.—The flowers male and female, ſeparate; the males having a three-leaved calyx, and the females a four-leaved cup, concave in each; corolla or flower, in the males two, and the females three concave petals; ſtamina, four in the males,

crowned with erect, double anthera; and in the females, a trigonal germen, three short styles, terminated by obtuse stigmas, and the flowers succeeded by a roundish capsule of three cells, containing each two oblong seeds.

The Species and Varieties of BUXUS are,

1. Buxus *arborescens*, Arborescent, or Tree-Box.

Ever-green, small tree, growing six or eight, to ten or fifteen feet high, or more; the stem erect, very branchy, bushy head—leaves small, oval, shining green; and very small, greenish flowers.—Native of the southern parts of Europe and of Box-hill, near Dorking, in Surry. (*Dry, or any soil and situation.*)

Varieties of this.—Broad-leaved Tree-Box.
Narrow spear-leaved Tree-Box.
Waved-curled-leaved Tree-Box.
Silver-striped-leaved Tree-Box.
Gold-striped-leaved Tree-Box.
Silver-tipped-leaved Tree-Box.
Gold-tipped-leaved Tree-Box.
Gold-edged Tree-Box.

2. Buxus *suffruticosus*, Under-shrubby, or Dwarf-Box.

A small, dwarf ever-green, twelve to fifteen or eighteen inches high; the stem small, very short and branchy from the bottom—leaves (*very small*) roundish-oval; and minute greenish flowers.—Native of Europe. (*Any soil and situation.*)

Varieties of this.—Common Green Dwarf-Box.
Silver-striped-leaved Dwarf-Box.
Myrtle-leaved Dwarf-Box.

The Boxes are most hardy ever-greens, of very branchy and mostly of bushy growth, very closely set with their small leaves: both the species and their different varieties are proper to introduce in any shrubbery compartments, clumps, &c. in which, being stationed according to their degrees of growth, they will effect an agreeable contrast and diversity at all seasons, disposed either principally in compartments of ever-greens, or sometimes in assemblage, in small clumps of deciduous shrubs: the Tree-Box also admits of planting for ornamental hedges in gardens; and the Dwarf-Box is peculiarly adapted to form edgings to borders, superior to all other plants for that occasion, as the most effectual, beautiful, and durable edging; and all the sorts admit of being occasionally trained into fancy figures, as pyramids, globes, &c. and the Tree-Box likewise to cultivate for its wood, which, being of a peculiar hard, ponderous nature, is of singular value and estimation in many mechanical trades, and for making various curious utensils and implements.

All the varieties are cultivated plentifully in the nurseries for the supply of the public, and may be propagated by cuttings, layers, slips, and the Dwarf-Box also by parting the roots, the Tree-Boxes likewise by seed.

The season for planting these ever-greens is, the Tree-Boxes, either principally in autumn, about October and November, or in the spring, or even any time in winter, in open weather, especially if removed with some ball of earth to the roots; but the Dwarf-Box may be transplanted almost any time in open weather, from September till May; or for edgings, may be occasionally transplanted at almost any season of the year, even in summer, if well watered.

To propagate the Tree-Boxes, it may be effected both by planting cuttings or slips of the young wood, in autumn or spring, in a shady border, and watered; also by layers of the lower young branches, layed down in the earth in the above seasons; and in either method, when they are well rooted, transplant them into a nursery, to acquire a proper growth for final planting in the shrubbery compartments, &c.

The Dwarf-Box propagates naturally in very plentiful supplies, by bottom off-set suckers, abundantly well rooted, which may be slipped or divided into rooted sets, at almost any season; and may likewise be increased by slips of the unrooted branches and shoots, planted in autumn or spring, in a shady border, and watered in dry weather; though, as this species of *Buxus* increases very plentifully in numerous rooted off-sets from the bottom, it is most commonly propagated thereby, which may either be slipped off from remaining old plants, with roots to each, or rather a quantity of the plants taken up and slipped, or divided top and root together, clean to the bottom, into separate rooted slips or sets, larger or smaller, as may be required, either to plant for training in small, bushy shrubs, or to plant for edgings, as may be required.

For box edgings, the Common Dwarf-Box is the proper sort, and is of great utility in general gardening, for forming principal edgings to borders and other compartments, being the most neat, effectual, and easily kept in regular order, of many years duration; and may be planted in any soil at most seasons of the year, or principally any time from September or October, to March, April or May, or will even succeed tolerably by planting in summer, when particularly required, if well watered; and for which purpose it should always be planted close in the rows, as at once to form a compleat, regular edging.

In

In regard to the method of planting these edgings, generally have the Box plants for this purpose, of short bushy growth, and making up the edge of the border, &c. firm, and the top even by line, stakes, or by direction of the eye, as the different compartments may admit; then, with the spade, cut out a small narrow trench, the inside upright, five or six inches deep, turning out the earth towards the walk; and then, dividing or slipping the Box small, into rooted sets, cut the long roots shorter, and the straggling tops even: plant them in the trench, against the upright side, close, or so near together, as to form at once a compact edging, inserting the sets within an inch, or little more or less, of the tops, drawing in the earth, about the roots and stems, as you proceed in placing them, raising it near the tops, aforesaid, in a regular manner, and tread it down even, and if dry weather, finish with a good watering.

The after-culture of the Box edgings, is to keep them regular, by clipping once every year at least, in summer, about June, July, and, or in any of the autumn months, till October; or if omitted at the above seasons, may be performed in the spring, about March, April, or May; cutting it even at top and sides, keeping the edging moderately low and thin, not exceeding three or four inches high at most, and two inches broad, it will then appear neat and regular; and generally in the summer clipping it is most adviseable to perform it principally when moist weather, as if cut when hot and dry, is apt to change of a disagreeable, withered, or decayed-like appearance.

CALYCANTHUS, ALL-SPICE TREE.

Class and Order.

Icosandria Polygynia,
Twenty or more Males, Numerous Females;

Or Plants with Hermaphrodite Flowers, having each twenty Stamina or Males, and many Pistils or Female Parts.

THE CALYCANTHUS furnishes one hardy species; a small deciduous flowering-shrub for the shrubbery, garnished with oval leaves, and apetalous, purple flowers, singly, having many stamina and germina, succeeded by an oval-roundish berry, with many caudated seeds: seldom ripening in England, but the plant propagates by layers and cuttings.

Characters.—The flower hermaphrodite; the calyx many-parted, coloured like petals; no corolla; twenty or more short stamina, with obtuse anthera; many oval germina, crowned with stigmas, and the germens grow an oval roundish berry-like fruit, furnished with oblong seeds.

One Species.

CALYCANTHUS *floridus*, Florid, Carolina All-Spice Tree.

Deciduous shrub, four or five feet high; the stem shrubby and branchy—leaves (middling) oval, intire, and placed opposite; and sordid-purple flowers, in May or June, having the interior petals longest.—Native of Carolina, (*Dry soil, mostly.*)

This species is of branchy, bushy growth, eligible to introduce in principal shrubbery compartments, as a flowering-shrub, and for variety; its bark imparting an aromatic odour, obtained the name All-spice in America: should generally have a somewhat dry soil and warm situation; may be had at most of the nurseries, and planted either early in the autumn, or principally in the spring, admitted in a conspicuous situation: is propagated by layers of the young shoots, in spring and summer, properly watered; also by cuttings of the shoots, in the spring months, planted in a shady border, or in pots and placed in a hot-bed, to forward their rooting in a more free growth; they, in either method, will be rooted in one season, then transplanted in the spring, and trained each with a bushy head.

CARPINUS, HORNBEAM, or Hornbeam Tree.

Class and Order.

Monoecia Polyandria,
One Habitation, Many Males;

Or Male and Female Flowers, separate, on the same Plant; and the Male Flowers having many Stamina.

The family of CARPINUS consists principally of two species and several varieties, all hardy deciduous tree kinds, cultivated for forest trees, in standards and underwood, and in pleasurable plantations, for ornament and variety; growing twenty to thirty, or forty feet high; cloathed in summer with oval and oblong simple leaves, and small male and female flowers, separate; collected in loose scaly amentums or catkins; no petals to the male florets; a six-parted corolla, to those of the female amentums, which enlarges to a scaly cone, containing angular nuts, or seed: ripe in autumn, and by which the trees are commonly raised, and occasionally by layers.

Characters.—Flowers male and female, apart, in the same tree, in separate amentums; the males, collected in cylindric, loose, scaly amentums, each scale having one floret, without petals, containing many minute stamina, crowned by hairy anthera; and females in scaly imbricated catkins, having one flower in each scale, of one small cup-shape, six-parted petal, two germina, supporting four small styles, terminated by single

ſingle ſtigmas; and the amentum enlarges to a ſcaly cone, containing in each ſcale an oval, angular nut.

The Species of CARPINUS are,

1. CARPINUS *Betulus*—(Betulus) or Common Hornbeam.

Middling tree, growing twenty or thirty, to forty feet high—the leaves (middling, dark-green) oval, ſpear-ſhape, and roughiſh, remaining on the trees in a withered ſtate all winter; and the ſtrobilus, or ſeed cones, having plain or flat ſcales.—Native of Britain, and moſt parts of Europe, and in Canada, &c. (*Any ſoil and ſituation.*)

Varieties of this.—Common Hornbeam.
Gold-ſtriped-leaved Common Hornbeam.
Virginia Common Hornbeam, with longeſt leaves and cones.
Eaſtern, or Dwarf Hornbeam, of ſmaller growth, (eight to ten, or twelve feet) ſmall leaves, and ſhorter fruit.

2. CARPINUS *Oſtrya*—(Oſtrya Italica) or Hop Hornbeam.

A moderate tree, growing twenty feet high or more—the leaves (middling ſize, dark-green) oblong-oval, and rough; and the amentums of fruit ſomewhat like bunches of hops, inflated or ſwoln ſcales.—Native of Italy, Germany, and Virginia. (*Any ſoil and ſituation.*)

Variety.—Virginia, Flowering Hop Hornbeam, with lanceolate, pointed, deep-green leaves.

Theſe are all very hardy, deciduous trees, that will grow in any ſoils and ſituations, not inundated in water, either low or high grounds, or ſides of hills, or any where, both in barren and fertile ſoils, as may be required or convenient, for any plantations intended; and in which both the ſpecies are valuable to cultivate, in foreſt-tree plantations, in ſtandard timber-trees, and in underwood, to cut frequently in ſmaller growth; as likewiſe all the ſorts have merit to arrange in any ornamental diſtricts of plantation, in pleaſure-grounds, parks, or where thought neceſſary; and to diſpoſe in ſingle ſtandards, groups, clumps, &c. ſeparate or diſtinct, and in concert with other deciduous trees, in extenſive lawns, in parks, and other grounds, for variety, &c. and the Common Hornbeam is adapted to aſſemble conſiderably with other hardy trees, planted towards any out-boundaries, in expoſed ſituations, to afford ſhelter to interior plantations, and other diſtricts, in the winter, as the old leaves, though withering in autumn, remain cloſely attached to the branches all that ſeaſon, whereby they more effectually break off the force of winds and cold, from internal compartments; and as both the ſpecies are of a cloſe branchy growth, they were formerly in great repute for garden hedges, both for fences, ſhelter, and ornamental purpoſes; though, in the preſent deſigns of ornamental gardening, theſe and other hedges are ſeldom admitted; however, as the trees are moſtly of an upright growth, with cloſe branchy, regular heads, they, in ſtandards, claim admittance in all uſeful and decorative planting.

Conſidered as foreſt-trees, both in ſtandards and under-growth, the two ſpecies may be cultivated to good advantage, or particularly the common ſort; the wood or timber being ſtrong and tough, is uſeful for many purpoſes, and in the turnery way, mill work, &c. and profitable for fuel; as is likewiſe the underwood, and for poles, ſtakes, and many other light occaſions: and for which the trees may be planted any where, either in aſſemblage or diſtinct plantation, ſet moderately cloſe at firſt, four to five, or ſix feet diſtance, to draw each other up, in a more ſwift, tall growth, and to admit of thinning ſome in a few years, for ſmall wood, leaving abundance of the beſt ſtems to run for full ſtandards, and the underwood to advance between them, for future cutting, as occaſionally required; or others may be planted at wider diſtances, to ſtand wholly for large timber, or to attain ſome conſiderable ſize, before any are cut down: and are ſometimes cultivated in hedge-rows of fields, &c. both in low pollard ſtandards, for frequent loppings of the branches, and to advance in tall ſtems and full heads.

For ornamental planting, both the ſpecies, and their reſpective varieties, are eligible to introduce in a diverſified manner, in conſiderable plantations and large ſhrubberies; or, for the latter, may have only ſome particular ſorts, as the Eaſtern and Flowering Hornbeam, ſtriped-leaved, or any others, as may be thought eligible for variety, &c. diſpoſed more or leſs, towards the back or fore-part, with trees of ſimilar growth; and either pruned up to ſtems, ſome conſiderable height, or permitted to branch out nearly in their natural order.

The trees of all the ſorts are raiſed from ſeed and layers, in autumn, and when from three or four, to ſix, eight or ten feet growth, are proper for the ſeveral plantations for which they are adapted or deſigned; or all theſe trees are cultivated in the nurſeries, for ſupply of the different plantations, for which they may be occaſionally required; and where they may be procured of proper growth for the purpoſes intended.

The ſeaſons for planting them is the ſame as for other hardy trees, either principally in autumn, about November or December, or any time in open weather, from the decay of the leaf to March, &c.

They being propagated by ſeed and layers; the former is moſt eligible for raiſing any conſiderable ſup-

plies

plies of the Common and Hop Hornbeam, for full ſtandards, for timber-trees and other occaſions, or alſo large quantities for underwood; and for which latter purpoſe, and for hedge-plants, or occaſionally for ornamental ſtandards, they may alſo be raiſed by layers; though the ſeedling-raiſed plants generally make the handſomeſt ſtandard-trees: however, the different varieties of the two ſpecies, may alſo be raiſed diſtinct in their kinds, in the propagation, by layers of the young wood, and ſometimes raiſed by grafting them upon ſeedling-ſtocks of the Common Hornbeam.

To raiſe them from ſeeds, they ſhould generally be ſowed in autumn, about October, November, &c. or in the ſpring; but if ſowed in the former ſeaſon, they commonly germinate freely in the ſpring enſuing; ſowing them in beds of common earth, and covered in an inch deep; and when the plants are one or two years old, plant them in nurſery lines, till of proper growth for final tranſplanting.

By layers, this may be performed in autumn, or any time from October to March, in open weather; the lower young wood or ſhoots of laſt ſummer, are proper: being laid down into the earth, will be rooted in one year for planting off from the parent ſtools into the nurſery.

Or to raiſe any particular ſorts by grafting, it is effected by inſerting ſhoots of the deſired ſorts into ſtocks of the Common Hornbeam in the ſpring.

In the different methods of propagating them in the nurſery, &c. let thoſe intended for full ſtandards be trained each with a ſingle ſtem, continuing the top intire; and prune off low and ſtrong collateral ſhoots from the ſtem gradually, to form them of a clean, ſtraight growth, of five, ſix or ſeven feet, clear of branches, then to branch out above in full heads; but thoſe deſigned for under-growth or hedge-plants, may branch out low, or for the latter, if run up to naked ſtems, they may be headed down or ſhortened at top, to gain lateral branches, though they commonly are tolerably branchy quite from the bottom in their natural growth.

When deſigned to plant the Hornbeam in woods, &c. for timber-ſtandards, it is moſt adviſeable to tranſplant them in young growth, from two or three, to four, five or ſix feet; or for other occaſions, they may alſo either be planted young, as above, or of larger ſizes, as required; that in planting for timber and underwood, they, as before intimated, may be planted only at ſmall diſtances, five or ſix feet, more or leſs; and in their advanced growth, cut down ſome for underwood, by degrees, leaving ſufficiency of the moſt promiſing to grow for timber.

Where hedges of Hornbeam may occaſionally be intended, any of the ſorts are eligible; the Common ſort is the moſt generally adopted, or any of the ſmaller kinds may alſo be employed for this purpoſe; and for which occaſions are principally uſed for internal hedges, either for incloſing, dividing or ſheltering, particular compartments; or may alſo be planted for outward fences, eſpecially in a double hedge, as they grow very cloſe; and in all of which, if kept neatly clipped every year, they will appear ornamental in ſummer; and the Common Hornbeam, retaining its leaves in their decayed ſtate all winter, render the hedge more effectual for ſhelter in that ſeaſon, than other deciduous kinds; though it may be obſerved, that during the continuance of the withered leaves, the hedge appears rather ſhabby. To plant hedges of this kind, have young plants, well feathered or branchy to the bottom, one or two, to three or four feet high, or more, planted a foot to eighteen inches aſunder; and may run them up to five, ſix, eight or ten feet high; clipping them every ſummer or autumn, on both ſides, cutting the top at firſt, rather ſparingly, juſt to keep it a little regular, till advanced to the intended height, then to cut it cloſe and even accordingly.

CEANOTHUS, NEW-JERSEY TEA.

Claſs and Order.

Pentandria Monogynia,
Five Males, One Female;

Or Plants with Hermaphrodite Flowers, having each five Stamina or Male Genitals, and one Piſtillum or Female.

ONE deciduous, very ornamental flowering-ſhrub, of low growth, eligible to adorn principal ſhrubbery compartments; garniſhed in ſummer with oval leaves, and numerous, thick ſpikes of pentapetalous, or five-leaved white flowers, of beautiful appearance, in July and autumn; ſucceeded by obtuſe, dry berries, furniſhed with oval ſeeds, proper wherewith to raiſe ſupplies of the plant, alſo by layers.

The *Characters*—calyx, turbinated, one-leaved, acutely five-parted and permanent; corolla, five-roundiſh, ſpreading petals; five erect ſtamina, of unequal length, crowned by roundiſh anthera; piſtillum, a trigonal germen, cylindric ſtyle, with an obtuſe ſtigma; and the germen grows a trilocular, dry capſular berry, with three oval ſeeds.

The Species is,

CEANOTHUS *americanus*, American Ceanothus, or New-Jerſey Tea.

A buſhy ſhrub, three, four or five feet high, branchy from the bottom—leaves (ſmalliſh) oval, and three-nerved:

nerved.—Native of Virginia and Carolina. (*Dry ſituation.*)

This ſmall ſhrub demands a place in the beſt ſhrubberies, for its ornamental flowering in numerous, white ſpikes, terminating the branches; is ſomewhat tender while young, and ſhould generally have a warm, dry ſituation; and is propagated by ſeeds and layers: ſow the ſeed in autumn or ſpring, in a warm border, or in pots, and ſheltered from froſt; or if the pots are placed in a hot-bed in the ſpring, the plants will come up ſooner; give them the full air in ſummer, protect them from froſt in winter, and when a year old plant ſome ſeparate in ſmall pots, others in the nurſery, and when two or three feet high, are proper for the ſhrubbery; or layers of the young branches, in autumn or ſpring, will be rooted to plant off in the ſpring following.

CELASTRUS—(CELASTRUS) or Staff-Tree.

Claſs and Order.

Pentandria Monogynia,
Five Males, One Female;

Or Hermaphrodite Flowers, having five Stamina or Males, and one Piſtillum or Female.

TWO ſpecies of ſhrubs, one ever-green, of upright growth, the other a climber; both very deſirable plants for adorning the ſhrubbery; grow ſix or eight, to ten or twelve feet high, ornamented with oval and oblong leaves, placed alternate, and looſe ſpikes of white and greeniſh flowers of five petals; ſucceeded by three-cornered, red capſules, furniſhed each with three oval ſeeds, by which the plants may be raiſed, or may be propagated principally by layers of the young wood.

Characters.—Flowers hermaphrodite, calyx or cup, ſmall, one-leaved, obtuſely, five-parted; corolla, five-oval, ſpreading petals; five ſtamina, the length of the flower, crowned with ſmall anthera; a ſmall germen, placed on a large receptacle, deeply ten-channelled, ſupporting a ſingle ſtyle, terminated by an obtuſe, trifid ſtigma; the germen becomes an obtuſe, three-cornered trilocular capſule, containing three oval ſeeds.

The Species are,

1. CELASTRUS *bullatus*, Bullated, or Studded-fruited, upright Celaſtrus.

A largiſh, ever-green ſhrub, branching eight or ten feet high, unarmed or thornleſs—leaves (*moderate ſize*) ovate and intire; and white flowers in July, ſucceeded by ſcarlet fruit, elegantly ſtudded.—Native of Virginia. (*Moiſt or any common ſoil.*)

2. CELASTRUS *ſcandens*, Climbing Celaſtrus, or Baſtard Climbing Spindle-Tree.

A twining-climbing ſhrub, aſcending twelve or fourteen feet high, unarmed or thornleſs; the ſtem volubilate or twining—leaves (*middling*) oblong and ſawed; and greeniſh flowers in June, ſucceeded by red ſeed-capſules, opening and diſplay the ſeed.—Native of Canada. (*Moiſtiſh or any ſoil.*)

Theſe two ſpecies are very hardy ſhrubs, demand admittance in all principal ſhrubbery collections, for ornament and variety, one as an upright ever-green and flowering-ſhrub, and the other as a climber, and for the curioſity and pretty appearance of their red capſules: they may be admitted in moiſt or any common ſoil and ſituation; the firſt, as an upright ſhrub, ſhould be diſpoſed conſpicuouſly, either principally with other ever-greens, or where it may be required; and the ſecond is proper to introduce as a twining climber, in any ſhrubbery and tree plantations, giving it ſupport of tall ſtakes or poles, or will twin round the trees and ſhrubs, or their flexible ſtems will twiſt round one another, or any adjacent ſupport: both the ſpecies will diſplay an agreeable variety; they flower in ſummer, which in the firſt, are white, appearing in July, and in the ſecond, greeniſh, coming out in June; and are ſucceeded by ripe ſeed-capſules, in autumn, but more abundantly in the latter ſort.

Both thoſe ſhrubs are cultivated plentifully in all the general nurſeries, for public ſupply, and may be eaſily raiſed by layers and ſeeds.

To propagate theſe ſhrubs, it being effected both by layers and ſeeds, autumn or ſpring is the proper ſeaſon; though, as they grow freely by layers, that method is more generally practiſed; the young ſhoots are proper, which bow down and lay in the earth: they will be rooted in one year, then cut them from the parent ſtools, and planted in the nurſery; or ſeeds may be ſowed in the above ſeaſons, in a bed or pots of loamy or other earth, and if in pots, may be placed in a ſhady place all ſummer, and plunged in a warm ſituation in winter, they will come up in the ſpring, or ſometimes not till the ſecond year; and when the plants are of one or two ſummer's growth, tranſplant them into the nurſery, where, having attained two, three or four feet growth, are proper for the ſhrubbery, &c.

The ſeaſon for planting them in ſhrubberies, &c. is either in autumn, about October or November, &c. or in the ſpring.

CELTIS, (Lote) or NETTLE-TREE.

Claſs and Order.

Polygamia Monoecia,
Many Marriages, One Houſe or Habitation;
Or Flowers of different Sexes, as Males and Hermaphrodites, ſeparate on the ſame Plant.

THE Celtis family conſiſts of large, deciduous tree kinds, proper both to introduce in foreſt-tree plantations, and for ornament and variety in pleaſure-grounds, parks, &c. grow thirty or forty, to fifty feet high, or more, and ſome of ſmaller growth; all adorned in ſummer, with largiſh and ſmall oblong, ſpear-ſhape, oval and heart-ſhape, roughiſh nettle-like leaves, two, to three or four inches long, and half as broad; and ſmall male and hermaphrodite, greeniſh flowers, without corolla or petals; ſucceeded in the latter by ſmall, round, drupaceous black, and purpliſh berries: ripe in autumn; and by which the trees are commonly propagated.

Generic Characters.—Flowers hermaphrodite and males; the hermaphrodites having a five-parted cup, no petals, five ſhort ſtamina, crowned with quadrangular, four-furrowed anthera; a central, oval germen, two reflexed ſtyles, terminated by ſingle ſtigma; male flowers with a ſix-parted cup, no petals, five ſtamina, as in the hermaphrodites, no germen or ſtyles; and the hermaphrodite flowers ſucceeded by ſmall, globoſe berries, of one cell, furniſhed with a round nut.

The Species of CELTIS are,

1. CELTIS *auſtralis*, Southern Black-fruited Nettle-Tree.

A large, deciduous tree, growing forty or fifty feet high—leaves *(moderately large)* oval-ſpear-ſhaped, placed alternate; and ſmall, black fruit.—Native of the ſouthern parts of Europe, in France, Spain, Italy, &c. *(Any tolerable good ſoil.)*

2. CELTIS *occidentalis*, Occidental, or Weſtern, Purple-fruited Nettle-Tree.

Moderate, deciduous tree, thirty to forty feet high—leaves *(moderately large)* oblique ovate, ſawed, pointed, and placed alternate; and ſmall, obſcure-purple fruit.—Native of North America, principally in Virginia. *(Any tolerable good ſoil.)*

3. CELTIS *orientalis*, Oriental, or Eaſtern, Yellow-fruited Nettle-Tree.

A ſmall, deciduous tree, ten or twelve, to fifteen feet high, branching horizontally—leaves *(ſmall)* oblique-hearted, ſawed, hairy on the underſide, and placed alternate; and ſmall, yellow fruit.—Native of the Eaſt, in the Levant, and in India. *(Dry ſituation.)*

Theſe three ſpecies of *Celtis* are hardy to grow in the open ground, in any common ſituation and ſoil, though are moſt thriving in lightiſh, rich land; however, they will ſucceed well enough in any tolerably fertile ground or that in common with other hardy trees, in ornamental and other plantations, in pleaſure-grounds, parks, &c. are all raiſed from ſeed, principally in the general propagation, and occaſionally by layers, and ſome by ſuckers: the young ſeedling plants are ſometimes a little tenderiſh in their infant ſtate, though not materially ſo, and they ſoon harden gradually in a year or two; and when of advanced growth, of from three or four, to five or ſix feet, or more, may be planted out where they are to remain, in any open expoſures, or where required; and the trees, when advanced to ſome conſiderable large ſize, will produce plenty of ripe fruit for ſowing, as occurs in many of the Britiſh gardens, in which there are large trees of theſe ſorts.

All the ſpecies are proper to introduce, moderately, in any ornamental planting, and for variety, both in pleaſure-ground plantations, and large ſhrubbery diſtricts; as alſo to diverſify plantations in parks and other grounds, to aſſemble principally with other trees of the deciduous tribe; and the firſt and ſecond ſpecies are alſo eligible to diſpoſe in deciduous, foreſt-tree plantations for timber, the wood being of a tough, pliant nature, is uſeful in ſeveral trades, where wood of that texture may be in requeſt; and in all of which plantations, the trees will diſplay a conſpicuous variety in their general growth, different foliage, &c.

The trees of all the ſorts are obtained at the nurſeries, for any occaſions in which they may be intended or required, for planting.

They may be planted either in autumn, ſoon after the fall of the leaves, or any time from that ſeaſon, in open, mild weather, till the ſpring, or principally in the laſt-mentioned ſeaſon, in February and March.

The propagation or method of raiſing all the ſorts is principally by ſeed, or ſome, occaſionally, by layers of the young ſhoots; and ſometimes they afford ſuckers from the roots, particularly the *Celtis orientalis:* the ſeeds are often procured from abroad, by the ſeedſmen, generally arriving in the ſpring; at which ſeaſon they may be ſowed, or, if attainable, to ſow in autumn, about October or November, they will generally come up more freely in the ſpring following: they may be ſowed in a bed of light, yellow earth, or ſome ſowed in pots, to have ſhelter from ſevere froſt

in winter; or if the pots are plunged in a hot-bed, in the ſpring, it will forward the germination of the ſeed, and the plants will come up ſooner, when give them the free air all ſummer; give occaſional watering, in dry weather, both to thoſe in the pots and beds; and if the young plants have ſhelter the firſt winter, from froſt, it will prove of advantage; then in the ſpring, about March, plant them in nurſery-beds, in rows a foot aſunder, till advanced of one or two years growth, when they may be tranſplanted at wider diſtances, or ſome of the largeſt planted where they are to remain; or the whole, when three or four, to five or ſix feet, are proper for final tranſplantation: layers and cuttings of the young wood, in autumn or ſpring, will root in one ſummer, eſpecially the layers; and ſuckers from the root may be tranſplanted in the ſame ſeaſon.

In the above different methods of raiſing the trees, and in the final tranſplanted growth, train each with a ſingle ſtem, cutting off lower-ſhoots, and ſtrong, lateral wood from the ſtem, and ſtraggling under-branches of the head.

CEPHALANTHUS, BUTTON TREE.

Claſs and Order.

Tetrandria Monogynia,
Four Males, One Female;

Or Flowers (Hermaphrodite) having four Stamina or Male Fructification; and one Piſtil or Female.

THE *Cephalanthus*, or Button Tree, ſo called from its headed flowers, is an elegant, deciduous, flowering-ſhrub, to admit in principal ſhrubberies; is of middling growth, with oblong leaves; and looſe ſpikes of many globular heads of yelloviſh flowers, each head, or aggregate, compoſed of numerous, ſmall, funnel-ſhaped florets, of one petal, ſucceeded by a ſingle ſeed, collected into round heads: ripe in autumn; and by which the plants are raiſed, and alſo by layers and cuttings.

Generic Characters.—Numerous, ſmall flowers, collected into globoſe heads; a one-leaved funnel-ſhaped cup to each floret, four-parted at top; the corolla of the florets one funnel-ſhaped petal, the top divided into four parts; four ſhort ſtamina, inſerted into the petal, crowned with globular anthera; a ſmall germen, a ſingle ſtyle longer than the flower, terminated by a round ſtigma; and the germens grow oblongiſh ſeeds, in a globular head.

One Species, viz.

CEPHALANTHUS *occidentalis*, Occidental, or Weſtern, Button Tree of America.

A moderate, deciduous ſhrub, five or ſix feet high, branching by pairs oppoſite—leaves *(middling, light-green)* oblong-narrow, placed oppoſite, and by three together; and yelloviſh-white flowers in July.—Native of North America. *(Moiſt, light ſoil.)*

This is a deſirable, flowering-ſhrub, to introduce for the embelliſhment of ſhrubberies and other compartments, in pleaſure-grounds, &c. where it will effect a pretty variety, and flower very ornamentally in ſummer; delights moſt in ſomewhat moiſt ground, but may alſo be planted in any common ſoil where it may be required, and ſhould generally have a principal ſituation: may be had at the nurſeries, and planted in autumn or ſpring; and is propagated by ſeed, layers and cuttings.

To raiſe this ſhrub, the ſeed may be ſowed either in the autumn, if it can be obtained, or in the ſpring, in a bed of lightiſh earth, or in pots, and placed in a ſhady border, &c. in ſummer, giving water in that ſeaſon; and when the plants are one or two years old, tranſplant them into nurſery-beds, where train them, till of two or three feet growth, proper for ſhrubbery; or to propagate it by layers and cuttings of the young wood, perform it in autumn or in the ſpring, or the cuttings principally in the laſt-mentioned ſeaſon; they will be rooted, both layers and cuttings, to plant off in autumn, or ſpring following, into the nurſery, to acquire a proper ſize, as obſerved of the ſeedling plants.

CERCIS, JUDAS TREE, (Arbor Judæ)

Claſs and Order.

Decandria Monogynia,
Ten Males, One Female;

Or the Flowers Hermaphrodite, having ten Stamina or Males, and one Stylus or Female.

THIS Genus, *Cercis*, compriſes two curious ſpecies of ſmall or moderate, deciduous trees, of the ornamental kind, for adorning ſhrubberies and other decorative compartments, of planting in pleaſure-grounds; grow ten or twelve feet high, branching out low and irregular, garniſhed with large, heart-roundiſh leaves, on long foot-ſtalks, placed without order; and large cluſters of papilionaceous-like, bright-purple, and reddiſh, very ornamental flowers, of five unequal petals, having ten ſtamina, and one germen and ſtyle, growing a long, unilocular, flat pod, containing roundiſh ſeeds, by which the trees are generally propagated; ſowed in the ſpring.

Generic Characters.—Hermaphrodite flowers; the calyx bell-ſhape, one-leaved, convex at bottom, the top five-parted; corolla, or flower papilionaceous, or butterfly-flower-like, having five unequal petals, the two ſide-ones or wings reflexed, and riſing above the ſtandard or middle petal, which is round, and two heart-ſhaped

ſhaped under-petals, forming the carina or keel, enclоſing the fructifications; ſtamina, ten diſtinct, declinated filaments, crowned with oblong, incumbent anthera; an oblong germen and ſlender ſtyle, terminated by an obtuſe ſtigma, and the germen ſucceeded by a long, acuminated pod, of one cell, containing a row of roundiſh ſeeds.

The Species of CERCIS are,

1. CERCIS *Siliquaſtrum*—(Siliquaſtrum) or Common European Judas Tree.

A ſmall or moderate deciduous tree, twelve or fourteen feet high—the leaves (*large, light-green*) heart-ſhape, roundiſh and ſmooth; and numerous cluſters of ornamental flowers from the ſides of the branches.—Native of Italy, Spain, Narbonne, and the Eaſt, in Aſia, &c. (*Any common ſoil.*)

Varieties.—Purple-flowered Common Judas Tree.
White-flowered Common Judas Tree.
Bluſh or Fleſh-coloured, flowered.
Narrow podded.
Broad podded.

2. CERCIS *canadenſis*, Canadian Downy-leaved Judas Tree.

A ſmall deciduous tree, ten or twelve feet high, generally branching out near the bottom—the leaves (*large, light-green*) heart-ſhaped, pointed, and downy; and cluſters of ſmaller purple flowers at the ſides of the branches.—Native of Canada and Virginia. (*Any common ſoil.*)

Theſe two curious trees have particular merit, to aſſemble in ornamental compartments of trees and ſhrubs; they are both of hardy growth, to plant in any common ſoil and ſituation, and may be admitted in principal ſhrubberies, wilderneſs quarters, clumps, and other decorative diſtricts of plantations, in pleaſure-grounds, in which they will diſplay a diſtinguiſhably agreeable variety and ornamental appearance in ſummer, in their general growth, ſingular and elegant leaves, and numerous cluſters of beautiful flowers; and, if in warm ſituations, are ſometimes ſucceeded by curious, long ſeed-pods: the trees may be obtained at the nurſeries, of proper growth for planting; and are generally propagated by ſeed ſowed in the ſpring, and when raiſed three or four, to five or ſix feet, are of proper ſize for the ſhrubbery or other garden plantations, in which they may be planted in autumn or ſpring ſeaſon.

They are propagated principally by ſeed, which may generally be had of the ſeedſmen and nurſerymen, in the ſpring; at which ſeaſon, in March or April, ſhould be ſowed in a bed of light earth, covered in half an inch to an inch deep; or ſome ſowed in pots, and plunged in a gentle hot-bed, along with any exotic tree and ſhrub ſeeds, as occaſionally have that aſſiſtance, it will bring them on forwarder; and, in either method, when the plants are up, give water ſometimes in dry weather in ſummer; and in winter it would be of much advantage to give them ſhelter from ſevere froſt, with mats, &c.

Then when the ſeedling-trees are a year old, they may be tranſplanted from the ſeed-bed, &c. into nurſery-rows, performing it generally in the ſpring, about March or beginning of April, training them, in their advancing ſtate, each with a ſingle ſtem, more or leſs, and a full head; and after having two, three, or four years growth, or advanced ſo many feet or more in height, they are then eligible for final tranſplanting in the places where they are to remain.

Or the propagation may alſo be tried occaſionally by layers and cuttings, eſpecially the varieties; or theſe likewiſe by grafting upon ſeedling-ſtocks of the Common Judas Tree.

The beſt ſeaſon for planting thoſe trees in the ſhrubbery, &c. is the ſpring, but may alſo be performed in autumn, at the decay of the leaves, in October, November, &c. and in which planting, generally diſpoſe them in ſome principal compartments and conſpicuous ſituation; where permit them to grow with full heads, and in their culture, will only require any caſual irregular branches pruned to order, and to cut out dead wood.

CHIONANTHUS, FRINGE or SNOW-DROP TREE.

Claſs and Order.

Diandria Monogynia,
Two Males *One Female*;

Or Plants with Hermaphrodite Flowers, having each two Stamina or Male, and one Style or Female Fructification.

THE Chionanthus furniſhes but one hardy ſpecies, a very curious deciduous flowering-tree, of ſhrub-like growth, for adorning the ſhrubbery, garniſhed with large oblong foliage; and numerous long bunches of fringed ſnow-white flowers, of one funnel-ſhaped petal; ſucceeded by a ſmall roundiſh berry, with one ſeed, but do not attain perfection plentifully in England: are obtained from America, by which to propagate the plants, and are alſo raiſed by layers.

Generic Characters.—The flower hermaphrodite; calyx or cup monophyllous, erect, acutely four-parted; corolla, monopetalous, funnel-ſhaped, with a ſhort ſpreading tube, cut above into four long erect ſegments;

ments; ſtamina, two ſhort filaments, crowned by heart-form anthera; and the piſtillum conſiſts of an oval germen, ſingle ſtyle, terminated by an obtuſe, trifid ſtigma; the germen becomes a round unilocular berry, containing a ſtriated ſeed or nut.

The Species is,

CHIONANTHUS *virginica*, Virginia Snow-Drop Tree.

A ſmall deciduous tree, ſhrub-like, eight to ten, or twelve feet high—the leaves (*large, dark-green*) oblong, ovate; and peduncles or flower-ſtalks, trifid or three-parted, ſuſtaining three flowers.—Native of North America. (*Moiſt ſoil.*)

This curious flowering-ſhrub deſerves a place in all principal ſhrubbery collections, beautiful in its large, laurel-like leaves, and long bunches of flowers in May, which being fringed and of a ſnowy whiteneſs, the plant obtained the name Fringe or Snow-Drop Tree; it delights moſtly in a ſomewhat moiſt ſituation, but may be planted in any common, mellow ſoil, or as the ſituation affords; is raiſed for ſale in all the nurſeries; and propagated generally by ſeed, and occaſionally by layers; and when the plants are advanced two, three, to four or five feet, is of a proper ſize for the ſhrubbery; and may be planted in autumn or in the ſpring.

To propagate this ſhrub by ſeed, this may be ſowed in autumn, if attainable at that ſeaſon: is commonly obtained from America, and may be had of the ſeedſmen in the ſpring, when, about March or April, ſow it in beds or pots of loamy or other good earth; and if in pots, place them in a ſhady or eaſt border in ſummer; or if plunged in a hot-bed as ſoon as ſowed, they will come up ſooner the ſame year, otherwiſe, ſometimes, remain dormant till the ſecond ſpring, in which caſe, if the pots are then placed in a hot-bed, it will forward them conſiderably; obſerving that as the young ſeedling-plants are rather tenderiſh, it would be adviſeable to give occaſional ſhelter in winter, from froſt; and when they are a year old tranſplant them in the ſpring, ſome ſingly in pots, others in a warm ſituation in the nurſery; or theſe in pots may have occaſional protection the firſt winter or two; training the plants, in either method, with a ſingle ſtem and full heads; and when two, three or four feet high, they are proper for the ſhrubbery, &c. in which thoſe in pots particularly, may be tranſplanted with balls.

Or to raiſe them by layers, the young ſhoots of laſt ſummer are proper, ſlit-laying them in autumn or ſpring; they will probably be rooted ſome in one, others will be two years before they are well rooted; or may lay the young ſhoots of the ſame year in June or July.

CISTUS,—(CISTUS) or ROCK-ROSE.

Claſs and Order.

Polyandria Monogynia,
Many Males, One Female;

Or Flowers Hermaphrodite, having many Stamina or Male Fructifications, and one Piſtillum or Female.

THE CISTUS is fertile in a numerous family of ever-green, ornamental flowering-ſhrubs, elegant furniture for the ſhrubbery; moſtly of ſmall and moderate growth, from one, two, or three, to five or ſix feet, generally diffuſely-branchy and buſhy, cloathed with ſimple leaves, oblong, ſpear-ſhape, oval, heart-ſhape, &c. of various ſizes, and different ſhades of light and dark-green, hoary, white, &c. in the different ſpecies, moſt of them exuding a gummy ſubſtance; and at the ſides and ends of the branches, numerous large purple, and white flowers, of five ſpreading petals, containing numerous ſtamina and one piſtillum, ſucceeded by a roundiſh capſule, filled with ſeeds, ripening in autumn in moſt of the ſorts, and by which the plants are raiſed; and are propagated alſo by cuttings.

Generic Characters.—The flower hermaphrodite; calyx or cup five-leaved, two alternately ſmaller; corolla or flower, five large, roundiſh, ſpreading petals; ſtamina, numerous ſmall, ſhort filaments, crowned with roundiſh anthera; a piſtillum in the centre, conſiſting of a roundiſh germen, ſingle ſtylus, terminated by an orbicular ſtigma; and the germen ſwells to a roundiſh, covered capſule, of five to ten loculi or cells, filled with roundiſh ſeeds.

The hardy Species of CISTUS are,

1. CISTUS *populifolius*, Poplar-leaved Ciſtus or Rock-Roſe.

A moderate ſhrub, firm ſtem, very branchy, five or ſix feet high—the leaves (largiſh) heart-ſhape, acuminated, ſmooth, and petiolated or foot-ſtalked; and large white flowers in June and July.—Native of Portugal.

2. CISTUS *laurifolius*, Bay-leaved Gum Ciſtus.

A middling ſhrub, ſtronge ſtem, branching erect, five or ſix feet high—the leaves (*moderate*) oblong-ovate, three-nerved, ſmooth above, with the foot-ſtalks connated or joined at the baſe; and large, white flowers; June, July, &c.—Native of Spain.

3. CISTUS *ladaniferus*, Ladanum-bearing or Common Gum Ciſtus.

A middling ſtrong ſhrub, ſtem very branchy, five or ſix feet high—the leaves (*middling*) ſpear-ſhape, ſmooth

ſmooth above, with the foot-ſtalks joining at the baſe and ſheathing; and white flowers, in umbels, ſpotted at the baſe; June, July, &c. the whole plant gummy. —Native of Spain and Portugal.

Varieties.—Common ſpotted-flowered Gum Ciſtus.
Entire-white-flowered, without ſpots.

4. CISTUS *incanus*, Hoary-leaved Ciſtus.

A moderate ſhrub, ſtrongiſh ſtem, having many hairy branches—the leaves (*middling, whitiſh*) ob-ovate ſpatula-ſhape, hoary, rough, with the interior baſe, ſheathing and joining; and reddiſh-purple flowers; June, July, &c.—Native of Spain and Narbona.

5. CISTUS *monſpelienſe*, Montpelier Gum Ciſtus.

A moderate ſhrub, ſlenderiſh ſtem, very branchy, four feet high—the leaves (*narrow, dark-green*) linear-ſpear-ſhape, both ſides hairy, three-nerved, and ſeſſile or ſitting cloſe; and long peduncles, ſuſtaining many white flowers; June, July, &c.—Native of France.

6. CISTUS *albidus*, White-leaved Ciſtus.

A middling ſhrub, branching erect, four or five feet high—the leaves (*middling, white*) ovate-lance-ſhape, hoary and white, three-nerved, ſeſſile or cloſe-ſitting; and large, bright-purple flowers; May, June, July, &c.—Native of France and Spain.

7. CISTUS *creticus*, Cretan Gum Ciſtus.

A ſmaller ſhrub, the ſtem branchy, three or four feet high—the leaves (*middling*) ſpatulate-ovate, without nerves, rough, and having foot-ſtalks; red flowers, having the leaves of the calyx ſpear-ſhape.—Native of the Iſland Creta, and in Syria.

8. CISTUS *ſalvifolius*, Sage-leaved ſpreading Ciſtus.

A ſmall ſhrub, three feet high, the ſtem ſlender, branching horizontally and ſpreading—the leaves (*middling*) ovate, hairy on both ſides and foot-ſtalked; and long peduncles or flower-ſtalks, having one or two white flowers; June, July, &c.—Native of Italy, Sicily, and Narbona.

9. CISTUS *criſpus*, Curled or waved-leaved Gum Ciſtus.

A moderate ſhrub, three or four feet high—the leaves (*long, narrow, whitiſh*) ſpear-ſhape, three-nerved, downy, and the borders waved and curled; and deep-purple flowers at the end of the branches; June, July, &c.—Native of Portugal.

10. CISTUS *halimifolius*, Sea-Purſlane-leaved Ciſtus.

A middling ſhrub, branching four or five feet high, of buſhy growth—the leaves (*middling, very white*) oval, obtuſe, hoary; two leaflets of the calyx linear; and large, yellow flowers, on very long foot-ſtalks at the ends of the branches; June, July, &c. —Native of Portugal, near the ſea.

Varieties.—Broad-leaved, Sea-Purſlane-leaved Ciſtus
Narrow-leaved, Sea-Purſlane-leaved Ciſtus.

11. CISTUS *piloſus*, Hairy-leaved Ciſtus.

A middling, ſtrong ſhrub, ſtem very branchy, of buſhy growth, three or four feet high—the leaves (*middling*) ovate, very hairy, and petiolated or foot-ſtalked; and purple flower terminating the branches; May, June, &c.—Native of Italy and Spain.

12. CISTUS *libanotis*, Roſemary, narrow-leaved Ciſtus.

A moderate ſhrub, ſtem purpliſh, branching three or four feet high; the leaves revolute, linear and narrow; and white flowers in terminal umbels.—Native of Spain.

13. CISTUS *apenninus*, Apennine Mountain Ciſtus.

A ſmall, ſhrubby plant, of low, ſlender, ſpreading growth—the leaves (*ſmall*) ſpear-ſhape, hairy, the under ſide hoary, and white flowers.—Native of the Apennines and Italian mountains.

14. CISTUS *humilis*, Dwarf Thyme-leaved Ciſtus.

A ſmall, under-ſhrubby plant, of very low growth —the leaves (*very ſmall*) linear, narrow, two-furrowed underneath, and hoary; a ſmooth calyx, with white flowers.—Native of Montpelier.

15. CISTUS *Helianthemum*—(Helianthemum) or Sun-flower Dwarf Ciſtus.

A ſmall, under-ſhrubby, trailing plant, of ſlender growth—the leaves (*ſmall*) oblong, revolute, ſomewhat hairy, with ſpear-ſhape ſtipula; and largiſh, yellow flowers.—Native of Europe, in dry paſtures, &c.

16. CISTUS *italicus*, Italian Dwarf Ciſtus.

A low, under-ſhrubby plant, ſtem erect, branches oppoſite, ſpreading—the leaves (*very ſmall*) oppoſite, lower

lower ones ovate, the upper ſpear-ſhape; and pale flowers.—Native of Italy.

Thus far compriſing the principal hardy ſpecies of ſhrubby Ciſtus, their merit for garden culture, is to admit them as ornamental ever-greens and beautiful flowering-ſhrubs, in pleaſure-ground compartments; in which it may be obſerved, that as in their native places of growth, they moſtly inhabit dry, warm ſoils, may generally be planted in ſimilar ſituations, in ſhrubberies, &c. or will ſucceed in any common, tolerably dry ground; and if ſomewhat ſheltered compartments, it will be of advantage to the plants in winter, when ſevere froſt; though they may alſo be planted in any expoſure, in aſſemblage with other ever-greens and flowering-ſhrubs, where they may be required; but the Cretan Ciſtus, and *Ciſtus halmifolius*, being of rather more tender quality, in winter, than moſt of the others, particularly the latter, they ſhould generally have a warm, dry ſituation; however, in our ordinary ſeaſons, the ſpecies in general here enumerated, will moſtly ſtand all weathers, and may all be propagated plentifully by ſeed, layers and cuttings.

However, as moſt of theſe ſhrubs are liable to ſuffer, more or leſs, in very ſevere winters, it will alſo be proper, where convenient, to have ſome of the principal or deſirable ſorts planted in pots, in order for placing under ſhelter in rigorous froſts, in a frame or glaſs caſe, or under awnings of mats, &c. with other ſhrubs of ſimilar temperature; eſpecially in their young growth, the firſt year or two after being raiſed from ſeed, &c.

All or moſt theſe ſpecies of *Ciſtus* are cultivated in the nurſeries, for ſupplying ſhrubberies and other compartments in pleaſure-grounds, either in full collection, or of any particular or deſirable ſorts required, for planting in the proper ſeaſons, autumn or ſpring; and when deſigned to propagate or raiſe any of the ſorts, it is effected by ſowing the ſeed in the ſpring, in a bed of light earth; and by layers and cuttings in the ſame ſeaſon and early part of ſummer.

Theſe ever-green flowering-ſhrubs of the different ſpecies, are deſirable furniture to introduce in principal ſhrubberies, for ornament and variety, or to beautify any compartments, borders, &c. of pleaſure-grounds; diſpoſed, more or leſs forward, according to their ſizes, diſtinguiſhable to ſight at all ſeaſons; or ſome principal ſorts likewiſe planted in pots.

In their general growth they are moſtly branchy and buſhy; many of them riſing with an erect ſtem, branching on every ſide, their whole length; ſome grow more ſhrubby-like, advancing with ſeveral ſtems from the bottom; others are low, under-ſhrubby plants; and the whole diſplay a pleaſing diverſity in their different growths, of from a foot or leſs, to two, three or four, to five or ſix feet; ſome erect, others ſpreading, and ſome procumbent; as alſo in their various foliage, in the different ſpecies, at all ſeaſons, and numerous, ornamental flowers in ſummer, ſome very large and ſpreading, others middling, and ſome ſmaller; appearing ſome in May, or the whole principally in June or July, till Auguſt; all conſpicuous and of long continuance in daily ſucceſſion; for though they are only flowers of a day, or the ſame flowers being but of one day's duration, they are ſucceeded by new ones every following day, abundantly for ſeveral weeks, in moſt of the ſpecies, and in many of which are ſucceeded by ripe ſeeds.

Several ſpecies of theſe Ciſtuſes are remarkable for imparting a gummy matter from the ſurface of their leaves and ſhoots, eſpecially in hot weather; which, in the places where they grow naturally in great abundance, is collected for medical preparations, eſpecially Gum Ladanum or Labdanum.

The beſt ſeaſon for planting theſe ſhrubs is principally either in autumn, about September, October or November, or in the ſpring, in March and April, when the weather is ſettled in mild.

They may be introduced both in compartments of ever-greens, and in any general ſhrubbery compartments, compoſed of ever-greens and deciduous ſhrubs, in aſſemblage, and in borders, &c. contiguous to principal walks and lawns; and ſome planted in pots, to move to any particular compartments, occaſionally.

To propagate theſe ſhrubs, it may be performed both by ſeed, as before obſerved, and by cuttings of the young ſhoots, alſo by layers.

Sow the ſeed generally in ſpring, about March or April, either in a bed or border of light earth, and molded in half an inch to an inch deep; or ſome ſowed in pots, and thoſe plunged in a hot-bed, to forward the germination of the ſeed and growth of the young plants, which muſt have plenty of air admitted; they, in either method, when come up, and when two or three inches high, if very thick, ſome may be thinned out and pricked in a border, or ſome ſingly in pots, or the whole pricked out the following ſpring; giving them protection in winter from ſevere froſt, and in ſummer, occaſionally watered; and according as they increaſe in growth, may be tranſplanted in nurſery-rows, one or two feet diſtance; or when of one, two or three feet ſize, are proper for final tranſplanting in the ſhrubbery, or where they are intended; in which, if convenient, to remove them with ſmall balls of earth to the roots would be of particular advantage.

By cuttings, theſe ſhould be of the young ſhoots, in April, May or June, planted either in a ſhady border, or ſeveral together, in largiſh pots of good earth,

earth, for moving to a ſhady ſituation, occaſionally in ſummer, and to ſhelter in winter; or ſome cuttings planted in pots in ſpring, and plunged in any hot-bed of moderate heat, it will forward their rooting ſooner, giving the whole ſhade and neceſſary watering, they will all root freely the ſame ſeaſon, in ſix or eight weeks; and when a little advanced in a top-growth, plant them out, ſome ſingly in ſmall pots, others in a bed or border; give water and ſhade in hot weather, ſhelter them in winter, and may afterwards be tranſplanted into the full ground.

Likewiſe by layers of the under-branches, the larger and other kinds may alſo be propagated, layed in autumn or ſpring.

In their general culture they may be permitted to advance in their natural, branchy, buſhy growth; or any of the large ſorts may have irregular or low, ſtraggling branches pruned; and to cut out caſual, dead ſhoots, killed by froſt or other accidents.

CLEMATIS, (Climber) or VIRGIN's BOWER.

Claſs and Order.

Polyandria Polygynia,
Many Males, Many Females;

Or Flowers (Hermaphrodite) having many Stamina or Males, and many Piſtillums or Females.

THE CLEMATIS compriſe ſeveral ſpecies of climbing, ſhrubby plants, to admit in ſhrubberies and other compartments of the pleaſure-ground, for variety, as climbers, and ſome for their ornamental flowering; producing long, ſlender, trailing ſtems, aſcending upon ſupport of trees, ſhrubs, buſhes, poles, &c. many feet in one ſeaſon; cloathed, ſome with compound, winged leaves of many folioles, others with triſoliate, ternate and ſimple leaves; and numerous flowers, ſingly and in cluſters in the different ſpecies, blue, red, white, &c. each formed of four oblong petals, without any calyx, containing many ſtamina and piſtillums; ſucceeded in the latter by many roundiſh ſeeds, terminated by the permanent ſtyles, which in ſome ſorts ripen plentifully in this country, others not, and by which the plants may be raiſed; but as they grow freely by cuttings and layers, they are more commonly propagated by thoſe methods.

Characters.—The flowers hermaphrodite, no calyx or cup; corolla or flower, four oblong, looſe petals; ſtamina, numerous, ſhort filaments, having the antheræ attached to the ſides; piſtillum, many roundiſh-compreſſed germina, ſupporting awl-ſhaped ſtyles, longer than the ſtamina, terminated each by a ſingle ſtigma; and the germina become roundiſh-compreſſed ſeeds, collected into a head, and terminated by the ſtyles, forming a tail to each ſeed.

The Species of the hardy Shrubby CLEMATIS are,

1. CLEMATIS *Viticella*—(Viticella) or Virgin's Bower.

A climbing, ſhrubby plant, riſing with many ſtems or branches, ten to fifteen or twenty feet high—the leaves double-compound, branching into diviſions compoſed of many oval, intire folioles or leaflets, by threes; and blue and other coloured flowers ſingly; June and July.—Native of Italy and Spain, in hedges. *(Any ſoil.)*

Varieties.—Common ſingle Blue Virgin's Bower.
Purple-flowered Virgin's Bower.
Red-flowered Virgin's Bower.
Double-flowered Virgin's Bower.

2. CLEMATIS *Viorna*—(Viorna) or Purple American Virgin's Bower.

A climbing, ſhrubby plant, aſcending ten or twelve feet high—the leaves double-compound, of many heart-ſhape folioles, by threes, the folioles ſometimes triñd; and purple flowers ſingly, with coriaceous petals; July.—Native of Carolina and Virginia. *(Any ſoil.)*

3. CLEMATIS *criſpa*, Curled-flowered American Climber.

A moderate, ſhrubby climber, growing four, to five or ſix feet—the leaves ſimple and three folioled, with the folioles of the leaves both intire and three-lobed; and purple flowers ſingly, curled or waved internally; July.—Native of Carolina. *(Any ſoil.)*

4. CLEMATIS *orientalis*, Oriental or Eaſtern Clematis.

A moderate, ſhrubby climber, extending eight or ten feet—the leaves compound, nine-folioled, with the leaflets cut, angular, lobated wedge-ſhape; and yellow-green flowers, having the petals hairy within; April and May.—Native of the Eaſt.

5. CLEMATIS *cirrhoſa*, Cirrhoſe or Climbing-tentrilled, Ever-green Virgin's Bower.

An ever-green, ſhrubby climber, extending ſix or eight feet, branchy and buſhy—the leaves ſimple, ovate, ſometimes ſingle, double and ternate; and with climbing cirrhi or claſpers; large, greeniſh flowers in winter.—Native of Spain and Portugal. *(Any ſoil.)*

6. CLE-

6. CLEMATIS *virginiana*, Virginia broad three-leaved Clematis.

A ſtrong, ſhrubby climber, extending many feet —the leaves ternate or three-folioled, having the folioles heart-ſhape, ſub-lobated angular and climbing; and dioecous, white flowers; June, July.—Native of North America. (*Any ſoil.*)

7. CLEMATIS *Vitalba*—(*Vitalba*, White Vine) White, wild Climber, or Traveller's Joy.

A ſtrong, ſhrubby climber, extending twenty or thirty feet—the leaves pinnated, of many heart-ſhape, climbing leaflets, by fives or ſevens; and many bunches of white flowers; June, July, with ſeeds, having long, white beards.—Native of England and moſt parts of Europe and America, in hedges, &c.—(*Any ſoil.*)

Varieties.—Indented-leaved Traveller's Joy.
Intire-leaved Traveller's Joy.

8. CLEMATIS *maritima*, Maritime or Sea Clematis.

An under-ſhrubby plant, erectiſh and trailing; the ſtem ſimple, ſix-angled—leaves pinnated and linear. —Native near the Adriatic Sea, Venice, and Montpelier.

Theſe eight ſpecies of *Clematis* are very hardy plants, to grow in any common ſoil and ſituation, and to admit in ſhrubberies and other compartments, for variety in their climbing growth and ornamental flowering; and are all eaſily propagated, ſome by ſeed occaſionally, or the whole more commonly and expeditiouſly by layers, and ſometimes by cuttings; each method performed, either in ſpring or autumn, or the layers and cuttings alſo in ſummer, and will root the ſame ſeaſon.

They being moſtly trailing and climbing plants, advance with long, ſlender ſtems and branches, extending many feet, in a ſwift growth, in their peculiar manner, either trailing on the ground or aſcend upon any adjacent ſupport, ſome in a creeping order, others climbing by their tendrils or claſpers, attaching themſelves to trees, buſhes, hedges, &c. and as they aſcend, flower at the joints, in their reſpective ſeaſons, ſeveral of which appear very ornamental; others, though leſs conſpicuous, diſplay an entertaining variety; and therefore the plants conſidered as climbers, are proper to introduce in particular compartments, where they can have ſupport, or ſome to run over rural bowers, arbours and ſeats, more particularly the Common Virgin's Bower, for the ſuperior beauty of its flowers, which is alſo eligible to train againſt walls, trelliſes, poles, &c. in any conſpicuous ſituation; and which, and the other ſorts, may alſo be admitted in ſhrubberies, wood-walks, wilderneſs compartments, receſſes, to aſcend upon trees, ſhrubs, buſhes, or other ſupport; in all of which, they will have an agreeable effect in their climbing growth, various foliage and flowers; but of which, the *Clematis Viticella*, or particularly the double variety thereof, exceeds moſt of the others in its ornamental flowers; however, all, or any of the other ſorts, are eligible to admit in the order above-mentioned, for variety, and to diverſify particular diſtricts, where thought neceſſary.

Moſt of theſe plants are raiſed in the nurſeries for ſale, where any deſirable ſorts may be procured for planting.

They may be planted in autumn or ſpring, or almoſt any time in mild weather, from October, to March or April.

They are propagated ſometimes by ſeed, ſowed in autumn or ſpring; but principally by layers, in ſpring and ſummer, which will ſoon emit roots the ſame year; chuſing the young ſhoots, or branches furniſhed therewith; peg them down in the ground, and lay the ſhoots in earth, the ſtem of each two or three inches deep, the top continued upright, a few inches above the ſurface; they will be ſufficiently rooted to plant off in autumn; or likewiſe cuttings planted in the ſpring will be rooted the following ſummer: and in all of which, when the plants have advanced in top-ſhoots, of one, two or three years growth, they are proper for tranſplanting where they may be required.

When in the allotted compartments in the pleaſure-ground, &c. being planted where they may have ſupport, conduct the ſtems thereto; or where any are againſt arbours, walls or trelliſes, train them with ſome regularity, and in their advanced growth, prune out weak, or very crouding and irregular wood, or where any extend out of bounds, ſhorten them accordingly; but thoſe planted to aſcend up trees, poles, &c. may run in their natural order.

CLETHRA—(CLETHRA)

Claſs and Order.

Decandria Monogynia,
Ten Males, One Female;

Or Flowers (*Hermaphrodite*) *having ten Stamina or Males, and one Piſtillum or Female.*

THIS genus Clethra furniſhes but one ſpecies, a deciduous flowering-ſhrub, of upright, moderate growth, having oblong leaves, and terminal ſpikes of white, ornamental flowers, of five petals, ſucceeded by roundiſh capſules, filled with angular ſeeds; not always ripening plentifully in this country: are obtained from

from America for ſowing, or the plant propagates by layers, cuttings, and ſuckers.

Generic Characters.—The flower hermaphrodite; the calyx one-leaved, five-parted, and permanent; corolla or flower, five oblong petals, longer than the cup; ten ſtaminas the length of the petals, crowned with oblong, erect anthera; piſtillum, conſiſting of a roundiſh, central germen, an erect, permanent ſtyle, terminated by a trifid ſtigma; and the germen grows a roundiſh, trivalved capſule, full of angular ſeeds.

One Species, viz.

CLETHRA *alnifolia*, Alder-leaved Clethra.

A moderate ſhrub, five or ſix feet high—the leaves (*middling large*) oblong ſpear-ſhaped, ſawed, and placed alternate; and ſpikes of white flowers at the ends of the branches; July.—Native of Carolina, Virginia, and Penſylvania. (*Moiſt ſituations, or any common ſoil.*)

This being an ornamental flowering-ſhrub, demands a place in principal ſhrubberies; delights moſt in moiſt ground, but will grow in any common ſoil and ſituations: may be obtained at the nurſeries for planting, in autumn or ſpring, generally allotting it ſome principal compartment in a conſpicuous ſituation, in which it will make a pretty appearance when in flower, and effect variety in its general growth.

It is propagated by layers, cuttings, ſuckers, and occaſionally by ſeed; by layers and cuttings the young ſhoots are proper, in autumn or ſpring, they will be rooted, ſome probably by the autumn following, or ſometimes not ſufficiently till the ſecond autumn; or may lay young ſhoots of the year in June, to root ſooner; and cuttings of the young ſhoots may be planted in the ſpring, in a ſhady border; likewiſe ſuckers from the root, digged up with fibres, form at once rooted plants, which ſet in a nurſery for a year or two; and when the plants, by either method, are of two or three feet growth, they are proper for the ſhrubbery.

By ſeed, generally obtained in the ſpring, ſow it in March or April, in a bed or pot of good earth; give occaſional ſhade and water in hot weather; and when the plants are a year old, tranſplant them in the nurſery till of proper ſize, as above.

Cneorum, WIDOW WAIL.

Claſs and Order.

Triandria Monogynia,
Three Males One Female;

Or Flowers Hermaphrodite, having three Stamina or Male Fructifications, and one Piſtillum or Female.

THE CNEORUM compriſes but one ſpecies, a ſmall buſhy ever-green, for the ſhrubbery, flowering ornamentally great part of ſummer and autumn; is cloſely adorned with ſmall leaves, and many ſmall, yellow flowers, ſingly, of three narrow petals, ſucceeded by a globular, trilobated, dry berry, having three ſeeds: ripe in autumn, and by which, ſowed in autumn or ſpring, the plant is propagated, alſo by cuttings.

Characters.—The flower hermaphrodite; calyx ſmall, tridented, and permanent; corolla, three oblong, narrow petals, erect; three ſtamina, erect, and ſhorter than the flower, crowned by ſmall anthera; a central, obtuſe, three-cornered germen, having a ſhort, erect ſtyle, terminated by a ſpreading, trifid ſtigma; and the germen becomes a globular, trilobated, dry berry, of three round ſeeds.

One Species, viz.

CNEORUM *tricoccum*, Three-ſeeded Cneorum or Widow-Wail.

A low, ever-green ſhrub, cloſely branching and buſhy, three feet high—the leaves (ſmall) oblong-oval, narrow, and cloſely placed; and yellow flowers, ſingly, in May or June, to the end of the ſummer.—Native of Spain and Narbona. (*Dry ſituation or any.*)

This dwarf, ever-green ſhrub, being ornamental both in its cloſe, buſhy growth, and long continuance in flower, claims a place in all principal ſhrubbery collections, allotting it a front ſituation; either in aſſemblage, chiefly in ever-green clumps, &c. or towards the front of other compartments; in a dry, gravelly, or any ſoil as may be convenient: may be had at the nurſeries for planting, in autumn or ſpring, and is eaſily raiſed by ſeeds and cuttings in the ſame ſeaſons; and young plants often riſe naturally from ſcattered ſeeds.

To propagate the plant, ſow the ſeed in the autumn or ſpring, but if the former ſeaſon, they will generally come up more freely the ſpring following; ſowing it half an inch to an inch deep in any light earth; and when the ſeedlings are one year old plant them in a nurſery; and may plant cuttings or ſlips of the young ſhoots in a ſhady border, or forwarded in a hot-bed in the ſpring.

In either method of raiſing the plants, they, when advanced in the nurſery twelve to eighteen inches, or two feet, may be planted in the ſhrubbery; there proceed in their natural growth.

Colutea, BLADDER SENNA.

Claſs and Order.

Diadelphia Decandria,
Two Brotherhoods, Ten Males;

Or Papilionaceous Flowers, having two Sets of Stamina, or ten Stamina or Males in two Sets or Brotherhoods.

THE COLUTEA furniſhes three hardy deciduous flowering-ſhrubs, deſirable furniture for ſhrubbery

plantations; are of large and moderate growth, garniſhed with pinnated leaves, of many pair of oval and hearted folioles or leaflets, terminated by an odd or end foliole; and long looſe cluſters of papilionaceous or butterfly-ſhaped, yellow, and red flowers, with unequal petals, conſiſting of a ſtandard, two wings, and a carina or keel below, ſucceeded by large, inflated, bladder-ſhaped pods, of one cell, containing many kidney-ſhaped ſeeds: ripe in autumn, and by which the ſhrubs are generally propagated.

Generic Characters.—The flower hermaphrodite; of the papilionaceous or butterfly-ſhaped kind; the calyx bell-ſhape, monophyllous, five-dented and permanent; corolla or flower, four unequal petals, conſiſting of a large ſtandard above, two ſide-wings and a carina below, all varying in ſhape; ſtamina, ten filaments, in two ſets, nine being joined, one ſtanding ſeparate, each crowned by ſingle anthera; a piſtillum, conſiſting of an oblong central germen, an aſcending ſtyle, terminated by a linear, bearded ſtigma; and the germen grows an inflated or ſwoln, bladder-like, unilocular pod, furniſhed with ſeveral kidney-ſhape ſeeds.

The hardy Species of COLUTEA are,

1. COLUTEA *arboreſcens*, Tree Colutea, or Common Bladder Senna.

A large deciduous ſhrub, eight to ten, or twelve feet high; the ſtem tree-like—leaves winged or pinnated (*middling, light-green*) of four or five pair and an end foliole; the folioles obcordate-oval; and pale, yellow flowers, in June and July.—Native of France, Italy, and Auſtria. (*Any common ſoil.*)

Varieties.—The two following are ſuppoſed accidental varieties of the common ſort.

2. COLUTEA *media*, Middle or Pocock's ſhrubby Colutea.

A middling ſhrub, (deciduous) more ſlender, ſpreading branches, ſix to ſeven, or eight feet high; the ſtem ſhrubby—leaves pinnated (*middling ſize*) of eight or nine pair and an odd foliole, the folioles oval, intire; and bright, yellow flowers; May or June.—Native of the Eaſt. (*Dry or any ſoil.*)

3. CALUTEA *orientalis*, Oriental Shrub Colutea.

A middling ſhrub (deciduous) branching in a regular head, ſix or ſeven feet high—leaves pinnated (*middling ſize*) of five or ſix pair and an end foliole, heart-ſhaped; and dark red flowers, ſpotted with yellow; June or July.—Native of the Levant. (*Dry or any ſoil.*)

All theſe ſpecies and varieties are of hardy growth, to ſucceed in any common ſoil and ſituation; and are principal ſhrubs to aſſemble in ſhrubbery clumps, and other decorative plantations of middling ſhrubs and trees, in pleaſure grounds, in which they will effect a diſtinguiſhable variety and ornamental appearance in ſummer, in their pinnated leaves, numerous papilionaceous flowers, and curious inflated or puffed, bladder-like pods; eſpecially if in diſpoſing them in the allotted compartments, they are judiciouſly placed, more or leſs, behind or forward, according to their growth, and that of the other ſhrubs, with which they are to aſſemble, ſo as the whole may be diſtinctly conſpicuous.

They may be obtained for planting, at all the public nurſeries, in proper growth, of two or three, to four or five feet; and the planting performed in autumn, or any time in open weather, from October to March, or April; and are propagated or raiſed abundantly by ſeed, and occaſionally by layers.

The propagation or raiſing theſe ſhrubs is generally by ſeed, in the ſpring, ſowed in a bed of common earth, either in drills or broad-caſt, and earthed in an inch deep; or may alſo try layers, in the ſame ſeaſon, or in autumn, of the young ſhoots: the ſeeds will ſoon vegetate and the plants come up freely, and attain ſome tolerable growth by the end of ſummer; and the layers will be rooted for planting off in autumn or ſpring; when tranſplant the ſeedlings from the ſeed-beds, and alſo the layers from the ſtools, each in nurſery-rows, to acquire eligible ſize for the ſhrubbery or other plantation diſtricts intended.

When the ſeedling-ſhrubs, and others, raiſed as above, are from two, to three or four feet high, they are of proper growth for final planting, in ſhrubberies and other places, where required, for ornament and variety.

The general ſeaſon for planting theſe ſhrubs is either in autumn, at the decay of the leaves, or in the ſpring, or even any time from October or November to April; obſerving generally in planting, if any have long perpendicular tap-roots, they ſhould be pruned, that they may throw out lateral roots horizontally, after being planted.

In their general growth, they require but very little culture, only to prune up low, ſtraggling, or caſual, rude ſhoots, in the head.

CORIARIA (Tanner's Shrub) or MYRTLE-LEAVED SUMACH.

Claſs and Order.

Dioecia Decandria,
Two Habitations Ten Males;

Or Flowers Male and Female, diſtinct, on two ſeparate Plants; and the Male Flowers having ten Snamina.

THIS Genus affords but one hardy ſpecies a ſmall flowering-ſhrub, of the deciduous tribe, of thicketty, buſhy

buſhy growth, garniſhed with ſmall, oblong leaves, and ſpikes of whitiſh flowers, male and females on ſeparate plants, of five oval petals; and ſucceeded in the females by an angular berry, with five ſeeds, which are ſeldom uſed for ſowing, as the plants propagate plenteouſly by ſuckers.

Characters.—Flowers male and female, ſeparate on two different plants, having a calyx five-leaved; a corolla or flower, five oval petals attached to the cup; and in the male flowers ten ſtamina, crowned by oblong anthera; the females furniſhed with a piſtillum, becoming an angular berry, containing five kidney-ſhaped ſeeds.

One Species of hardy CORIARIA, viz.

CORIARIA *myrtifolia*, Myrtle-leaved Sumach.

A ſmall ſhrub, with many ſlender ſtems, three or four feet high—the leaves (*ſmall*) ovate-oblong, and ſmall ſpikes of whitiſh flowers in ſummer.—Native of Montpelier, in France. (*Loamy or any ſoil.*)

Varieties.—Male *Coriaria*, producing male flowers only.
Female Coriaria, producing female flowers only.

Theſe ſhrubs having creeping roots, ſend up many ſucker-ſtems in a thicketty growth; is employed in ſhrubberies for variety, and to ſupply vacancies, where a full growth is required in any particular compartments: they may be had at moſt of the nurſeries, for planting, in the proper ſeaſons; and may be propagated plentifully by the abundant root-ſuckers taken up in autumn or ſpring, with roots, and planted in a nurſery for a year or two, or ſome at once where they are to remain, or will grow by layers.

In their growth in ſhrubberies, it does not require any particular culture, only, if thought neceſſary, to clear out-ſuckers where too conſiderably increaſed.

CORNUS, CORNEL TREE, or CORNELIAN CHERRY, Dog-Wood, &c.

Claſs and Order.

Tetrandria Monogynia,
Four Males, One Female;

Or Plants, having Flowers, containing four Stamina or Males, and one Piſtillum or Female Part.

THE Cornel family furniſhes three hardy ſpecies, and ſeveral varieties, of moderate tree and ſhrub kinds, all of the deciduous tribe; employed, principally, for diverſifying ſhrubberies, as flowering-trees and ſhrubs; and ſome, occaſionally, for their fruit: grow eight or ten, to fifteen or twenty feet high, in the different ſpecies; garniſhed in ſummer with oblong, oval and heart-ſhape leaves, of middling ſizes; and many ſmall, yellowiſh and white flowers, in umbellate cluſters, in a four-leaved involucrum; with each floret, a monophyllous four-dented cup, four petals, four ſtamina, and a roundiſh germen and ſlender ſtyle; ſucceeded by a roundiſh berry, including a ſmall nut or ſtone: ripe in autumn, by which the ſpecies are propagated, alſo by layers and cuttings.

Generic Characters.—Hermaphrodite flowers, many together in an umbellate bunch, contained in one general involucrum, four-leaved and coloured; a ſmall calyx one-leaved, four-dented to each flower; the corolla or flower, four ſmall, plane petals; ſtamina, four erect filaments, higher than the petals, crowned by roundiſh anthera; a round germen under the calyx, having a ſlender ſtyle, terminated by an obtuſe ſtigma; and the germen grows a roundiſh or oval, drupaceous berry, containing a nut, furniſhed with an oblong kernel.

The Species of Woody CORNUS are,

1. CORNUS *mas*, Male, Cornel Tree, or Cornelian Cherry.

A ſmall, deciduous tree, growing fifteen feet high or more; a tree ſtem—the leaves oblong obverſe-hearted; and flower-umbells and involucrums equal; with cloſe growing flowers in February or March, ſucceeded by cherry like, eatable fruit, for tarts.—Native of Auſtria, America, &c. (*Any common ſoil.*)

Varieties.—Red-berried Common Cornel Tree, or Cornelian Cherry.
White-fruited Cornel Tree.

2. CORNUS *ſanguinea*, Bloody Twig, Female Cornus, or Common Dogwood.

A ſmaller tree or large ſhrub, eight, to ten or twelve feet high, with blood-red ſhoots—the leaves (*middling ſize*) oblong-cordate, pointed; and cymoſe, naked flower umbells.—Native of England and moſt parts of Europe, in hedges, and in America. (*Any ſoil.*)

3. CORNUS *florida*, Florid, Male Cornus, or Virginia Dogwood.

A large ſhrub, eight or ten feet high, with red ſhoots—the leaves (*largiſh*) oblong; and white flowers in corymbus bunches, having a large, white involucrum, folioles obverſe-hearted.—Native of Virginia and other parts of North America. (*Any common ſoil.*)

Varieties.—Common Broad-leaved Virginia Dogwood.
Narrow-leaved Virginia Dogwood.
White-involucrumed Virginia Dogwood.
Red-involucrumed Virginia Dogwood.
Blue-berried American Dogwood.
White-berried Penſylvanian Dogwood.
White-leaved American Dogwood.

All theſe ſpecies and varieties of *Cornus* are eſteemed principally to plant for ornament and variety, in pleaſure-grounds, &c. and the Cornelian Cherry alſo, occaſionally, as a fruit-tree, in ſmall ſtandards or in eſpaliers, for its cherry-like berries, particularly the red ſort: which ripening in autumn, of an acid reliſh, are ſometimes preſerved for making tarts; but the trees of which, in both the varieties, and thoſe of all the other ſpecies of Cornel, are more generally employed in compoſing ſhrubberies, and in diverſifying any decorative plantations; and for all of which occaſions they are eaſily raiſed abundantly by ſeed, layers, cuttings, and grafting.

They are all very hardy, deciduous tree and ſhrub kinds, to grow in any common ſoil and ſituation; and from their natural growth, modes of flowering and fruiting, are commonly adapted to introduce in ornamental plantations, and any large clumps or other compartments of flowering-trees and ſhrubs, in pleaſure-grounds, in which they will diſplay a proper diverſity in their different growths, ſome ſingular in their red ſhoots; and the whole effect a conſpicuous variety in their different leaves, and umbells of flowers, in ſpring and ſummer, which in the *Cornus mas*, and ſome of the Virginia Dogwoods, appear early in the ſpring, at the ſides and ends of the branches, in ſmall, cloſe umbells; others appearing in ſummer, in large, white umbells, terminating the branches and ſhoots ornamentally; ſucceeded in moſt of the ſorts by cluſters of red, white, blue, and other coloured berries: ripe in autumn, and ſome continue in winter; and in which ſeaſon the red-twigged Dogwoods exhibit an agreeable appearance.

So that for any ornamental planting in large ſhrubbery compartments, both in clumps and running plantations, all the ſpecies of *Cornus* are proper to arrange in aſſemblage; and for which may be had at all the nurſeries, and planted any time in open weather, from the decay of the leaves in autumn to March.

Likewiſe the *Cornus mas*, or Cornelian Cherry, may be admitted in the fruit-tree collection, particularly the red-berried kind, for its fruit, which in ſome families is eſteemed for its acid quality to preſerve for tarts; and for which the trees may be trained either in ſmall ſtandards, in gardens or orchards, or trained in eſpaliers, to obtain the fruit in beſt perfection: generally ripening in autumn, about September.

All the ſorts of *Cornus* are propagated or raiſed by ſeed, layers, ſuckers, and ſometimes by cuttings, and occaſionally by grafting any particular variety.

By ſeed or berries, theſe ripening in autumn, may be ſowed in that ſeaſon, or in the ſpring; but if ſowed in autumn they will more certainly all come up next ſpring, the others probably not ſo freely, or ſometimes not wholly till the year following: they may be ſowed in any beds of common earth, and covered in an inch or two deep: when the plants come up, give occaſional watering in dry weather; and when of one or two ſummers growth, tranſplant them in autumn or ſpring into a nurſery, trained with a ſingle ſtem and branchy head; and when advanced two or three, to four or five feet, are of proper ſize for final tranſplanting in the places where intended.

Or by layers, cuttings and ſuckers; chuſe for the two former, the young ſhoots, which lay and plant in autumn or ſpring, and will be rooted by the following autumn, more eſpecially the layers; and ſuckers riſing from the roots, may be taken off in the autumn or ſpring; and all of which planted in a nurſery for a year or two, or till of proper growth, or wanted for the intended plantations.

When, by either of the above methods of propagation, they are raiſed to three, four or five feet growth, they are of eligible ſize for the ſhrubbery and other plantation diſtricts intended, planted therein at the proper ſeaſon; and in which plantations the principal culture is only to prune out any low, ſtraggling branches, or to reduce long ramblers of the head.

Or if any of the Cornelian Cherry are planted for fruit-trees, permit the ſtandards to advance in full heads, or, occaſionally, prune any caſual irregularly, as above; and where any are trained in the eſpalier order, arrange the branches to the trellis moſtly at their full length, horizontally, four or five inches aſunder, and have a regulation of pruning and training annually, as direct.d for the Common Cherry-Tree.

CORONILLA, JOINTED-PODDED COLUTEA, and Scorpion Sena.

Claſs and Order.

Diadelphia Decandria,
Two Brotherhoods, Ten Males;

Or Papilionaceous, Hermaphrodite Flowers, having ten Stamina or Males, in two Sets or Brotherhoods.

THE family of *Coronilla* affords four hardy flowering-ſhrubs of the ever-green and deciduous tribes, to admit in the ſhrubbery; all of upright, ſmall and middling

dling growth, cloathed with pinnated or winged leaves, formed of many pair of ſmall folioles, terminated by an odd one; and papilionaceous or butterfly-ſhaped, or pea-bloom, yellow flowers, in bunches and looſe ſpikes at the ſides and end of the branches; each flower compoſed of a heart-ſhape vexillum or ſtandard, two oval wings, and a ſhort carina or keel, with ten internal ſtamina, an oblong germen, and ſingle ſtyle; and the germen becomes a Jointed-Pod, containing oblong ſeed, ripe in autumn, proper for ſowing to raiſe ſupplies of the plants, which are alſo propagated by layers.

Characters.—The flowers, hermaphrodite, papilionaceous—the calyx one-leaved, very ſhort, bifid, erect and permanent; corolla or flower, a heart-ſhaped, and in ſome a narrow vixillum or ſtandard, two oval or oblong wings, and a ſhort, compreſſed pointed keel or carina; ſtamina, ten filaments in two ſets, nine being joined and one ſtanding ſeparate, broad at top, crowned with ſmall anthera; a piſtillum, conſiſting of a long, taper germen, ſupporting a briſtly, aſcending ſtyle, terminated by an obtuſe ſtigma; and the germen grows a jointed taper pod, having oblong, kidney-ſhaped ſeeds.

The Species are,

1. CORONILLA *coronata*, Coronated Jointed-Podded Colutea.

A ſmall, ever-green ſhrub, two feet high—the leaves pinnated *(ſmall)* of nine ob-oval lobes, the inner ones approaching the ſtalk, with two-parted, oppoſite ſtipula; and cloſe bunches of yellow flowers; May or June.—Native of the South parts of Europe. *(Warm, dry ſituation.)*

2. CORONILLA *glauca*, Glaucous or Sea-green Coronilla.

A ſmall, ever-green ſhrub, two feet high—the leaves pinnated, *(ſmall, glaucous or ſea-green)* of ſeven lobes, with lanceolate ſtipula, and roundiſh bunches of bright-yellow flowers, in April or May.—Native of France. *(Warm, dry ſoil.)*

3. CORONILLA *argentea*, Silvery-leaved Coronilla of Creta.

A ſmall, ever-green ſhrub, two feet high—the leaves pinnated, *(ſmall, ſilver-coloured)* of eleven ſilky ſilvery lobes, the outer ones largeſt, and bunches of yellow flowers, in April or May.—Native of Creta. *(Warm, dry ſituation.)*

4. CORONILLA *Emerus*—(Emerus) or Scorpion Sena.

A middling, deciduous ſhrub, ſeven or eight feet high—the ſtem angular, leaves pinnated (*middling, light-green*) of ſeven lobes; and long peduncles, generally with three yellow flowers; the claws of the corolla triply longer than the calyx; flowering in May, June, &c.—Native of Meſſilea and Montpelier. (*Any common ſoil.*)

Variety.—Dwarf, Scorpion Sena.

Of the above ſpecies of *Coronilla*, the firſt three are ſomewhat tenderiſh in winter, more liable to ſuffer by ſevere froſt than the fourth ſort; ſo ſhould, generally, have a warm, dry ſituation, and ſome of each kept in pots, to move under protection of a frame or green-houſe, in rigorous weather, or during the winter ſeaſon; and are likewiſe admitted wholly in the green-houſe collection, more particularly, the ſecond and third: however, they being planted in a dry ſoil and ſheltered ſituation, in the full ground, will ſtand our ordinary winters tolerably well; but the fourth ſort, *Coronilla Emerus* or Scorpion Sena, is ſufficiently hardy to grow in any common ſoil and ſituation, and is more generally known and cultivated as a hardy flowering-ſhrub, than the others.

They are all deſirable furniture, as ornamental flowering-ſhrubs, to admit in pleaſure-grounds, in beautifying the ſhrubbery and other compartments: may be obtained at moſt of the nurſeries, to plant in autumn or ſpring; but more commonly the Scorpion Sena; diſpoſing the three ſmaller ones towards front, in a warm ſituation; the other place any where, more or leſs inward, to aſſemble with other ſhrubs of ſimilar dimenſions of growth; they will make a pretty variety in their pinnated leaves, and papilionaceous flowers in ſummer.

They are propagated moſtly by ſeeds, and occaſionally by layers.

By ſeed, which ripening in moſt of the ſorts in autumn, but more abundantly in the Scorpion Sena, is ſowed in March or April; the firſt three ſorts ſow in a warm border, the other in any bed of light earth, an inch deep; give water in dry weather, both before and after the plants are up; and when thoſe of the three former are two or three inches high, prick ſome in pots or in a border, watered and ſhaded from the ſun, till freſh rooted; and the fourth ſort, having one or two ſummers growth in the ſeed-bed, ſhould be tranſplanted in autumn or ſpring, in nurſery-rows; and in which the different ſorts to continue for two or three years, or till of proper ſize for the ſhrubbery.

Likewiſe by layers of the young ſhoots the Coronillas are, occaſionally, propagated, or more generally the Scorpion Sena, laying the tender ſhoots in the ſpring, and they will be rooted to plant off in autumn or ſpring following, and managed as the ſeedlings.

When deſigned to plant theſe Coronilla ſhrubs, it may be proper to remark, that as they generally run with long, naked tap-roots, eſpecially, the Scorpion Sena, it is adviſeable to tranſplant them finally into the ſhrubbery, or where intended, while they are of but moderate growth, in which, the roots being ſmaller and more fibrouſy, they will ſooner root effectually than large plants of this kind; and as to future culture, it is the ſame as intimated for other flowering-ſhrubs.

CORYLUS, HAZEL-NUT TREE, FILBERT, &c.

Claſs and Order.

Monoecia Polyandria,
One Houſe, Many Males;

Or Male and Female Flowers, ſeparate on the ſame Tree, and the Male Flowers having many Stamina.

THE *Corylus* furniſhes ſeveral ſpecies and varieties of hardy, deciduous trees and ſhrubs, all of the nuciferous or nut-bearing tribe, proper both to cultivate as fruit-trees, &c. in gardens and orchards, and in pleaſurable plantations, for variety; conſiſting of moderate tree kinds, ten to fifteen or twenty feet high, and ſome of a ſhrubby growth; garniſhed, in ſummer, with largiſh, cordate-roundiſh, rough leaves; and male and female flowers, apart, on the ſame tree; the males collected in ſmall, looſe, ſcaly amentums, and the females in large, two-leaved cups, having in each female an oval germen and two briſtly ſtyles; and the germen grows an oval nut, containing an eatable kernel, each nut incloſed in its large, lacerated cup, defending it to maturity: ripening in Auguſt and September, in perfection for eating, and by which the trees are propagated; alſo by ſuckers, layers and grafting.

Characters.—Male and female flowers, growing ſeparate on the ſame tree—the males conſiſting of many ſmall florets, are collected into long, ſmall, ſcaly amentums or catkins, each ſcale including a ſmall floret, having each many minute ſtamina, crowned with oblong anthera; and female flowers without petals, incloſed in roundiſh buds, ſitting cloſe to the branches, furniſhed each with a two-leaved torn cup, ſitting under the flower, enlarging and continuing, a round germen in the centre, with two briſtly ſtyles longer than the cup, terminated by ſingle ſtigmas; and the germen becomes an oval, pointed nut, incloſed in the permanent torn cup.

The Species of CORYLUS are,

1. CORYLUS *Avellana*—(Avellana) or Common Hazel-Nut Tree.

A moderate or ſmall, deciduous tree, growing ten to fifteen or twenty feet high, or more—the leaves (*middling*) hearted-roundiſh; ovate-obtuſe, ſtipula at the baſe; and nuts oval, roundiſh and oblong, in the different varieties.—Native of Britain and moſt other parts of Europe, in woods and hedges. (*Moiſt, ſtrong land, or any ſoil and ſituation.*)

Varieties.—Common Hazel, of the woods and hedges. (*Oval-roundiſh nuts.*)
Long Wood Nut. (*The nuts very long.*)
Cluſter Wood Nut. (*Large Nuts in Cluſters.*)
Great Cob Nut. (*Remarkably large, ovaliſh.*)

2. CORYLUS *ſativa*, Cultivated Nut Tree or Filbert, ſuppoſed a ſeminal, improved variety of the Common Hazel.

A moderate tree, branching more erect, ten to fifteen feet high, or more—the leaves (*largiſh*) hearted-roundiſh, with oblongiſh, obtuſe ſtipula; and larger oblong nuts.—Native, principally, of gardens and orchards. (*Rich or any common ſoil.*)

Varieties.—White-kernelled Filbert.
Red-kernelled Filbert.

3. CORYLUS *tranſylvanica*, Tranſylvanian or Eaſtern Nut Tree, ſuppoſed a Variety of the Common.

A middling tree, twenty feet high or more—the leaves (*large*) cordate-roundiſh, and large, roundiſh nuts.—Native of Tranſylvania. (*Any common ſoil.*)

4. CORYLUS *Colurna*—(Colurna) or Dwarf Byzantine Nut Tree.

A ſmall tree, (ſhrub-like) four to five or ſix feet high—the leaves (*middling*) cordate-roundiſh, with linear, acute ſtipula; and large, roundiſh nuts.—Native of Byzantium or near Conſtantinople. (*Any common ſoil.*)

Variety.—(*Corylus barcelona*) or Barcelona Nut, ſuppoſed a variety of the Bazantian, or probably of the Common; (*the nuts large, roundiſh.*)—Native of Spain.

5. CORYLUS

5. CORYLUS *cornuta*, Cornuted or Horned American Nut.

All thoſe ſpecies and varieties of *Corylus* are hardy, deciduous trees, adapted to grow in any common ſoils of a garden, orchard, or that of any tree and ſhrub plantations, in pleaſure-grounds; and are proper both to cultivate for their production of nuts, as being all of the eatable kind, and to effect variety in ſhrubberies, &c. as alſo the Common Hazel, to raiſe in woods, as a foreſt-tree, or principally for underwood, in coppices and hedge-rows; and for which occaſions they may all be raiſed abundantly, by ſowing the nuts in autumn or ſpring; and the deſirable varieties, principally, either by layers or ſuckers, and, occaſionally, by grafting or budding any principal kinds upon Common Hazel Stocks, as the varieties ſeldom come the ſame from the ſeed or nuts, in thorough perfection.

The *Corylus*, in all the different ſpecies in their mode of bearing, produce the flowers at the ſides of branches; the males catkins appearing in winter and ſpring, and the females in the latter ſeaſon; and being then impregnated by the farina of the males, they advanc in a ſlow growth till Auguſt or September, defended all the while by the large calyx, which, at the maturity of the fruit, changes brown at top, at which time the nuts are in perfection for eating.

For the different purpoſes of planting in gardens, orchards, ſhrubberies, &c. they ſhould generally be trained in ſmall ſtandards, either with quarter, half or full ſtems, from two or three, to four, five or ſix feet, to branch out above in full heads, in their natural order, in which they will produce plentiful crops of nuts, annually, without much trouble of culture; and they may alſo be occaſionally trained in rough hedges, in particular diſtricts, to run up at top, in a natural growth, without cutting; or in the ſame manner, may have filberts in ſingle or double ranges, to form ſhady walks; and in both of which, all the ſorts will bear very agreeably in plentiful productions.

To cultivate as fruit-trees, ſome of all the ſorts may be admitted in gardens and orchards, both in quarter, half and full ſtandards, as before obſerved, to branch out above in full heads; and for which may have any of the principal varieties of the Common Hazel Nut, but more abundantly of the two varieties of Filbert, for the ſuperior excellence of their large nuts, with kernels of the fineſt flavour; and may alſo have ſome trees of the Tranſylvanian, Byzantine and Barcelona kinds, all which produce nuts of large ſize; though the Filbert claims precedence for general culture in their more plentiful production of fineſt fruit, ſooner acquiring maturity in fulleſt perfection of ripeneſs in the kernels, in Auguſt and September.

Likewiſe in ſhrubberies, and other plantations, in pleaſure-grounds, may introduce all or any approved ſpecies and varieties of *Corylus*, both of the Common Hazel kinds, Filberts and other ſorts, trained in ſmaller or larger ſtandards, ſuitable to different compartments, and diſpoſed in aſſemblage with any hardy trees and ſhrubs, and on the borders of wood walks, ſhady walks, &c. in which they will add to the collection, and effect a pleaſing diverſity, both in their growth and production of fruit.

And to cultivate as foreſt-trees or underwood, the Common Wood Hazel is of conſiderable utility, more particularly in plantations of under-growth, in cloſe coppices and in hedge-rows, to run up to ſtems of larger or ſmaller ſize, to cut for poles, exceedingly uſeful in numerous occaſions, as hurdles, hoops, &c. and being raiſed in cloſe growth, each plant may run up with ſeveral ſtems in their natural order, to cut once in five, ſix or ſeven years, as they will ſhoot out again in numerous bottom-ſuckers and ſtems; or ſome may be left ſingle, for ſtandards, clearing away all ſuckers to one main ſtem on each ſtool; and to prune up the ſaid ſtems from lateral branches, that they may advance in a clean growth for larger wood.

All or moſt of the principal ſorts of *Corylus*, are raiſed in the public nurſeries, in which they may be obtained in a collection, or as may be required, for furniſhing garden plantations, both in fruit-trees and for variety; but for any conſiderable planting, they may be expeditiouſly and abundantly raiſed with great facility, in the ſeveral methods of propagation.

They will ſucceed in any common ſoil and ſituation; and the Common Hazel, where required in large ſupplies, in coppice-wood, &c. may be cultivated in any ſtrong, moiſt land, or in low or high ground, in moiſt or dry ſoils, as the premiſes afford, or where thought convenient or eligible to have plantations thereof.

The ſeaſon for planting theſe trees of the different ſpecies and varieties of *Corylus*, is any time in open weather, from October or November, to March or beginning of April.

For planting, may either, occaſionally, have ſtrong ſuckers ariſing from the roots of the trees, chuſing thoſe of one or two years growth, two to three or four feet high, taken up with good roots; and planted at once where they are to remain, they will ſoon advance in conſiderable growth, in full heads, and produce fruit of their reſpective varieties; or have trees that have been previouſly trained in a nurſery, raiſed either from ſuckers, layers or nuts, &c. to three, four or five feet growth; though it ſhould be remarked, that for the approved varieties, both of the Common Hazel

Hazel and the Filberts, thoſe raiſed from ſuckers and layers, more certainly produce fruit the ſame in their reſpective properties, which is not the caſe in ſeedling-plants; for although the Filberts will ſometimes come the ſame from the nuts, yet the fruit is generally inferior in ſize and goodneſs, and the plants longer before they bear than the ſucker and layer-raiſed trees, or generally the layers are preferable to the ſuckers; or theſe ſorts (Filberts) are alſo ſometimes propagated by grafting, as an effectual method to continue the permanency of the two varieties thereof.

The propagation or method of raiſing theſe trees being by nuts, ſuckers, layers, and grafting, each is according to the following practice.

By nuts, theſe may be ſowed in autumn or ſpring; or to avoid their being devoured in winter by vermin, or deſtroyed by the weather, they may be preſerved in a box of dry ſand, in a cellar or other cloſe apartment, until February, then ſowed; performing it either in drills, a foot aſunder, and two inches deep, or the earth raked off the top of the bed, the above depth: ſow the nuts thickly on the ſurface and earth them over evenly; and when the plants are come up of one or two years growth, tranſplant them in nurſery-rows, in which to advance two or three years or till of proper ſize for final tranſplanting.

By ſuckers, theſe riſe plentifully from the roots of old trees, and when of one or two years growth, they may be digged up in autumn, winter, or ſpring, with roots, forming at once proper plants, and may be planted in a nurſery, or large ones at once, where they are to remain.

Or by layers, this is an effectual method by which to propagate the principal varieties, to continue them permanent in their reſpective kinds, ſuch as the Filberts or any other ſorts; and which is performed in the young wood in autumn or ſpring, bowing down ſome pliant lower branches, peg them ſecurely into the earth, then lay the young ſhoots thereof, admitting the ſtem of each three or four inches deep, keeping the top upright ſeveral inches above ground; they will root freely, ready for planting off next autumn, into a nurſery for a year or two, or till of a proper growth for garden plantations; and will produce fruit ſimilar to that of the parent tree.

Alſo by grafting, may propagate the Filberts, or any other particular ſorts, having ſeedling or ſucker-ſtocks of the Common Hazel or Filberts, raiſed two to three, or four feet high, or more; and upon which perform the grafting in February or March, with grafts of the deſirable kinds; inſerted either low in the ſtock, and the firſt main-ſhoot of the graft run up, more or leſs, for a ſtem, or grafted at two, three, or four feet height; and in either method permit them to branch out above in full heads.

In the above different methods of propagating theſe trees, they, in their advancing growth, may be trained each with a ſingle ſtem, either low, of one, two, or three, to form dwarf trees, or with four or five feet ſtems, for taller ſtandards; and ſo agreeable to theſe intimations, cut away lateral ſhoots below accordingly, to the height the ſtem is intended, and then permitted to branch out freely above, in their natural manner; or for particular occaſions, ſome may advance with ſeveral ſtems from the beginning, in a branchy, buſhy growth.

When intending to plant theſe trees in gardens, orchards, &c. in ſtandards, ſuch as Filberts, or any other principal kinds, they may be planted at ten, to fifteen or twenty feet diſtance; or if only in one ſingle row in any particular parts, ten, or twelve feet may be ſufficient; or may occaſionally plant ſome to form Nut and Filbert hedges, planted three to four, or five feet aſunder in the row, to run up in full growth without cutting; or ſometimes planted in the ſame manner, in double or ſingle range, for a ſhady Filbert walk, permitted to run up in a natural order below and above; but generally obſerving, that where planted in detached ſtandards, it is proper to keep them clear below from bottom-ſuckers, as alſo to cut away ſtrong, rambling ſhoots, from the ſtem and head; or alſo any planted in a cloſe row in gardens, hedge-faſhion, that as they will encreaſe in numerous ſuckers in a thicketty growth, the ſuckers ſhould be eradicated occaſionally in the ſides, to keep the bottom within ſome regular limits, more open to admit the ſun and air, and to encourage and continue the upper parts in a good ſtate of bearing, which will alſo have the ſame effect as the ſtandards.

The fruit, or nuts of theſe trees, ripen in autumn, principally in Auguſt and September, in which their mature ripeneſs is generally when the outer cover or cup, in which the nuts are contained and incloſed, begin to change brown, or when the nuts readily quit the ſaid cover; for if gathered before they attain that ſtate of maturity the kernels have not their proper flavour, but eat watery and inſipid; or however, ſhould not be gathered generally before they acquire tolerable perfection, only when required to have ſome as ſoon as they begin to ripen, gather but a few at a time, as wanted for immediate eating; and when required for keeping any conſiderable time, they ſhould be ripe in the fulleſt maturity: are generally gathered in their huſks, except when dead ripe, in which they naturally drop out, or may eaſily be detached from the cups; that to preſerve them for future uſe, depoſit a quantity, when thorough ripe and dry, in a box, caſk, &c. and cloſe covered with ſtraw, a foot thick, or more.

When

Where it may be deſigned to have a coppice of the Common Hazel, they may either be planted in ſuckers, in rows, three or four, to five or ſix feet aſunder; or the nuts ſowed in drills, that diſtance, to remain.

CRATÆGUS, WILD SERVICE, and HAWTHORN, &c.

Claſs and Order.

Icoſandria Digynia,
Twenty or more Males, Two Females;
Or Plants with Hermaphrodite Flowers, having twenty or more Stamina or Males, and two Piſtillums or Females.

THE CRATÆGUS compriſes a large family of many ſpecies and varieties of deciduous, berry-bearing trees and ſhrubs, for uſeful and ornamental planting, ſome of which both for fruit-trees in gardens and orchards, and for variety in ſhrubberies, &c. others moſt valuable for hedges, (*the Hawthorn*) and the whole to arrange in decorative plantations; are of ſmaller and larger growth in the different ſpecies, ten, fifteen, to twenty or thirty feet high, moſtly armed more or leſs with thorns, and in ſummer cloathed with ſimple leaves heart-ſhape-lobated, three-lobed, oval, ſpear-ſhape, &c. and numerous umbellate bunches of ſmall white flowers in May and June, compoſed each of a five-parted cup, five roundiſh petals, many ſtamina, and two ſtyles; ſucceeded by bunches of ſmall and large, roundiſh, fleſhy berries, with two ſeeds: ripe in autumn; and by which, ſowed in autumn or ſpring, the trees are raiſed, alſo by layers, grafting and budding.

The Species of CRATÆGUS are,

1. CRATÆGUS *torminalis*, Torminal-fruited, or Common Wild-Service Tree.

A middling or largiſh tree, growing thirty or forty feet high, or more—the leaves (*moderate ſize*) hearted, ſeven-angled, the lobes divaricated aſunder; and bunches of browniſh-red, eatable berries.—Native of England, Germany, Switzerland, Burgundy, &c. (*Loamy or any ſoil.*)

Varieties.—Sawed-leaved Wild-Service.
Round-leaved Wild-Service.

2. CRATÆGUS *Oxyacantha*—(Oxyacantha) Hawthorn or White-thorn Tree.

A ſmall or moderate tree, of buſhy growth, growing fifteen or twenty feet high—the leaves (*ſmalliſh, dark-green*) obtuſe, ſub-trifid or three-lobed, and ſawed; flowering in May and June: the haw-berries ripe in autumn.—Native of moſt parts of Europe, and of great value for hedges. (*Any ſoil.*)

Varieties.—Common, ſingle-bloſſomed, Red-berried Hawthorn, White-thorn or Quick-ſet.
Double-bloſſom Hawthorn.
Scarlet-berried Hawthorn.
Yellow-berried Hawthorn.
White-berried Hawthorn.
Glaſtonbury, Early-blowing Hawthorn, or Glaſtonbury Thorn.
Maple-leaved Hawthorn.

3. CRATÆGUS *Aria*—(Aria) White-Beam or White-leaf Tree.

A middling large tree, growing thirty or forty feet high—the leaves (*largiſh, whitiſh-green*) ovate, unequally ſawed, and hoary underneath.—Native of England and moſt parts of Europe. (*Loamy, chalky, or any ſoil.*)

Variety.—(*Cratægus Aria ſuecia*) or Swediſh White-Beam Tree—branches thornleſs; the leaves elliptic ſawed, tranſverſe ſinuated, and hairy underneath.—Native of Sweden and England.

4. CRATÆGUS *Azarolus*—(Azarolus) or Azarole Thorn.

A ſmaller tree, eighteen or twenty feet high—the leaves (*largiſh*) obtuſe ſub-trifid, or ſomewhat three-lobed and a little indented; and bunches of largiſh, red, eatable berries; in autumn.—Native of Italy and Montpelier. (*Any common ſoil.*)

Varieties.—Strong-thorned Azarole.
Thornleſs Azarole.
Jagged-leaved Azarole.
Double-flowered Azarole.
Large, Red-fruited Azarole.
Smaller, Yellow-fruited Azarole.
Long-fruited Azarole.
(*Aronia*) or Eaſtern Parſley-leaved Azarole.

5. CRATÆGUS *coccinea*, Scarlet-fruited Azarole Thorn, or Great American Azarole.

A ſmaller tree, twenty feet high—the leaves (*middling*) ovate, repand or waved-angulated, ſawed, and ſmooth; large, ſcarlet fruit.—Native of Virginia and Canada. (*Any common ſoil.*)

6. CRATÆGUS *Crus-galli*—(Crus-galli) or Cock-ſpur Thorn, or Virginia Azarole.

A ſmaller tree, eighteen or twenty feet high—branches thorny, robuſt ſpines; the leaves (*middling*) ſpear-ſhape-ovate, ſawed and ſmooth; and large, red berries.—Native of Virginia. (*Any ſoil.*)

Varieties.—Long-thorned Cock-ſpur Thorn.
Short-thorned Cock-ſpur Thorn.
Pear-leaved Cock-ſpur Thorn.
Plum-leaved Cock-ſpur Thorn.
Willow-leaved Cock-ſpur Thorn.

7. CRATÆGUS *tomentoſa*, Downy, Gooſeberry-leaved *Cratægus*.

A ſmaller tree, ten or fifteen feet high—the branches thorny; leaves (*moderate*) wedge-form-ovate, ſomewhat angulated, ſawed and downy-hairy underneath; and yellow fruit.—Native of Virginia. (*Any ſituation.*)

8. CRATÆGUS *viridis*, Green-leaved, thornleſs *Cratægus*.

A ſmall tree, ten or fifteen feet high—branches thornleſs; the leaves (*ſmall*) lance-ovate, ſomewhat three-lobed, ſawed, and ſmooth, green on both ſides. Native of Virginia. (*Any ſoil and ſituation.*)

Theſe ſpecies and varieties of Cratægus are all of very hardy growth to plant in any common ſoil and ſituation; their principal merit is, in the greater part, to diverſify tree and ſhrub plantations in pleaſure-grounds; ſome alſo for their production of fruit, and the Common Hawthorn, in particular, for hedges: are all of the deciduous tribe, garniſhed with leaves, from May to October; flower moſtly in May and June; the flowers principally white, produced in bunches at the ſides and ends of the branches, ſucceeded by cluſters of berries, ripening in September and October; principally, in moſt of the ſpecies, for ſowing, and ſome for eating, ſuch as the Common Wild-Service, and occaſionally the *Azarolus*; and by which all the ſpecies are eaſily propagated, or any particular ſpecies and varieties, by layers, grafting and inoculation.

They being valuable both for uſeful and ornamental planting, we may reckon among the more uſeful kinds the Common Hawthorn, for its great utility in forming the moſt effectual of all hedge fences, commonly called quick-ſet hedges, ſuperior to all for outward fences, or where required for a ſtrong, durable hedge, fencible againſt man and beaſt, and grows alſo very cloſe to afford ſhelter; and the Wild-Service and *Cratægus Azarolus* to cultivate in the fruit-tree collections for their eatable berries, which ripening in October, and being then gathered in their bunches, and hung up acroſs lines in any dry apartment till they become ſoft and mellow, they eat with an agreeable tartiſh flavour; and the trees of which two ſpecies may be admitted, as fruit-trees, in a moderate portion, or as required, in gardens, orchards, pleaſure-grounds, parks, avenues, &c. in full ſtandards; likewiſe the firſt, and ſome other ſpecies, advancing to ſome conſiderable ſtature and large growth, may be introduced in foreſt-tree plantations, in company with other deciduous timber trees, or in any large plantation diſtricts, for variety.

Or all the different ſpecies and their reſpective varieties are very eligible to aſſemble in ornamental plantations and ſhrubberies, in which they will increaſe the collection, and ſeveral ſorts, both of the ſpecies and varieties, appear very ornamental and curious in their different growths, flowers and fruit; and the ſpecies in general will diſplay a proper diverſity and entertaining variety; and are well adapted to arrange in extenſive or large pleaſurable plantations, conſiderable ſhrubberies, and in clumps; and the larger tree kinds alſo to diſpoſe in groves, avenues, grand walks, and other diſtricts, aſſociated principally with other hardy, deciduous trees.

The Hawthorn, for hedges, is a moſt uſeful tree in its cloſe, buſhy, thorny growth, branchy from the bottom, proper both for outward hedges in gardens and fields, and for internal diviſions, both as a fence and for ſhelter to particular diſtricts; and may be kept cloſe and regular, by an annual clipping towards the latter end of ſummer, or in autumn or winter; or in field hedges they are often permitted to run up rough, and when grown tall and the bottom naked, are plaſhed and laid down to thicken all parts equally, in a cloſe, regular manner, in which, and thoſe kept regular by clipping, as before obſerved, they form cloſe, impenetrable hedges.

For this occaſion of hedges, proper ſets for planting are raiſed by ſowing the haws in autumn, which, on account of the hard, bony nature of the ſeed, ſeldom vegetate or come up in leſs than two years; and when the plants are one to two or three years old, are proper for planting, which for outward hedges, a ditch and bank being formed, is effected generally, either by inſerting them into the ſide or top of the bank, principally in a double row, ſix inches to a foot aſunder; or otherwiſe, if planted on level ground, are defended with ſome kind of fence till advanced in growth; but for interior hedges, eſpecially in gardens, are commonly planted in the level ground; or for diviſion hedges in fields, a bank is generally raiſed two or three feet by means of a ditch on each ſide, and the hedge planted along the top, in a ſingle or double row; the ditch and bank defends it till grown up in proper

proper ſtrength, and afterwards during its continuance.

Or ſometimes the haw-berries are ſowed at once in the place where the hedge is intended, keeping the ground very clean till the plants come up, and during their young growth.

The Wild-Service and Azarolus, when any are intended principally for fruit-trees, they being raiſed in ſtandards three or four, to five or ſix feet growth, may then be planted in gardens or orchards, or where thought proper, at fifteen to twenty or thirty feet diſtance, kept trained to clean ſtems, and permitted to branch out above in full heads; they, when of a proper age, will produce plentiful crops of berries annually, which ripening in October, gather in bunches; and the Services in particular, hang them up in the fruitery, or any apartment, till they become mellow, and may then be eaten, as wanted, in winter.

All or moſt of the ſpecies and varieties of the *Cratægus* are cultivated in the common nurſeries, for public ſupply, and where they may be had in collection, or in any approved ſpecies or varieties, as ſhall be required, occaſionally, for planting.

The general ſeaſon for planting theſe trees is any time after the decay or fall of the leaves, in autumn, in open weather, till the ſpring, middle or beginning of April; or the Hawthorn, for hedges, may be planted principally in the ſpring, or any time when convenient, during the above-mentioned planting ſeaſon.

They are propagated in the different ſpecies by ſeed, and occaſionally by layers, in any particular ſpecies and varieties, or alſo by grafting and budding, as before intimated.

By ſeed or berries, which in moſt of the ſorts ripen plentifully in autumn, and may be ſowed in that ſeaſon, ſuch as the Hawthorn, and all others as can be procured at that time, or early in the ſpring, either ſowed at once in beds of common earth two inches deep, or as the ſeeds or ſtones of the berries being of a very hard, bony nature, that they generally remain till the ſecond year before they germinate, they, previous to ſowing, are very commonly in autumn, buried in a heap together in a trench in dry ground, or in large pots plunged therein, covered over with earth ſix inches thick, or more, raiſed in a ridge above; and thus to remain a year, or till next autumn following, or ſecond ſpring, to prepare for vegetation, then taken up and ſowed either in drills or broad-caſt on the ſurface, and earthed in two inches; they will thus come up freely in the ſpring, advancing ſix inches to a foot in growth, or more, by the end of ſummer, and then, or when they are one or two year's old, ſhould be tranſplanted in nurſery-rows, to grow to a proper ſize of three or four, to five or ſix feet, or more, for the different plantations for which they are deſigned or adapted; or the Hawthorn plants particularly, intended for hedges, are proper ſets for that purpoſe, both immediately from the ſeed-bed, and after having one, two or three years tranſplanted growth in nurſery-rows; the latter of which may be moſt eligible, when deſirous of having the hedge formed more expeditiouſly in good ſtrength from the beginning: however, in regard to the other ſpecies, intended generally for detached ſtandards, larger or ſmaller, they being tranſplanted in nurſery-lines, ſhould remain therein till trained up to a requiſite ſize of three or four, to five or ſix feet high, or more, as intimated above, for final tranſplantation in the particular diſtricts where they may be required.

By layers of the young ſhoots may, occaſionally, propagate any particular ſpecies or variety, performing it in autumn, chuſing thoſe as are ſituated low, convenient for laying, or that are placed on pliant branches, which can be readily bowed down to the ground; ſo laying the ſhoots in the earth three inches deep, keeping the tops upright, they will be rooted, for planting off next autumn, into the nurſery, for training.

Alſo by grafting and budding any deſirable variety, to continue it permanent in its reſpective kind, may be performed upon any ſeedling-ſtocks of the *Cratægus* family, ſuch as the Hawthorn, or any other raiſed in the nurſery, as has been directed; the grafting is performed in the ſpring, by inſerting young ſhoots of the former year into the proper ſtocks, and the budding in July or beginning of Auguſt, by inoculating buds of the intended ſorts into the ſides of the ſaid ſtocks, at ſix inches, to one, two, three, or four feet high, or more; they will each unite with the ſtocks, advance in ſhoots above, and form new trees of the reſpective varieties.

In the above different methods of raiſing the ſeveral ſpecies and varieties of *Cratægus*, continue them trained to a proper growth in the nurſery, ſome with clean ſtems for ſtandards, others may branch out low when deſigned to have them of a ſhrub-like growth; and in the whole, when they are advanced from three or four, to five, ſix or eight feet, are proper for the reſpective plantations; or the Common Hawthorn plants, deſigned for hedges, are eligible for this, when of from one, to two or three feet high.

Hawthorn hedges being of great utility as growing fences, both, occaſionally, for gardens, and more generally for incloſing fields and any out-grounds, they are raiſed different ways, as either by planting young ſets previouſly raiſed in a nurſery, to one, two or three feet growth, or ſometimes by ſowing the ſeed or haws at once where the hedges are intended, though

more generally by ſets or ready-raiſed plants; and which in the order of planting is, for outward fences, generally performed by inſerting the ſets either horizontally into the ſide, or upright on the top of a bank, raiſed by the excavated earth in forming the outward ditch, the latter ſerving alſo as a defence to the young hedge; or ſometimes for diviſion hedges in fields, a bank four or five feet wide at bottom is formed with the earth of a ſmall ditch on each ſide, raiſed two or three feet high, faced with ſquare ſpits of turf from the top of the ditch, or elſewhere, and the middle filled up with earth from the excavation of the ditch aforeſaid; the bank being two or three feet wide at top, the hedge is planted thereon in a double row; or for interior hedges in gardens, or where they can be fenced from cattle, the hedge is planted on level ground, without forming any ditch and bank; but in the other methods, the ſunk ditch and raiſed bank ſerves as a proper guard to keep off cattle, &c. from annoying the hedge in its advancing growth.

For theſe different methods of planting quick-ſet or Hawthorn hedges, the ſets or plants may be of one or two years old; or of three or four years, having been tranſplanted in nurſery-rows one or two years, or more; the ſets being the ſize of a gooſe quill, to the thickneſs of a finger, and, previous to planting, if naked below, may be headed down one third, or half way, to have them branch out ſtrongly quite from the bottom.

Where neceſſary to plant outward hedges for fences, it, as before explained, is expedient to form a ditch and bank, the ditch to be on the outſide, forming the bank cloſe along the inner edge, with the excavated earth, as digged and thrown out of the ditch; raiſing the bank therewith moderately, ſloping inward, and either in advancing in the formation of the ditch and bank, the ſets being headed to ſix or eight inches, plant or lay them horizontally or ſlanting into the ſide of the bank, firſt one row, placing the roots inward and the tops out, three or four inches, or more, landing over the roots with earth from the ditch, and raiſed ſix, eight, to ten or twelve inches, another row is placed and earthed over in the ſame manner; or ſometimes the ditch and bank being previouſly formed, the ſets are dibbled into the ſides, horizontally, in two rows, the above diſtance; or alſo, ſometimes, inſtead of planting into the ſides, the ditch and bank formed as above, are planted upright at top, which being previouſly levelled for their reception.

The general methods are, line out the ditch a yard wide at top, then to be digged out ſloping on the ſides, two or three feet deep, and the firſt ſpits of earth laid along the top of the inner edge of the ditch to form the beginning of the bank; or, where convenient, previouſly lay a row of ſquare ſpit turfs, graſs ſide downward, and in either method, back up behind with earth from the ditch; then, if intended to plant in the ſide of the bank, lay a row of ſets upon this bed of earth, the roots inward, a little ſloping to the back part, with the tops towards the ditch in a riſing direction, two, three or four inches out of the ground, and about ſix inches aſunder, earthing them over with mold from the ditch, forming the ditch and bank as you proceed; and having advanced ſix, eight or ten inches higher in the banking, lay another layer of ſets, each oppoſite the intervals of thoſe of the firſt row, and earth them over in the ſame manner; ſo finiſh the formation of the ditch and bank, each moderately ſloping, raiſing the latter ſix inches to a foot or more above the ſets; or as before obſerved, if quite ſmall ſets, and the ditch and bank is firſt formed, may plant the ſets by dibble, horizontally, or a little more or leſs towards an upright poſition; but if judged more eligible or convenient, may firſt form the ditch and bank as juſt intimated, raiſing the bank to its full intended height of one, two or three feet, forming a level border at top; plant two rows of quick in an upright direction, either by dibble, if ſmall-rooted ſets, or if large, cut a ſmall trench for each row, one ſide upright; plant the ſets againſt the upright ſide, turn in the earth about the roots, and tread it gently thereto.

Or where propoſed to have middle or diviſion hedges in fields, &c. and that a double ditch with a raiſed bank between is intended, in order for planting the hedge at top, line out the baſis of the bank five feet wide, allowing alſo for a two or three feet wide ditch on each ſide, forming the face of the bank with ſquare ſpits of graſs turf where attainable, placed either the graſs ſide outward, or laid topſy-turvy or graſs downwards, beginning the firſt layer cloſe along the inner edge of the ditches, which at the ſame time proceed in digging out and forming, employing the excavated earth thereof in backing up the turfs or outer ſurfaces of the banks, and filling up the middle ſpace; continuing to raiſe the front, drawing each ſide in gradually, finiſhing the whole two feet to a yard high, by two or three feet wide at top, where, forming a level bed or border of earth, plant two rows of ſets therein a foot aſunder, and upright, in the manner explained in the foregoing directions.

To plant theſe hedges on level ground in a garden, &c. or for outward hedges, where they can be defended with ſome kind of temporary fence in their young growth; and in either of which, the ground being digged and levelled, the planting is effected by cutting out with a ſpade, a ſmall trench ſix or eight inches deep, one ſide formed upright; plant the ſets againſt the upright ſide, as adviſed in planting on the top of a bank, placed ſix inches apart, and earth in the roots and body of the ſets; and if a double hedge is intended, plant another row in the ſame manner, ſix or eight inches to a foot, from the firſt planted, treading the earth gently to the plants of each row.

Or

Or where it may be intended to raiſe a quick-ſet hedge, by ſowing the haws at once in the place where the hedge is required, they ſhould be ſowed as ſoon as gathered, in autumn, September, October or November; when digging and levelling the ground either equal with the general ſurface, or for ſowing on the top of a raiſed bank, draw drills with an hoe, two or three inches deep, in a ſingle or double row; ſow the haws in the drills moderate thick, and mold them over; then obſerving, as they will not vegetate till the ſecond ſpring, ſhould keep the ground clear from weeds in the interim; and when the plants come up, if too abundant, ſome may be drawn out, leaving a ſufficiency of the beſt to form the hedge.

In the different methods of planting theſe hedges, where it appears neceſſary in expoſed places, to have ſome defence againſt the depredations of cattle, till the hedge is grown up in ſtrength; it ſhould be added ſoon after planting, either with rails, open paling, hurdles, or a dead hedge of ſtakes and buſhes, as may be convenient; likewiſe, keep the young hedges clear from rampant and climbing weeds, till the quick is advanced in growth, which, though often neglected in thoſe planted for outward fences, ſhould be attended to with particular care.

The young hedges in their advancing growth, eſpecially thoſe deſigned for regular training, ſhould be managed accordingly, that when advanced in young ſhoots, ſhould be clipped moderately at the ſides, but cut ſparingly at top, till arrived to the proper or intended height, only juſt run over with the garden ſhears, topping any rampant ſhoots which outgrow the others conſiderably, that the whole may advance equally, and ſoon attain the deſired height aforeſaid, of four, five or ſix feet; and thus may run over the whole top lightly every year while the hedge is in training, to have it advance even and regular, as well as to make it ſhoot out below, thickening as it advances, clipping the ſides alſo even; and where the hedge is required to aſpire to ſome conſiderable height of five, ſix or ſeven feet, to afford ſhelter againſt winds and cold blaſts, in particular diſtricts, it may be permitted to run up faſter at top, and generally cut up taper on the ſides in a gradual manner, to have the top conſiderably thinner or narrower than the bottom part.

However, where deſigned as a ſtrong outer-fence, a hedge of three, four or five feet height may be ſufficient, eſpecially if growing on the top of a bank, and may be cut more at top accordingly, that it may thicken conſiderably quite from the bottom, in a ſtrong, robuſt growth; but if on level ground, may be run up five or ſix feet, or more; and then, in all of which, kept to the proper ſtandard, by an annual clipping.

Then when the trained hedges are advanced to the intended height of four, to five, ſix or ſeven feet, agreeable to the above intimations, they ſhould be kept in regular order, by conſtant clipping once every year at ſides and top, to continue them of the proper width and height; generally in thoſe arrived to full growth, cutting them in generally to the old cut of the former year, and the clipping performed ſtraight and even, commonly keeping the hedge narroweſt upward to the top in a gradual manner.

The proper ſeaſon for clipping theſe hedges is principally in ſummer, from the middle or latter end of June, to Auguſt or September, when the ſhoots being green and tender, the clipping is performed with conſiderable facility, expedition and exactneſs; or where any particular hedges are required to be kept in the neateſt order all ſummer, two clippings ſhould be performed twice every year in that ſeaſon; the firſt about the middle or latter end of June, and the ſecond towards the latter end of Auguſt; but where only one clipping in ſummer is allotted, it ſhould generally be performed in July or Auguſt, or beginning of September, after the hedge has done ſhooting, that it may continue cloſe for the remainder of autumn, and all winter, till following ſummer; if, however, the clipping is omitted in the above ſeaſons, it may be performed any time in winter; but the ſhoots being then hardened, the work cannot be ſo eaſily effected as in ſummer or autumn.

Though, as to common thorn hedges in fields, they, in the greater part, are permitted to run up rough without any clipping, till advanced to a tall growth; then generally, when grown up in large ſtems and branches, and naked in the lower parts, the large naked wood is thinned out, and the remaining ſmaller ſtems and branches are plaſhed or laid down horizontally, to thicken the hedge in a cloſe growth, quite from the bottom; is effected by leaving ſome of the ſtrongeſt ſtems for growing ſtakes, then the other ſtems and large branches are gaſhed with a hedge-bill in a ſloping cut, eſpecially thoſe not ſufficiently pliant to bend down, ſo laying the whole along in a ſlanting poſition the way of the hedge, plaſhing them between the upright, ſtanding ſtems, which ſhould be headed to the intended height of the hedge, three or four feet; when thus plaſhed, and the whole is layed, then with a hedge-bill aforeſaid, trim the ſides and top ſomewhat regular; it thus forms a ſtrong, thick hedge, equally cloſe from top to bottom.

CUPRESSUS, CYPRESS TREE.

Claſs and Order.

Monoecia	Monadelphia,
One Houſe,	*One Brotherhood*;

Or Male and Female Flowers, ſeparate, on the ſame Tree, and the Male Flowers having the Stamina, or Antheræ united in one Body.

THIS Genus of CUPRESSUS furniſhes three ſpecies and ſeveral varieties of eminently beautiful ever-

green

green trees, and one deciduous kind; all of the coniferous or cone-bearing tribe, principally for ornamental plantations, and ſome alſo to introduce in the foreſt-tree collection; grow to a conſiderable lofty ſtature, moſtly very branchy quite from the bottom, in a regular, pyramidal growth; ſome with upright, others in ſpreading branches, very cloſely ſet with minute, imbricated, and ſpreading leaves; and ſmall male and female flowers apart on the ſame tree; the males in oval amentums, and the females in roundiſh, ſcaly cones, no corolla or petals; and in the males no ſtamina, but ſeveral united anthera; in the female florets, a very ſhort ſtyle; and the conical female heads become ſmall, roundiſh, ſcaly cones, furniſhed with angular ſeeds, involved in the ſcales, ripe late in autumn; and by which the trees are commonly propagated, ſowed in the ſpring, in beds of light earth.

The Species of hardy CUPRESSUS are,

1. CUPRESSUS *ſempervirens*, Ever-green Common Cypreſs Tree.

A largiſh, ever-green tree, growing thirty to forty feet high, or more—the branches quadrangular; leaves *(ſmall, dark green)* imbricated or lying over one another, and erect.—Native of Creta and other parts of the Levant. *(Gravelly, or any dry ſituation.)*

Varieties.—Upright Common Cypreſs Tree—having erect branches; growing thirty, to forty or fifty feet high.
Horizontal or Spreading Cypreſs Tree—the branches ſpreading horizontally; growing twenty to thirty feet high.
Portugal Cypreſs Tree, or Cedar of Goa—the branches irregular-ſpreading; growing twenty to twenty-five feet high.

2. CUPRESSUS *Thyoides*—(Thyoides, or Arbor-vitæ-like) Dwarf Cypreſs, or White Cedar.

A ſmall, ever-green tree, twelve to fifteen feet high; —the branches two-edged; leaves *(ſmall, dark green)* imbricated or lying over one another; and ſmall, blue, berry-like cones.—Native of Canada. *(Moiſtiſh or any common ſoil.)*

3. CUPRESSUS *diſticha*, Diſtichous-leaved, or deciduous Cypreſs.

A large, deciduous tree, growing forty or fifty feet high—the leaves *(ſmall, light green, pinnated-like)* placed diſtichous or two-ranked, and ſpreading.—Native of Virginia and Carolina. *(Moiſt or any common ſoil.)*

Moſt of theſe ſpecies and varieties of Cypreſs are ſuperbly-beautiful trees in their cloſe, branchy, pyramidical growth, cloſely garniſhed with very ſmall leaves, imbricated or lying over one another in the ever-green kinds, in the other ſpreading and two-ranked on the branches; and in all of which, are deſirable ornaments for beautifying pleaſure-ground plantations, principal ſhrubberies, and other compartments; and to diſpoſe in ranges, in forming grand walks, groves, &c. likewiſe to plant in clumps and ſingle ſtandards, upon capacious lawns and other open compartments of graſs ground; are alſo peculiarly adapted to adorn avenue walks, leading to any ornamental garden edifices, as temples, grottos, &c. and the larger tree kinds, both of the ever-green and deciduous ſpecies, are proper to aſſemble in foreſt-tree plantations, as the timber is of the utmoſt value for its great diuturnity and aromatic property; more particularly the ſeveral varieties of the *Cupreſſus ſempervirens*; and the trees in general, in their growing ſtate, impart a very fragrant, balſamic odour, eſteemed exceedingly ſalutiferous; ſo that theſe curious trees demand admittance in all principal plantation diſtricts, both for ornament and utility.

They are all ſufficiently hardy to grow in any ſituation and common ſoil, in general with other trees, or where they may be required, in larger or ſmaller ſupplies, for the above-mentioned occaſions of planting; which may be performed either principally in autumn, in October or November, or in the ſpring, February or March, to the beginning or middle of April, eſpecially the ever-green kinds.

Theſe trees, in their native places of growth, in the Levant and America, riſe to a conſiderable altitude or height, and grow to a very large ſubſtance in the trunk, for principal timber trees, eſpecially the firſt and third ſpecies; and of which there are trees of a large ſize in many of our Britiſh gardens, in which all the ſorts thrive abundantly well, and effect a ſingularly fine variety, and ſuperbly ornamental appearance in their mode of growth and cloſely-placed foliage; the flowers not very conſpicuous, are produced in the ſpring at the ſides of the young branches, in male and female amentums and heads, which, in the latter, are ſucceeded by the ſmall ſeed-cones: ripening in the end of autumn and beginning of winter, or, when not ripening in ſufficient abundance, are obtained, from abroad, by the ſeedſmen, for ſowing in the ſpring.

All the ſorts are raiſed abundantly in the public nurſeries, of a proper growth, of two or three, to four, five or ſix feet, or more, for planting; and where they may be obtained, in the proper ſeaſons of autumn and ſpring, for ſhrubberies, and other plantations in which they are intended.

The

The general ſeaſon for planting theſe trees is principally either in the autumn or ſpring; the ever-green kinds may be tranſplanted early in autumn, from about the middle or latter end of September, or any time in October and beginning of November; or alſo any time in the laſt-mentioned month, in open weather, not generally in the dead of winter, except they can be tranſplanted with balls, or is a very mild ſeaſon, but declined if appearance of ſevere froſt, and may be planted freely in the ſpring months, till April; and where convenient to remove any with balls of earth, it will be of ſingular advantage; or the deciduous Cypreſs may be tranſplanted in the general planting ſeaſons, October, November, &c. or, occaſionally, any time during the winter, when mild, and in the ſpring.

In planting theſe trees, that when deſigned to aſſociate them in any general ſhrubbery or other plantations of different trees and ſhrubs, it is adviſeable to diſpoſe the ever-green ſorts principally in compartments, conſiſting moſtly of that tribe; or ſometimes dotted thinly in ſome principal deciduous clumps, &c. likewiſe may obſerve the ſame order in planting the deciduous Cypreſs; and likewiſe trees of all the ſorts may be dotted ſingly on graſs lawns, or, occaſionally, in ſmall clumps or groups of three or more together, in the ſame places, and in other ſimilar compartments, in a diverſified order.

Sometimes, in the ancient ſtile of gardening, the Upright Ever-green Cypreſs was formed into handſome, tall hedges in pleaſure-grounds, for ornament, though ſeldom employed now for that occaſion, ſince moſt ſorts of ornamental hedge-work is aboliſhed the Engliſh gardens.

To propagate or raiſe the Cypreſſes, it is effected principally by ſeed ſowed in the ſpring, which may be had of the ſeedſmen, and being cleared out of cones, ſow in March or April, in a bed of light ground, either in ſmall drills or on the ſurface, and covered in with mold half an inch deep; or ſome ſowed in pots of light earth, to move to ſhade in ſummer and ſhelter in winter, the ſeed will ſoon germinate, and the plants come up freely the ſame ſeaſon, or early part of ſummer; give water occaſionally in that ſeaſon, and ſhade when very hot, as likewiſe give occaſional ſhelter in winter from ſevere froſt; and when they are advanced of one or two years growth in the ſeed-beds, tranſplant them in the ſpring, March or April, into nurſery-beds, in rows a foot aſunder, and when of advanced growth, in a year or two, tranſplanted at wider diſtances, to obtain eligible ſize, of three or four, to five, ſix or ſeven feet height, for final tranſplanting into the continuing plantations in which they may be intended.

They may alſo be propagated, occaſionally, by layers and cuttings of the young ſhoots in the ſpring.

In the general growth of theſe trees, they, in ſhrubberies, and other ornamental diſtricts, may be permitted to aſſume their natural, branchy manner; or ſome occaſionally pruned up moderately in the under, ſtraggling branches, to form a clean ſtem below, and let the whole advance above in full growth; and when any are planted in foreſt-tree plantations, they ſhould be trimmed up below gradually, to run up with clean, ſingle ſtems, in a tall, ſtraight growth.

CYTISUS—(CYTISUS) or Baſe Trefoil Tree, and Laburnum.

Claſs and Order.

Diadelphia Decandria,
Two Brotherhoods, Ten Males;

Or Plants with Hermaphrodite Flowers, having the Stamina or Males diſpoſed in two Sets, and in each Flower ten Stamina.

THE CYTISUS family conſiſts of ſeveral ſpecies and varieties of deciduous flowering-ſhrubs and trees, and one ever-green flowering-ſhrub; all employed for ornamenting ſhrubberies and other decorative planting; are of ſmall, moderate, and large growth, three or four, to five or ſix feet high in the leſſer ſhrubs, and the larger or tree-like kinds, fifteen to twenty feet high, or more; the whole garniſhed with trifoliate leaves, or conſiſting each of three diſtinct folioles or leaflets; and numerous, long pendulous and erect ſpikes, and umbellate cluſters, of papilionaceous, yellow flowers, at the ſides and ends of the branches, in May and June; having each a bell-ſhape bilabiate cup; a corolla, compoſed of an oval vexillum or ſtandard, two obtuſe wings, and a bellied carina or keel, with ten ſtamina in two ſets, and one ſtyle; ſucceeded by oblong legumenous pods, containing kidney-ſhape ſeeds: ripe in autumn, and by which the ſpecies are propagated, alſo by cuttings of the young ſhoots.

The hardy Species of CYTISUS are,

1. CYTISUS *Laburnum*—(Laburnum) or Tree Cytiſus, commonly called LABURNUM.

A moderate, deciduous tree, fifteen or twenty to thirty feet high—the leaves (*large*) trifoliate, with the lobes or folioles ovate-oblong; and long, pendulous, ſingle ſpikes of yellow flowers; May or June.—Native of Helvetia, Savoy, the Alps, &c. (*Any ſoil.*)

Varieties.—Broad-leaved Laburnum.
Narrow-leaved Laburnum.
Long-ſpiked Laburnum.
Short-ſpiked Laburnum.
Variegated-leaved Laburnum.

2. CY-

2. CYTISUS *ſeſſilifolius*, Seſſile-leaved Cytiſus.

A middling, deciduous ſhrub, five or ſix feet high —the leaves *(ſmaller)* trifoliate, with the folioles or lobes roundiſh, and with the floral leaves ſeſſile or ſitting cloſe to the branches; and erect ſpikes of yellow flowers, having the calyx bractea leaves triple.—Native of Italy and France. (*Any ſoil.*)

3. CYTISUS *nigricans*, Black Cytiſus.

A middling, deciduous ſhrub, five or ſix feet high —the leaves (*ſmall, dark green*) trifoliate, the folioles or lobes ovate-oblong; and upright, ſingle ſpikes of yellow flowers.—Native of Auſtria, Hungary, Bohemia, and Italy. (*Any ſoil and ſituation.*)

4. CYTISUS *ſupinus*, Supine or Trailing Cytiſus.

A ſmall, deciduous, procumbent ſhrub, of three or four feet growth—the branches procumbent or trailing; leaves (*ſmall*) trifoliate, the folioles or lobes ovate; and terminal umbels of yellow flowers.—Native of Siberia, Italy, Sicily, and France. (*Any ſoil.*)

5. CYTISUS *auſtriacus*, Auſtrian Upright Cytiſus.

A middling, deciduous ſhrub, four, to five or ſix feet high—the ſtem erect; leaves (*ſmall*) trifoliate, the lobes or folioles ſpear-ſhape; and yellow flowers in terminal umbels.—Native of Auſtria, Siberia, and Italy. (*Any ſituation.*)

6. CYTISUS *hirſutus*, Hirſuted or Shaggy-cupped Ever-green Cytiſus.

An ever-green ſhrub, ſix or ſeven feet high—the leaves (*ſmall*) trifoliate, with the folioles or lobes oval; and ſimple, lateral peduncles or flower ſtalks, ſuſtaining yellow flowers, having hairy or ſhaggy, trifid cups, which are bellied-oblong.—Native of Spain, Siberia, Auſtria, and Italy. (*Any common ſoil.*)

All theſe ſpecies of *Cytiſus* are hardy to grow in any common ſoil and ſituation; very deſirable, ornamental flowering-trees and ſhrubs, for the pleaſure-ground; and the Tree Cytiſus or Laburnum is alſo eligible to aſſemble in any large, deciduous tree plantations, and likewiſe, occaſionally, among foreſt-trees, as it grows ſwiftly to ſome conſiderable ſize, or to plant among coppice wood; though this, as well as all the other ſpecies of Cytiſus, is generally eſteemed principally for ornamental planting; in which they effect an agreeable variety in their trifoliate leaves in ſummer, and flower very conſpicuouſly in May and June, in numerous ſpikes and bunches of yellow flowers, all of the pea-bloom form, or what the botaniſts call papilionaceous or butterfly-ſhaped; and are ſucceeded by many longiſh, narrow pods of the legumenous kinds, furniſhing plenty of ripe ſeed in autumn, uſeful for ſowing, when required, for the propagation of the ſpecies, as all the ſorts are generally raiſed by that means, and ſometimes by layers and cuttings, to propagate particular ſpecies and varieties.

They may all be had at the nurſeries, in full collection, or of any particular ſorts required, of proper growth for planting; which may be performed in autumn or ſpring, or any time in open weather, from October to March; eſpecially all the deciduous kinds.

For ornamental planting, they may be introduced in any principal or general ſhrubbery diſtricts, clumps, and other compartments; in which generally aſſemble all the deciduous tree and ſhrub kinds, principally with others of that tribe; and the ever-green Cytiſus may either have a conſpicuous ſituation, moſtly in the ever-green clumps, &c. or in any other principal part of the pleaſure-ground, where it may be diſtinguiſhable both as a neat ever-green, beautiful at all ſeaſons, and as a pretty flowering-ſhrub, like the others of the ſame family, in ſummer.

They are all eaſily propagated generally by ſeed, and ſome, occaſionally, by layers and cuttings.

Sow the ſeed in March, in a bed of common, light earth, each ſort ſeparate, either in drills or broad-caſt, and earthed over an inch deep; the ſeed will ſoon vegetate, and the plants come up the ſame year, and advance ſeveral inches to a foot high, by the end of ſummer; continuing them in the ſeed-bed till next ſpring, then tranſplant them into nurſery-rows, in which train them with a ſingle ſtem below, and run them with full heads above, to a proper growth of two, three or four, to five or ſix feet, according to that of the different ſorts eligible for the ſhrubbery, &c. or the Laburnum, in its largiſh growth, will tranſplant ſucceſsfully of ſix, ſeven or eight feet.

Layers and cuttings of the young ſhoots in autumn or ſpring, will be properly rooted by the autumn following, when, or in ſpring, may be tranſplanted into the nurſery, and trained as intimated above, for the ſeedling plants.

DAPHNE, WOOD LAUREL, and Mezereon.

Claſs and Order.

Octandria Monogynia,
Eight Males, One Female;

Or Plants with Hermaphrodite Flowers, having eight Stamina or Male Fructification, and one Piſtillum or Female.

THE family of DAPHNE compriſes ſeveral hardy ſpecies of ſmall and moderate ſhrub kinds for the ſhrubbery,

ſhrubbery, conſiſting of one ever-green, and the others deciduous flowering-ſhrubs, from two or three, to four or five feet high in the different ſpecies, garniſhed with ſpear-ſhape ovate and linear ſimple leaves, and numerous, ſmall flowers in ſpring and ſummer, produced moſtly along the ſides of the ſhoots; compoſed each of one ſmall funnel-ſhape, four-parted corolla, containing eight ſhort ſtamina, an oval germen ſupporting one ſtyle; and the germen grows a roundiſh berry, furniſhed with one roundiſh, fleſhy ſeed, ripening in ſummer and autumn, and by which, ſowed in the autumn or ſpring, the plants are propagated; alſo ſome, occaſionally, by layers of the young ſhoots and ſuckers from the root.

The Species of DAPHNE are,

1. DAPHNE *Laureola*—(Laureola) or Common Wood Laurel.

A ſmall, ever-green ſhrub, with ſlender, upright ſtems, two or three feet high—the leaves *(long, narrow)* ſpear-ſhape, ſmooth; and racems of ſmall, greeniſh flowers at the axillas or angles.—Native of Britain, &c. in woods, Switzerland, France, and Mount Baldo. *(Any lightiſh ſoil.)*

Variety.—Striped-leaved Laureola.

2. DAPHNE *Mezereum*—(Mezereum) commonly called Mezereon.

A moderate, deciduous ſhrub, of buſhy growth, three, to four or five feet high—the leaves *(ſmalliſh)* ovate-ſpear-ſhape; and numerous, ſmall, purple and other coloured flowers along the ſides of the ſhoots, by threes together, ſeſſile or ſitting cloſe; February and March.—Native of England and the northern parts of Europe, in woods. *(Light, or any ſoil.)*

Varieties.—Purple-flowered Mezereon; red berries.
Red-flowered Mezereon; red berries.
Crimſon-flowered Mezereon; red berries.
White-flowered, Yellow-berried Mezeron.
Variegated-leaved Mezereon.

3. DAPHNE *Cneorum*—(Cneorum) Cluſter-flowered, Narrow-leaved Daphne.

A ſmall, beautiful, deciduous ſhrub, one or two feet growth—the leaves *(ſmall)* ſpear-ſhape, naked; and cluſters of purple flowers, terminating the branches, ſeſſile or cloſe-ſitting.—Native of Switzerland, Hungary, Pyrenean Mountains, &c. *(Any common ſoil.)*

4. DAPHNE *alpina*, Alpine Downy-leaved Daphne.

A ſmall, deciduous ſhrub, of two or three feet—the leaves *(ſmall)* ſpear-ſhape, ſomewhat obtuſe, hoary on the under ſide; and cloſe-ſitting flowers in aggregates at the ſides of the branches.—Native of the Alps of Switzerland, Geneva, Italy, and Auſtria. *(Any light ſoil.)*

5. DAPHNE *Tarton-raira*—(Tarton-raira) or Silvery-leaved Daphne.

A low, ſpreading, deciduous ſhrub, of one or two feet—the leaves *(ſmall, whitiſh)* ovate, nervous, both ſides downy, ſilky, and ſilvery-like; and cloſe-ſitting white flowers in aggregates at the ſides of the branches.—Native of France. *(Lightiſh, rich ſoil, or any.)*

6. DAPHNE *Thymelæa*—(Thymelæa) or Milkwort-leaved Daphne.

A moderate, deciduous ſhrub, of three or four feet growth—the ſtem ſingle; leaves *(ſmall)* ſpear-ſhape; and cloſe-ſitting greeniſh flowers at the axillas.—Native of Spain. *(Light, or any common ſoil.)*

7. DAPHNE *Gnidium*—(Gnidium) or Flax-leaved Daphne.

A ſmall, deciduous ſhrub, two or three feet—the leaves *(ſmall, narrow)* linear-ſpear-ſhape, pointed; and flowers in panicles at the end of the branches.—Native of Spain, Italy, and France. *(Lightiſh, or any common ſoil.)*

8. DAPHNE *villoſa*, Villoſe or Hairy-leaved Daphne.

A ſmall, deciduous ſhrub, two or three feet growth—the leaves *(ſmall)* ſpear-ſhape, plane, ciliated, hairy, crouded; and cloſe-ſitting lateral flowers, ſingly.—Native of Portugal, Spain, &c. *(Any light, common ſoil.)*

All theſe ſpecies of *Daphne* are proper furniture to introduce in ſhrubberies for ornament and variety; the firſt ſort, *Laureola*, is a curious hardy, little ever-green; and the Mezereon is a deſirable flowering-ſhrub, ſingularly beautiful in its early flowers, in January or February, when but very few others appear, produced numerouſly along the upper part of the ſhoots, and impart a fragrant odour; the *Cneorum* and *Tarton-raira* are alſo delightful, little ſhrubs, as alſo the Alpine Daphne; and which three laſt-mentioned ſpecies, and the *Laureola* and the Mezereon, are the moſt noted, and deſerving of culture; the other three ſorts are eligible to admit for variety: are all hardy enough to grow in any common, lightiſh ſoil, or where they may be required; diſpoſed principally towards the front of ſhrubbery compartments, and in

borders, &c. and are all eaſily raiſed from ſeed; alſo by layers, and ſome by ſuckers.

They are all cultivated in the nurſeries for ſale, more particularly the firſt five ſpecies, where they may be procured for planting in the proper ſeaſons.

The ſeaſon for planting them, may be either in Autumn, about October or November, or any time in mild open weather during the winter, or in any of the ſpring months, February, March, and beginning of April; generally allot them principal compartments of the ſhrubbery, diſpoſed more or leſs towards the front part, in a diverſified order, in aſſemblage with other hardy flowering ſhrubs of moderate growth; or the *Laureola* introduced principally in the front of evergreen clumps, and in the borders of wood walks, as being naturally a wood plant.

To propagate theſe ſhrubs, it is effected principally by ſeed, (the berries) ſowed in autumn, in October or November, or in the ſpring, February or March, in beds of light earth, either in drills, ſix inches to a foot diſtance, or broad-caſt on the ſurface, and earthed over an inch deep, they will come up freely the firſt year; keep them clean from weeds, and when they are of one or two ſummers' growth, four or five to ſix or eight inches high, tranſplant them in autumn or ſpring into nurſery-beds, trained to a ſingle ſtem below, and permitted to branch out above; and in their advanced growth of about a foot and a half to two or three feet, are proper for the ſhrubbery.

Or, by layers of the young ſhoots, in autumn or ſpring, moſt of the ſorts may alſo be propagated, eſpecially in default of ſeeds, or to propagate the varieties, to continue them more certainly in their diſtinctive differences; they will be rooted for planting off in autumn following.

Likewiſe where ſuckers from the roots occur, they may be taken up in autumn or ſpring, with roots to each; and planted, they at once form young plants.

When the plants, raiſed by any of the above methods of propagation, are from a foot and a half to two or three feet growth in the nurſery, they are of proper ſize for final tranſplanting into the pleaſure-ground, in ſhrubberies, clumps, borders, &c. in which the requiſite to culture is that in common with other ſhrubs, hoed clean from weeds in ſummer, and the ground digged between them in winter, when you may prune caſual irregular ſhoots or branches.

The roots of old Mezereon ſhrubs are valuable in medical preparations, and for which the druggiſts give a good price per pound.

DIOSPYROS, INDIAN DATE PLUM.

Claſs and Order.

Polygamia Dioecia,
Many Marriages, Two Houſes;

Or Flowers of different Sexes, as Hermaphrodite, Male and Female, upon two ſeparate Plants in the ſame Species.

THE DIOSPYROS compriſes two hardy deciduous trees, of moderate and ſmaller growth, employed in pleaſure-ground plantations for ornament and variety; cloathed in ſummer with oblong, ſimple leaves, in one ſpecies, curious in being of different colours; and hermaphrodite and female flowers on the ſame, and male flowers on diſtinct plants; compoſed of monophyllous or one-leaved four-parted cups, a corolla, monopetalous, or of one petal four-parted, containing eight ſtamina and one quadrifid ſtylus, ſucceeded, in the hermaphrodite and female flowers, by large globular, baccaceous or berried fruit, furniſhed with many ſeeds, by which the trees are propagated.

The Species of DIOSPYROS are,

1. DIOSPYROS *Lotus*—(Lotus) Falſe Lotus, or Indian Date Plum.

A moderate deciduous tree, growing twenty feet high or more—the leaves *(moderately large)* oblong, the ſurfaces of different colours.—Native of Mauritania, France and Italy. *(Dry ſituation.)*

Varieties.—Broad-leaved Date Plum.
Narrow-leaved African Date Plum.

2. DIOSPYROS *virginiana*—Virginian Dioſpyros, or Piſhamin Plum.

A ſmall deciduous tree, growing fifteen or eighteen feet high—the leaves *(moderately large)* oblong, with the ſurfaces all of one colour (green)—Native of North America. *(Dry, or any common ſoil.)*

Theſe two ſpecies of *Dioſpyros* are proper to aſſemble in ſhrubberies, and other plantation compartments in pleaſure-grounds, principally in the deciduous tree collections, in which they will increaſe the variety very agreeably; and may be planted in any ſituation in a moderately dry, or any common ſoil, in company with other trees and ſhrubs; and for which occaſion they may be had at the public nurſeries, and planted in autumn or ſpring.

They are propagated by ſeed, which may be ſowed in the ſpring in a bed of light earth, an inch deep, or in pots, plunged into a gentle hot-bed to forward the germination of the ſeed, and bring up the plants ſooner,

ſooner, to obtain a ſtronger growth before winter, when it would be of advantage to give them ſhelter from froſt; and then tranſplanted into the nurſery in the ſpring to acquire proper growth of three, four, or five feet, for final tranſplanting in the intended plantations.

DIRCA, LEATHERWOOD.

Claſs and Order.

Octandria Monogynia.
Eight Males, One Female;

Or Plants with Hermaphrodite Flowers, having eight Stamina, or Males, and one Piſtillum, or Female.

THIS Genus, DIRCA, furniſhes but one ſpecies, a ſmall deciduous ſhrub, proper to introduce in ſhrubbery compartments for variety; is garniſhed with ovate leaves in ſummer, and club-ſhape ventricoſe flowers, of one petal, containing eight ſtamina and one ſtyle; ſucceeded by roundiſh berries, having each one ſeed; and by which the ſhrub is propagated, alſo by layers and cuttings.

DIRCA *paluſtrus*, Marſh Leatherwood.

A ſmall deciduous ſhrub, with tenacious ſhoots and bark—the leaves *(moderate)* oblong, and pointed, and white flowers.—Native of Virginia. (*Moiſt, or any ſituation.*)

This ſhrub may be introduced in ſhrubbery compartments to encreaſe the variety; delights in moiſt ſituations, or may be planted in any common ſoil, in autumn or ſpring.

It is propagated by ſeed ſowed in the ſpring, alſo by layers and cuttings of the young ſhoots.—Sow the ſeed in a bed of common earth, in February or March, and earthed in an inch deep; and when the plants are come up, and of one year's growth, tranſplant them in autumn or ſpring into the nurſery, to attain proper ſtrength for the ſhrubbery: layers and cuttings in autumn or ſpring will be rooted in one year; and when, by either method of propagation, the ſhrubs are two or three feet high, they ſhould be finally tranſplanted in the plantations intended.

ELÆAGNUS, WILD OLIVE, or Oleaſter.

Claſs and Order.

Tetrandria Monogynia,
Four Males, One Female;

Or Plants with Hermaphrodite Flowers, having four Stamina, or Male Fructifications, and one Piſtillum, or Female.

THE ELÆAGNUS furniſhes one large hard deciduous flowering-ſhrub, for ornamenting the ſhrubbery, growing ten or twelve to fifteen feet high, cloathed with ſpear-ſhape ſilvery leaves, and ſmall apetalous flowers, compoſed of quadrifid or four-parted coloured cups, no corolla or petals; four ſtamina, and one ſtyle, ſucceeded by ſmall oval, olive-ſhape, drupaceous fruit, furniſhed with an oblongiſh obtuſe nut, by which, where attainable, the ſpecies may be propagated, but is more generally raiſed from layers, and occaſionally by cuttings of the young ſhoots.

ELÆAGNUS *anguſtifolia*, Narrow-leaved Wild Olive.

A large ſhrub, or ſmall tree, growing twelve to fifteen or ſixteen feet high—the leaves (*ſmalliſh*) ſpear-ſhape, light green, whitiſh, ſhining.—Native of Bohemia, Spain, Syria, and Cappadocia. (*Any common ſoil.*)

This ſhrub merits a place in principal ſhrubberies for ornament and variety, in aſſemblage with other hardy ſhrubs and trees; may be had at the nurſeries for planting, which may be performed in autumn or ſpring; aſſign it a conſpicuous and ſomewhat warm ſituation, and it will ſucceed in any common ſoil.

It is propagated principally by layers of the young wood, and occaſionally by cuttings: perform the laying in autumn or ſpring, they will be rooted by autumn following; when, or in ſpring, ſeparate them from the ſtools, and planted in a nurſery; or cuttings of the young ſhoots in the ſpring may be planted in pots, and placed in a hot-bed to forward their rooting more effectually, and afterward tranſplanted in nurſery-rows; and when the plants, in either method, are three or four to five or ſix feet high, they are of proper growth for the ſhrubbery.

EMPETRUM, BLACK-BERRIED HEATH, or Crow-Berry.

Claſs and Order.

Dioecia Tetrandria,
Two Habitations, Four Males;

Or Flowers, Male and Female, diſtinct on two ſeparate Plants of the ſame Species, and the Male Flowers having four Stamina.

THIS Genus furniſhes but one hardy ſpecies; a low procumbent under-ſhrubby ever-green, garniſhed with very ſmall ovate leaves, and ſmall tripetalous male and female flowers ſeparate, on two diſtinct plants; the males having four ſtamina, and the females one piſtillum, ſucceeded by roundiſh berries, containing ſmall ſeeds, and by which the ſhrub is propagated, alſo by layers, and bottom-ſuckers and off-ſets.

One Species, viz.

EMPETRUM *nigrum*, Black-berried Empetrum.

A low ever-green of trailing growth—the branches procumbent or trailing; leaves (*minute*) ovate, and ſmall flowers, ſucceeded by black berries.—Native of the cold parts of Europe, on mountainous and boggy places. (*Moiſt ſoil.*)

This under-ſhrub may be admitted in ſmall ſhrubbery clumps for variety, allotting it a moiſt ſituation; may be planted in autumn or ſpring, placing it ſomewhat forward in the intended compartments; is propagated by ſeeds, layers, and off-ſet and ſuckers from the bottom. Sow the ſeed in the ſpring in a ſhady border of moiſt ſoil; and the plants, when of a few inches growth, tranſplanted, either where they are to continue, or in a nurſery, to obtain a little ſtrength for final planting; layers of the branches in autumn or ſpring will root freely; and off-ſets or ſuckers may be taken up at the ſame ſeaſons, with roots, and planted.

EPHEDRA, SHRUBBY HORSE-TAIL.

Claſs and Order.

Dioecia Monadelphia,
Two Habitations, *One Brotherhood*;

Or Male and Female Flowers diſtinct, on two ſeparate Plants, and the Stamina of the Males joined in one Body.

THE EPHREDRA comprehends two ſpecies of ſmall ſhrubby ever-greens, employed in ſhrubberies for ornament and variety; are ſmall under-ſhrubs of three or four feet growth, branching in many ſlender ruſhy-like ſhoots, and ſimilar ſmall, jointed leaves, and male and female flowers, ſeparate on two diſtinct plants, collected in amentums or catkins; the flowers are without corolla or petals, males ſeven ſtamina in one body, and in the female florets two oval germens and ſhort ſtyles; the germen grows a ſmall berry-like ſquamous fruit with two oval ſeeds, which, when they can be obtained, may be ſowed to raiſe the plants; but theſe are more generally propagated by ſuckers, or occaſionally by layers.

The Species of EPHEDRA are,

1. EPHEDRA *diſtachya*, Twin-ſpiked, Shrubby Horſe-Tail.

A ſmall, ſhrubby ever-green, three feet high—the ſhoots and leaves ſmall, ruſhy-like, jointed, and peduncles or flower-ſtalks oppoſite, with the flower-ſpikes or amentums in pairs.—Native of Narbone in France, and Spain, on rocks and hills by the ſea. (*Any common ſoil.*)

2. EPHEDRA *monoſtachya*, Single-ſpiked Dwarf Shrubby Horſe-Tail.

A low under-ſhrubby ever-green, two or three feet high—the ſhoots and leaves ſhorter and ſmaller; many peduncles or flower-ſtalks; and the flower-ſpikes or amentums ſolitary or ſingle.—Native of Siberia, on mountains and ſterile places. (*Any dry ſoil.*)

Theſe two ſhrubby ever-greens are admitted in curious ſhrubbery collections for the ſingularity of their growth, in which they effect an agreeable diverſity at all ſeaſons of the year in their ſhoots and leaves: they may be obtained for planting, at moſt of the nurſeries, in autumn or ſpring; may be planted in any common ſoil, and ſhould generally have a forward ſituation towards the front part of the intended compartments of ſhrubbery clumps, &c.

They are propagated principally by ſuckers, which may be taken off in autumn or ſpring with roots, forming at once rooted young plants, and either planted where they are to remain, or in a nurſery for a year or two, or till they acquire more ſtrength and larger ſize for final tranſplanting.

Likewiſe many propagate them by layers, in the autumn or ſpring, and will be rooted for planting off the autumn following.

EPIGÆA, TRAILING ARBUTUS.

Claſs and Order.

Decandria Monogynia,
Ten Males, *One Female*;

Or Plants with Hermaphrodite Flowers, having each ten Stamina or Males, and one Piſtillum or Female Part.

ONE ſpecies, a trailing, creeping evergreen, flowering-ſhrub of ſmall growth, adorned with ovate leaves, and looſe, terminal bunches of monopetalous, white flowers, having a double, ſix-leaved calyx or cup, a tubulous, ſalver-ſhape corolla, of one petal, cut at top into five parts; ten ſtamina, a globoſe germen crowned by a quinquefid or five-part ſtigma, ſucceeded by a roundiſh pentangular fruit with many ſeeds; by which the plant may be raiſed; but it commonly propagates plentifully by its rooting branches and off-ſet ſuckers; likewiſe by layers and cuttings.

One Species, viz.

EPIGÆA *repens*, Creeping Epigæa, or Trailing Arbutus.

A low, trailing ever-green, with creeping, rooting-ſhoots;—leaves (*ſmalliſh*) ovate-oblong, rough; and

and ſmall bunches of white flowers at the ends of the branches.—Native of Virginia and Canada. (*Any common ſoil.*)

It is admitted in ſhrubberies as an ever-green and flowering-ſhrub; may be procured at the nurſeries, and planted in ſpring or autumn, aſſigning it a forward ſituation: is propagated by the trailing rooting ſtems, and off-ſet ſuckers, taken off in the autumn or ſpring, and planted in the ſhrubbery, or in a nurſery, for a year or two, alſo by layers and cuttings of the ſhoots.

ERICA, HEATH.

Claſs and Order.

Octandria Monogynia,
Eight Males, One Female;

Or Plants producing Hermaphrodite Flowers, having eight Stamina, or Males, and one Piſtillum, or Female.

THE ERICA furniſhes ſeveral hardy ſpecies of ſmall under-ſhrubby, ever-green, flowering plants, for the ſhrubbery, of ſpreading and upright buſhy growth, one to two or three feet high, cloſely garniſhed with minute ſimple leaves, by two, three, four, and five together; and many ſmall quadrifid flowers; purple, red, &c. arranged along the upper part of the ſhoots; having four-leaved, coloured cups, the corolla or flower ſmall, monopetalous, ſwelling, four-parted, containing eight ſmall ſtamina, and one piſtillum, ſucceeded by a quadrilocular or four-celled ſeed capſules, ripening ſeed in autumn; by which the plants may be raiſed, and are propagated alſo plenteouſly by off-ſet ſuckers, and layers of the branches.

The principal hardy ERICAS are,

1. ERICA *vulgaris*, Common Wild Heath.

A ſmall, ſpreading ſhrubby plant—the leaves (very ſmall) arrow-ſhape, oppoſite; and the corolla or flower bell-form, unequal, with the anthera two-horned, included.—Native of England and moſt parts of Europe, on ſterile commons, or heaths. (*Any ſoil.*)

Varieties.—Common Purple-flowered Heath.
White-flowered Common Heath.

2. ERICA *ciliaris*, Ciliated-leaved Portugal Heath.

A ſmall, ſhrubby plant, two feet high—the leaves (ſmall) ovate-oblong, acute, placed by threes, the edges ciliated or hairy; and the corolla ovate, irregular; the flowers threed-cluſtered, with the anthera ſimple, included.—Native of Portugal. (*Any dry ſoil.*)

3. ERICA *cinerea*, Aſh-coloured-barked Heath.

A dwarfiſh under-ſhrub, the bark whitiſh—the leaves (*ſmall narrow*) linear, ſmooth, growing by threes; and ovate flowers cluſtered; with two-horned anthera, included.—Native of the middle parts of Europe and the Eaſt. (*Any common ſoil.*)

4. ERICA *multiflora*, Many Flowered Heath.

A ſmall ſhrub of two feet growth—the leaves (*ſmall, long*) by fives, and ſpreading; with flowers cylindric, numerous, purple, with ſimple bifid anthera.—Native of England, France, and the Eaſt. (*Any common ſoil.*)

5. ERICA *Tetralix*—(Tetralix) or Four-leaved Red Heath.

A ſmall under-ſhrub—the leaves (*ſmall*) awl-ſhape, ciliated, or hair-edged, placed by fours, ſpreading; and flowers (dark-red) ſub-globoſe, crouded, longer than the leaves, with anthera two-horned, included.—Native of the northern parts of Europe, in marſhy places. (*Moiſt, or any ſoil.*)

6. ERICA *triflora*, Three-flowered African Heath.

A ſmall ſhrub—the leaves (*ſmall*) growing by threes, flowers ſub-globoſe, ſomewhat hairy, placed by threes together, peduncles or flower-ſtalks three-leaved, and with bifid anthera, included.—Native of Æthiopia. (*Warm, dry ſituation.*)

The three following, which, like the foregoing, are ſmall ſhrubby ever-greens, are alſo ſometimes introduced among the hardy Ericas, but ſhould have a warm ſheltered ſituation.

7. ERICA *mediterranea*, Mediterranean Purple Heath.

8. ERICA *auſtralis*, Southern Heath.

9. ERICA *longiflora*, Long-flowered Heath.

All theſe ſpecies of ERICA are admitted in ſhrubberies, flower-borders, and other compartments of the pleaſure-ground, for variety and ornament, both as ſmall ſhrubby ever-greens, and ſeveral of them alſo are very pretty little flowering ſhrubs, of very ornamental appearance in ſummer, in their ſmall but numerous flowers; will all ſucceed in any common ſoil, but generally allot the laſt four ſorts a warm ſheltered ſituation; or ſome alſo planted in pots to move under ſhelter of a frame or green-houſe in winter: may be ſupplied with moſt or all the ſorts at the nurſeries for planting, which may be performed in autumn or in any of the ſpring months, aſſigning them places in ſome principal compartments and front ſituation conſpi-

conſpicuous to ſight, [illegible] where they may not be overſpread by larger [illegible].

They are propagated by off-ſet bottom ſuckers from the roots, and occaſionally by layers and ſeed; the ſuckers may be detached in autumn or ſpring, and planted in a nurſery till they acquire a little ſtrength for the ſhrubbery, or ſome planted therein at once to remain: layers and cuttings in the ſpring will be rooted by the following autumn; or cuttings or ſlips of any principal ſorts planted in pots in the ſpring, and plunged in a hot-bed, or covered cloſe with a hand-glaſs, it will forward their rooting ſooner.

Or where ſeeds can be obtained, they may be ſowed in the ſpring, in a bed of light earth; and when the plants are come up, and advanced a few inches in growth, ſhould be tranſplanted in nurſery-beds, or ſome of the tendereſt ſorts planted in pots, to move under ſhelter in winter.

When the plants, raiſed by either of the above methods, are of one or two feet growth, they may be tranſplanted in the places where intended.

EUONYMUS—*(Euonymus)* or SPINDLE TREE.

Claſs and Order.

Pentandria Monogynia,
Five Males, One Female;

Or Plants with Hermaphrodite Flowers, having five Stamina or Males, and one Piſtillum or Female.

THE EUONYMUS compriſe two principal ſpecies, conſiſting of a large deciduous flowering-ſhrub, or ſmall tree, and an ever-green of middling growth, with ſeveral varieties of the former, and one of the latter; all employed in the ſhrubbery plantations for variety and ornament; are of upright branchy growth, garniſhed with oblong-ovate, and ſpear-ſhape leaves; and ſpreading whitiſh flowers, in cluſters and ſingly; having in each flower a monophyllous or one-leaved cup, four or five-parted, a corolla of four or five oval ſpreading petals, five ſtamina and one piſtillum; and the germen grows a quadrangular and pentangular ſucculent capſule, of five loculi or cells, furniſhed with red berry-like ſeeds; the capſules, when ripe, opening naturally and diſcloſe the ſeeds, ripening in autumn; and by which, and by layers and cuttings, the ſpecies are propagated.

The Species of EUONYMUS are,

1. EUONYMUS *europæus*, European, or Common Spindle Tree.

A large deciduous ſhrub, or ſmall tree, growing twelve to fifteen feet high—the leaves *(moderate ſize)* oblong-ovate, and white flowers moſtly quadrifid or cut into four parts; ſucceeded by four-cornered ſeed-pods, opening when ripe, and diſcloſe the red, granulous ſeed.—Native of England and moſt parts of Europe, in hedges, &c. *(Any common ſoil.)*

Varieties.—*(—tenuifolius)* or Small-leaved Common Spindle Tree.
(—latifolius) or Broad-leaved Common Spindle Tree.
Striped-leaved Common Spindle Tree.
Red-ſeeded Common Spindle Tree.
Pale Red-ſeeded
White-ſeeded Spindle Tree.

2. EUONYMUS *americana*, American Ever-green Spindle Tree.

A middling ſize ever-green ſhrub, growing ſix or eight feet high—the leaves ſpear-ſhape, *(middling ſize)* and all the flowers quinqueſid or five-parted.—Native of Virginia. *(Any common ſoil.)*

Variety.—Striped-leaved Ever-green Spindle Tree.

Theſe ſhrubs are adapted to aſſemble in any common ſhrubbery compartments and other decorative plantations, in pleaſure-grounds, both as flowering-ſhrubs; and the firſt ſpecies alſo for the curious ſingularity of its ſeed-pods, opening naturally, and diſplay the red, granulous ſeeds very ornamentally in autumn, and great part of winter; and the ſecond ſort is a ſhewy ever-green ſhrub, to increaſe the variety in compartments of that tribe, or where it may be required; are all very hardy, will grow in any common ſoil and ſituation, and are eaſily raiſed by ſeed, layers, and cuttings.

They are cultivated in all the nurſeries for ſale, in which they may be had, of proper growth for planting, in autumn or ſpring, or any time in open weather, from October to March.

To propagate or raiſe ſupplies of theſe ſhrubs, it is effected by ſeed, layers, and cuttings, as before intimated. Sow the ſeed in autumn or ſpring, in a bed of common earth, and covered in about an inch deep; and when the plants are one or two years old, plant them into the nurſery to obtain proper growth for final tranſplanting in ſhrubberies, or where they may be deſigned: layers of the lower ſhoots and branches, in autumn or ſpring, will root in one ſummer, to plant off in the proper ſeaſon following; and cuttings of the young ſhoots planted in a ſhady border, will alſo emit roots and grow.

In the different methods of propagation, when the plants advance in growth, prune them up a little below,

low, from low ſtraggling branches, to have them form full heads above; and when they are advanced from two or three, to four or five feet high, they are proper for the ſhrubbery, &c.

They may be planted in autumn or ſpring, or any time in mild weather, from October or November, to March or April.

FAGUS, BEECH TREE, and CHESNUT.

Claſs and Order.

Monoecia Polyandria,
One Habitation, Many Males;

Or *Male and Female Flowers, ſeparate, on one and the ſame Plant; and the Male Flowers having many Stamina.*

THIS Genus compriſe three ſpecies and ſeveral varieties, all of the deciduous tree kind, of large, lofty, moderate, and ſmall growth; conſiſting of foreſt, fruit, and ornamental trees; ſome growing ſixty, to ſeventy or eighty feet high, or more; others not exceeding fifteen or twenty feet: adorned in ſummer with large oval and ſpear-ſhape ſimple leaves; and ſmall male and female apetalous flowers apart on the ſame tree, collected in globular and cylindric amentums or catkins, each flower having a four or five-parted calyx, no corolla or petals; the male flowers having many ſtamina, and the females three ſtyles; and in the female flowers the germen grows a large roundiſh echinated prickly capſule, furniſhed with two or more nuts, ſmall in the Beech, in the Cheſnut large, with eatable kernels, ripening in autumn; and by which the trees are principally raiſed or propagated, alſo any particular varieties, by layers, or, occaſionally, by budding and grafting.

The Species of FAGUS are,

1. FAGUS *ſylvatica*, Wood or Common Beech Tree.

A large, lofty, deciduous tree, of ſtraight handſome growth, ſixty or ſeventy, to eighty feet high, or more—the leaves (*middling*) ovate, ſlightly ſawed, and roundiſh amentums of flowers, ſucceeded in the females by triangular nuts, called Beech-Maſt.—Native of England, other parts of Europe, and of Canada. (*Chalky, ſtony, or any common ſoil.*)

Varieties.—Yellow-ſtriped-leaved Beech Tree.
White-ſtriped-leaved Beech Tree.
American Purple-leaved Beech Tree.

2. FAGUS *Caſtanea*—(Caſtanea) or Cheſnut Tree.

A large, lofty deciduous tree, growing fifty or ſixty feet high, with a noble ſpreading head—the leaves (*large, ſhining green*) ſpear-ſhape, pointed-ſawed, naked underneath; and flowers in longiſh amentums, ſucceeded in the females by large prickly capſules, containing two or three roundiſh nuts, with eatable kernels.—Native of Spain, Italy, and other ſouthern parts of Europe. (*Dry, or any common ſoil.*)

Varieties.—Cultivated or large Sweet-kernelled Common Spaniſh Cheſnut.
Wild or ſmaller Cheſnut.
Gold Striped-leaved Cheſnut Tree.

3. FAGUS *pumila*, Dwarf American Cheſnut Tree, or Chinquepin.

A ſmall, deciduous tree, growing ten, to fifteen or twenty feet high—the leaves (*middling*) ſpear-ſhape-ovate, acutely ſawed, hoary on the under-ſide; and the female flowers ſucceeded by cluſters of round prickly capſules, containing ſmall nuts ſingly, having ſweet eatable kernels.—Native of North America. (*Moiſt, or any ſoil.*)

Theſe three ſpecies of FAGUS, and their reſpective varieties, have great merit, as uſeful and ornamental trees, to diſpoſe in all principal large plantations, in extenſive pleaſure-grounds, parks, &c. but of which the Beech and Common Cheſnut have conſiderable merit to cultivate as moſt valuable foreſt or timber-trees, they growing to a lofty ſtupendous ſtature, with a ſtem of great magnitude; the timber ſtrong and durable, of ſuperior worth in many uſeful occaſions in which ſubſtance and ſtrength is required, as alſo to cultivate in under-wood, in coppices, to cut for poles, and other ſmall or light purpoſes; likewiſe, the trees, being of handſome growth, are of great eſtimation to aſſemble in large, pleaſurable deciduous plantations, in groves, thickets, woods, clumps, &c. and the Cheſnut Tree in particular, growing with a beautiful ſpreading head and moſt ample foliage, forms a delightful umbrage in ſummer, is peculiarly adapted to arrange in avenues, or in forming grand ſhady walks and groves; and is likewiſe valuable to plant as a fruit tree, in parks, and on the boundaries of orchards, and in avenues in any out-grounds, or where convenient, in any open ſituation; they, when advanced of ſome conſiderable growth, will produce plentiful crops of nuts, which, in favourable ſeaſons, ripen, in tolerable perfection, in autumn.

The *Fagus pumila*, or Dwarf Cheſnut, being of ſmall growth, is employed principally to aſſiſt in compoſing large ſhrubberies and other decorative plantations, in pleaſure-grounds, in aſſemblage with other deciduous trees and ſhrubs.

And the Beech Tree, beſides its utility for the before-mentioned purpoſes, was formerly in much eſtimation for ornamental garden hedges, and hedges for

for ſhelter, ſhade, &c. as, in its firſt growth, it branches out thickly from the ſides quite to the bottom, and, with proper cutting, is readily formed into cloſe handſome hedges of any height required, ſix, eight, or ten, to fifteen feet high, or more.

All the ſpecies of *Fagus* being of the deciduous kind, expanding their leaves only in ſummer, ſhould aſſemble principally in plantations of the ſame tribe of trees, or ſome occaſionally in diſtinct plantations of the reſpective ſorts, eſpecially of the Beech and Common Cheſnut, in ſmaller or larger compartments, in groves, clumps, &c.

The different ſpecies of theſe trees in their general growth and foliage in ſummer, make an agreeable variety in plantations; and the trees, when of advanced growth, flower in April, May, and June, in the different ſorts, but the flowers are not conſpicuous; they grow in amentums and roundiſh heads, which, in the Beech, are ſucceeded by plenty of ſmall triangular nuts, falling from the capſules in autumn, when they may be gathered up, as many as wanted, for ſowing; and where they are produced in abundance, are excellent for feeding and fattening ſwine, and the larger ſorts of poultry; and in the Cheſnut and Chinquepin, the fruit being produced in large, round, prickly capſules, theſe, when ripe, open and diſcloſe the nuts, having brown membraneous ſhells, filled with a tender ſweet kernel, which, in the Cheſnut in particular, often ripens abundantly in ſome tolerable perfection in September, in warm dry autumns, and of which may ſelect a quantity of the largeſt and beſt-ripened to preſerve for eating in winter; though they ſeldom ripen with equal goodneſs of flavor as thoſe which are annually imported from Spain and Portugal.

The trees of all the ſorts are hardy to grow in any ſituation, and will proſper in almoſt any common ſoil.

To cultivate for foreſt or timber-trees, the Beech and Common Cheſnut ſhould be admitted as principal ſorts, both in aſſemblage with other trees, and occaſionally in diſtinct plantations of theſe kinds ſeparately; and in either of which the plantations may be formed both of young plants previouſly raiſed in a nurſery, two or three to four, five, or ſix feet growth, and planted five or ſix to eight, ten, or fifteen feet diſtance; and occaſionally by the ſeed or nuts, ſowed in the places where the trees are to remain, the ground being plowed and harrowed, and drills formed four to five or ſix feet aſunder, and three inches deep, ſowing the nuts in the drills, and earthed over; and in the advanced growth of the young trees, ſome may be tranſplanted elſewhere, or when of larger ſize, ſome cut down in a thinning order for poles, &c. leaving abundance of the ſtrongeſt ſingly, to run for large ſtandards for timber.

The Cheſnut, when deſigned to have any as fruit-trees for their production of nuts, may be planted in orchards, parks, hedge-rows, and in avenues, at thirty or forty feet diſtance; or ſome dotted ſingly, or in ſmall clumps on extenſive lawns, and other open ſpaces of graſs ground, and all permitted to branch out in full heads, moſtly in their natural order.

Proper trees of all the ſorts for planting, in any plantations intended, may be had in eligible ſupplies at the public nurſeries, of three or four to ſix, eight or ten feet growth, to plant in autumn or ſpring; or where large ſupplies of the Beech and Cheſnut are required for conſiderable plantations in woods for timber-trees, they may be raiſed abundantly in home nurſeries for that occaſion, by ſowing the maſt and nuts in autumn or ſpring, raiſing the trees three or four to five or ſix feet for final planting.

The general ſeaſon for planting theſe trees, is either in the autumn, at the decay of the leaves, or in the ſpring months, or performed, occaſionally, any time in open weather, from October or November till the latter end of March.

The propagation or method of raiſing all the ſpecies of *Fagus* is principally by the ſeed or nuts, and by which, ſowed in autumn and ſpring, the trees may be raiſed with great facility and abundance; and will advance in a free growth; or any particular or deſirable varieties of the Beech and Common Cheſnut, are propagated by layers, grafting and budding, to have them continued permanent in their reſpective properties with greater certainty than by ſeed.

However, to raiſe the common ſpecies, being provided with proper ſupplies of Beech-maſt and nuts, in autumn or ſpring, the former may be ſowed in autumn, about October or November, or in winter, in open weather, or in any of the ſpring months, in beds of common light earth, and covered in two inches deep, as directed below for the Cheſnuts; but theſe latter, and the Chinquepin Nuts, will be moſt adviſeable to ſow principally in the ſpring, about February or March, they being preſerved ſound till that time; when they ſhould be ſowed either in drills two inches deep; or the earth raked off the bed that depth, ſow the nuts on the ſurface moderately thin, preſs them down gently into the earth with the back of the ſpade, then, with the earth raked off, cover them in regularly; they will all germinate freely in the ſpring, come up in that ſeaſon, or early part of ſummer, when keep them clear from weeds; and when the young trees are of one or two ſummer's growth, they muſt be tranſplanted in autumn or ſpring, into the nurſery, in rows two or three feet aſunder; in which, train each with a clean ſingle ſtem, by pruning up lateral ſhoots below gradually, as the plants advance in growth, preſerving the top-ſhoots entire, and always the main leader to aſpire in height

as

as faſt as poſſible in full growth, and having attained three or four to five, ſix, eight or ten feet ſtature, they are proper for final tranſplanting in the intended plantations.

Likewiſe by layers of the lower young ſhoots, any particular ſorts may alſo be propagated: they will root in one ſeaſon for planting off in autumn or ſpring following.

Alſo by grafting or budding any deſirable varieties upon ſeedling-ſtocks of their reſpective ſpecies, is a certain method whereby to propagate them permanent in their particular kinds.

When deſigned to make plantations of the Common Beech and Cheſnut in woods, for foreſt or timber-trees, it is adviſeable to plant them while of moderately young growth, of three or four to five or ſix feet, or not exceeding eight or ten; and the planting may be performed any time in open weather, from the fall of the leaf in October or November to March, in which ſome may be planted in cloſe rows of five or ſix feet diſtance to admit of having ſome in coppice-wood, to cut occaſionally, when of ſome advanced growth, in a thinning order for poles, &c. as formerly obſerved, leaving a ſufficiency of the moſt promiſing trees, at ten to fifteen feet, to grow up for timber ſtandards; others may be planted at once at proper diſtances, of ten to fifteen feet, to remain wholly for ſtandards to acquire a large growth before any are felled for timber; generally obſerving, in the advancing growth of thoſe deſigned for large trees, it is adviſeable to keep them to clean ſtems, by pruning up the lateral and under-branches by degrees, in order to encourage their running up more expeditiouſly and ſtraight.

In planting any of theſe trees for ornament, they may generally be diſpoſed in aſſemblage with other tree kinds, in forming any large plantations in pleaſure-grounds, parks, groves, thickets, clumps, &c. or ſome planted to form Beech and Cheſnut compartments diſtinct; and in their advancing growth, prune up the lateral and ſtraggling under-branches, and permitted to branch out above in full heads, or in which may reduce any conſiderable irregularity that may caſually occur.

FICUS, FIG TREE.

Claſs and Order.

Polygamia Trioecia,
Many Marriages, Three Habitations;

Or with Flowers of different Sexes, as Male, Female, and Androgynous, upon three ſeparate Trees.

THE FICUS furniſhes but one hardy ſpecies, an eminent fruit-tree, which affords many fine varieties of the fruit; is a deciduous tree of moderate growth, with large, palmated leaves; and with flowers male, female, and androgynous, on three diſtinct trees, all wholly concealed within the common receptacle, or outer cover, which appears firſt like a ſmall, round, green bud, ariſing from the ſides of the young ſhoots, enlarging by degrees, forming a ſort of general cover, incloſing, in a concealed manner, numerous, minute chaffy florets, without petals, lining, as it were, the internal ſurface thereof, having in each male floret three ſtamina, and the females two piſtillums; and the ſaid general receptacle, or cover, and the contained flowers, &c. become the fruit gradually increaſing to a large ſize, attaining maturity in autumn, full of a ſoft pulpy ſubſtance, ripening, tender, delicious, and rich for eating, in Auguſt and September; ſome roundiſh others top and pear-ſhape, and full of large ſeeds, not always ripening in good perfection in this country for ſowing, but the ſeveral varieties of the trees propagate freely by ſuckers, layers, and cuttings.

Only one hardy Species of FICUS, viz.

FICUS *Carica*—(Carica) or Common Fig Tree.

A moderate deciduous tree, growing ten to fifteen or twenty feet, producing large, long, ſucculent ſhoots—the leaves (*large*) palmated or hand-ſhape, cut into three or five lobes; and fruit-buds at the ſides of the young ſhoots in the ſpring.—Native of the ſouthern warm parts of Europe and Aſia. (*Rich, loamy, or any good garden earth.*)

Varieties.—Common Fig Tree.
Dwarf Fig Tree.

Many Varieties of the Fruit, viz.

Early white Fig—a ſmall, roundiſh fruit, flatted at the top, ripening of a whitiſh yellow colour, for eating, in Auguſt.

Early blue or purple Fig—a middling-ſize, longiſh, pear-ſhape fruit, ripening of a blueiſh or purple colour, for eating, beginning or middle of Auguſt.

Large common blue Fig—a large, longiſh, pear-ſhape fruit, ripening of a dark-blueiſh purple colour, for eating, the end of Auguſt and in September.

Brown Iſchia Fig—a large, ſhortiſh, globular fruit, ripening brown or cheſnut colour without, purple within; ripe beginning and middle of Auguſt.

Black Iſchia Fig—a middle-ſize, ſhort, roundiſh-top-ſhape fruit, almoſt black when ripe, but red within; ripening in Auguſt.

White Genoa Fig—a large, ſhortiſh, globular, or ſomewhat top-ſhape fruit, ripening of a whitiſh-yellow without, red within; ripe in Auguſt and September.

Black Genoa Fig—a largiſh, long fruit, ripening of a dark-purple colour, or almoſt black, covered with a purple farina, bright red within; ripe the beginning or middle of Auguſt.

Malta Fig—a ſmall, ſhort fruit, flat at top, ripening of a browniſh colour without, and purpliſh-brown internally; ripe in Auguſt and September.

Green Iſchia Fig—a moderate ſize, oblongiſh fruit, globular at the crown, ripening greeniſh without, purple within, end of Auguſt and in September.

Brown Naples Fig—a large globular fruit, ripening of a lightiſh brown colour, marked with white, and purpliſh-brown within; ripe end of Auguſt and in September.

Long brown Naples Fig—a largiſh, long fruit, ripening of a dark brown, reddiſh within; ripe in September.

Small brown Iſchia Fig—a ſmall pear-ſhape fruit, ripening of a lightiſh-brown without, the pulp ſomewhat purple; ripe middle or latter end of September.

Madonna, or Brunſwick Fig—a large, long, pear-ſhape fruit, ripening of a brown colour without, and a lightiſh-brown pulp; ripe end of Auguſt and in September.

Yellow Iſchia Fig—a large, long, pyriform fruit, ripening yellow without, the inſide purple; ripe in September.

Black Provence Fig—a large fruit, ripening of a blackiſh-purple colour, for eating, end of Auguſt and in September.

Theſe are the principal varieties of Figs the moſt general known in the Britiſh gardens, though there are ſeveral others occaſionally cultivated, but the ſorts above deſcribed are ſuch as will moſtly ripen in perfection, and the trees, in moſt of the varieties, produce plentiful crops; however, there are but few gardens which are furniſhed with all the ſorts here mentioned, and in the greater part the Common Blue and the White Figs are the ſorts principally cultivated for the general ſupply, as they more commonly produce the moſt abundant crops, ripening in full maturity; but where there is plenty of garden-room, it is proper to have ſeveral different varieties, eſpecially where there is ſome conſiderable extent of walling, as they generally require to be trained as wall-trees, againſt walls of a ſouth aſpect, full to the ſun, in order to obtain the fruit in the beſt perfection; or ſeveral ſorts will alſo produce tolerable crops of fruit on eſpaliers, planted in a ſheltered, ſunny expoſure, as likewiſe on ſtandards, in ſimilar ſituations.

The trees of all the varieties will proſper in any common ſoil of a garden; or where the ground is loamy, it generally promotes plentiful crops of large fruit; however, all the ſorts may be planted in any tolerably-good ground that the garden affords, or in common with other fruit-trees, both againſt walls, and ſome in eſpaliers and ſtandards, as above intimated.

But, for the general ſupply, it is proper to allot a principal portion in wall-trees, planted in borders againſt ſouth walls, both to obtain the fruit earlier in all poſſible perfection, and that the trees may have better protection in winter from ſevere froſt, which, as the young ſhoots are ſucculent, is apt to kill many of them where detached and full expoſed; and even thoſe trained cloſe to walls are alſo ſometimes greatly damaged in rigorous winters, when not covered with mats, or the branches un-nailed, tied together in ſmall bundles, faſtened down low to ſtakes, and covered with ſtraw; for, as the Fig trees bear only upon the young ſhoots of the preceding year, if theſe are greatly injured by the froſt, the production of fruit will be proportionably leſs.

All the varieties of Fig trees produce the fruit always upon the young ſhoots of a year old, the fruit-buds ariſing principally on the upper parts of the ſaid ſhoots, and likewiſe the young ſhoots of the ſame year yield a ſecondary production of fruit in ſummer and autumn; but theſe never or rarely acquire any tolerable perfection in this country, as may be obſerved by their remaining of a green immature ſtate upon the ſhoots in winter, after the leaves are fallen, and ſhould generally be then pulled off, and to depend only on the ſpring production ariſing on the ſhoots of the laſt year, for the principal crop ripening in full maturity; and therefore, in thoſe trained in wall-trees and eſpaliers, requiring a regulation of pruning and training every ſummer and winter, a general ſupply of the young ſhoots of each year muſt be retained in all parts of the trees for bearing, and ſome proportionable part of the old cut out in the winter-pruning, to give room for training the ſucceſſional ſupply of the young bearing wood to produce the Figs next ſummer, as the ſame individual ſhoots never bear but once, though they produce others, as likewiſe the older branches, for future bearers, and thoſe produced one year bear the fruit the year following; and thus the ſucceſſion of bearing wood is continued annually; the fruit being

emitted

emitted in ſpring immediately from the eyes of the ſhoots, gradually increaſes in volume till Auguſt and September, then ripening of a white, blueiſh, purple, black and brown colour, as in the deſcription of the different varieties.

As the Fig tree furniſhes many varieties in regard to the different ſorts of the fruit, proper trees of the deſired kinds for planting may be had at moſt of the nurſeries, either young or of a trained growth, to commence immediate bearers; or may be expeditiouſly raiſed by ſuckers, layers, cuttings, and either planted at once in young growth, where they are to remain, or trained in a nurſery for two or three years, till furniſhed with a tolerable head of branches, then tranſplanted in the garden.

The ſeaſon for planting Fig trees is principally either in autumn, about October or November, at the decay of the leaves, or in February, March, or beginning of April; or may alſo be occaſionally planted in any of the winter months in open, mild weather.

In planting Fig trees, it muſt be obſerved, that as they are originally exotics, from ſouthern, warm counties, they in this require warm ſituations in the full ſun, to have them produce fruit in good perfection; ſo ſhould be principally planted as wall-trees, againſt ſouth walls, and ſome on thoſe of ſouth-eaſt and weſt aſpects, but moſtly full ſouth walls for the principal ſupply; for although the trees will grow any where, they will not ripen fruit effectually, unleſs they have the advantage of warm, ſunny expoſures; they may likewiſe be planted in eſpaliers, in ſimilar aſpects, in the full ſun, to promote good crops of fruit; and in all of which, for wall-trees and eſpaliers, ſhould be planted fifteen or eighteen to twenty feet diſtance, to have good ſcope to extend the branches, at their full growth, and theſe arranged to the wall, &c. horizontally, five or ſix, to eight or ten inches aſunder, with the ſhoots always extended at their whole length; and the trees will require a regulation of pruning and nailing every ſummer and winter, when obſerve always to reſerve a general ſupply of the young ſhoots of each year at the above diſtances, for ſucceſſive bearers, as formerly intimated; and, at the ſame time, in winter-pruning particularly. to cut out a proportionate part of the old bearers and long-extended, naked, old branches, to afford proper ſcope to arrange the ſucceſſion-bearing ſhoots, which, as before obſerved, muſt never be ſhortened in theſe trees, as the ſhoots moſtly bear towards the upper parts; that, if ſhortened, it would deſtroy thoſe parts leſs or more on which the fruit is principally produced, and force out from the lower eyes a conſiderable ſuperfluity of uſeleſs wood in ſummer; and therefore, generally, both in the ſummer and winter-pruning, let the ſhoots neceſſary to retain for training to the wall, &c. remain entire, unleſs any have the top parts injured by froſt in winter, when may prune them down to the live wood; but all the others train in at their natural length.

But as Figs will alſo ſucceed in ſtandards, eſpecially the white and blue ſorts of the earlieſt ripeners, and which being trained in dwarf or half-ſtandards, with ſtems of one or two, to three, four, or five feet, branching out above in full heads, they may be planted in a warm ſituation, expoſed to the ſun; and they will often produce tolerably good crops of Figs, ripe, for eating, in Auguſt and Sepember.

Having thus far given the general intimations relative to the ſpecies and different varieties of the Fig, with their nature of growth, order of bearing, different methods of propagation, planting and training, ſhall now proceed to explain the particulars of culture.

Firſt, with reſpect to the methods of propagating and raiſing Fig trees, all the varieties propagate freely by ſuckers, layers, and cuttings; though the two latter methods are generally preferred to the former, as the ſuckers from the roots are often leſs compact and firm than the ſhoots produced above on the branches, more ſucculent, and liable to injury from froſt, and diſpoſed to run more to ſuckers and ſuperfluous wood than the trees as are raiſed from layers and cuttings of the branch ſhoots; however, good trees are occaſionally raiſed by all the above methods.

The ſeaſon for performing the propagation in the different methods, is either in autumn, at the fall of the leaf, or in any of the ſpring months.

Suckers from the roots of the trees are proper to detach for planting when of one ſummer's growth, taken off either in autumn or ſpring following, digging them up with as much root as poſſible; and of which, chuſe the ſtrongeſt, robuſt and firm, rejecting long, ſlender, ſoft ſhoots, and planted either in rows in a nurſery, in order to be trained of proper growth for tranſplanting in the garden; or ſome may be planted at once where they are to remain, eſpecially thoſe deſigned for walls and eſpaliers; and for which they ſhould be topped in the ſpring to promote their ſhooting out below for a ſupply of lateral branches, advancing immediately from or near the bottom, to furniſh the wall, in a proper expanſion, regularly from the bottom aforeſaid, upward; but thoſe deſigned for ſtandards ſhould not be topped, but permitted to run with a ſingle ſtem, two, three, to four or five feet, then encouraged to branch out above, and form a full head.

Layers of the young ſhoots and branches, in autumn or ſpring, will be rooted in one year; for which chuſe ſtrong, robuſt, compact, firm ſhoots, of a year or one ſummer's growth, ſituated on ſome of the lower

pliant branches, or occaſionally young branches of two or three years old, furniſhed with a terminal ſhoot; and to perform the laying, bow down the ſhoots or branches, opening an oblong cavity in the earth, lay the ſtem or body of the branch, or ſhoot therein three or four, to five or ſix inches deep, pegged down and earthed over, raiſing the top of each layer ſeveral inches to a foot above ground, not ſhortened, but preſerved intire, they will be properly rooted by the following October, when, or in November or ſpring, may be ſeparated from parent tree or ſtool, with good roots, and planted either in a nurſery for one, two, or three years, to increaſe in growth, and acquire a head of branches; or ſome of the ſtrongeſt may be planted at once in the places where they are to continue; eſpecially for wall and eſpalier trees, and in either methods train them as adviſed for the ſucker-raiſed trees, to have them for walls, eſpaliers, and ſtandards, or either of which, as required.

And cuttings of ſhoots in autumn, or early in ſpring, will root well in one ſummer; chuſe, for this occaſion, ſome robuſt, ſhort-jointed ſhoots, of well-ripened firm growth, which cut off at their full length; or alſo, where convenient, may take off an inch or two of the former years wood, adhering at the bottom of the cutting; though this is not abſolutely neceſſary, only as it may readily occur; preſerving each cutting intire at top; ſo plant them in a ſhady border, inſerted ſix or eight inches into the ground, in rows a foot or eighteen inches diſtance: they will be rooted by the end of the following autumn, when, or in ſpring, they may be tranſplanted either into a nurſery, at wider diſtances, to train of proper growth, for walls, eſpaliers, or ſtandards, as obſerved of the others, or planted at once, for wall-trees, where they are to remain.

In the above different methods of raiſing Fig trees, train them for the purpoſes intended, either principally for wall-trees, in which they may be topped in the ſpring to make them emit lateral ſhoots, to form a proper ſpread from the beginning, to furniſh a regular expanſion of branches from the bottom upward, as before intimated; and after being thus formed in the firſt ſetting off, all the after-ſhoots that are well-placed may be continued intire, cutting off fore-rights, and others as are ill-placed, for training, and train in the regular ſupply of branches horizontally to the wall at their full length: the ſame method ſhould alſo be obſerved in thoſe trees deſigned for eſpaliers; but for ſtandards, run up the main ſhoot for a ſtem, two or three, to four, five or ſix feet, cutting away all laterals till advanced to thoſe heights, then permitted to branch out at top to form the head, branching out all round; and of which prune caſual irregular-growing, or croſs-placed branches, and permit the other general branches to advance in their natural growth.

The planting of Fig trees, either for walls, eſpaliers, or ſtandards, ſhould generally be performed while they are of moderately young growth, of three or four, to five or ſix feet extent, or but little more, as theſe trees do not, like ſeveral others of the fruit-tree kind, ſucceed well when tranſplanted of any conſiderable large ſize; or where finally planted, when young, immediately in ſuckers, or rooted layers and cuttings of one or two years old, they commonly ſooner eſtabliſh their roots more effectually, and make proſperous trees.

To plant them for wall-trees, allot ſouth walls, as before obſerved, for the principal ſupply; and ſome may be planted on eaſt and weſt walls, or alſo in eſpaliers; and, in all of which, planted at fifteen or eighteen, to twenty feet diſtance; or if planted twenty, at leaſt, aſunder, their extending branches will compleatly fill that ſpace, which, according as they advance, arrange horizontally to the wall and eſpalier, five, ſix, or eight inches aſunder, increaſing the number of branches annually and trained in at the above diſtances, one above another, till they cover the wall, &c. in a regular expanſion, generally extending the ſhoots and branches at their whole length; that is, not to ſhorten the ends of the ſhoots, for the reaſons before explained.

For ſtandard Figs, ſome trees may be planted in a warm ſituation, at twenty or thirty feet diſtance, and the heads permitted to branch out all round nearly in their natural order, except, occaſionally, to prune out any crouding or ill-growing branches; and when the tops of the ſhoots, or others, are wholly killed by the rigours of froſt, prune them in the ſpring, down to the live wood.

The wall and eſpalier Fig trees will require a ſummer and winter pruning and training every year, to continue them in eligible regularity, and abundantly fruitful.

The ſummer-pruning and dreſſing of Fig trees conſiſts of giving a regulation in the young ſhoots of the ſame year, in cutting out the irregular and ſuper-abundant, and nailing in the requiſite ſupply of the proper and well-placed ſhoots, both for increaſe of branches, where neceſſary, and for ſucceſſion bearers the year following; and this operation may be commenced in June or July at fartheſt, when the year's ſhoots will be conſiderably advanced; obſerving of which, at this time, to diſplace principally only the fore-rights, advancing from the front of branches, with others as are remarkably ill-placed for training; and being careful now to ſelect and retain an abundant ſupply of all the ſide-ſhoots and terminals at the end of the branches, with all other regular-placed ſhoots that can be poſſibly trained to the wall with tolerable regularity,

regularity, in order to have plenty to chuſe from in the principal winter pruning, both for increaſe of wood, where wanted, and very abundantly for next year's bearers, in all parts of the trees; cutting out cloſe all the ill-placed productions; and let the ſupply of retained ſhoots be nailed in cloſe and regular to the wall, all at their full length, never ſhortened, neither in ſummer or winter-pruning, in theſe trees, for the reaſons before given; or in caſual vacant ſpaces, where additional ſupplies of wood is neceſſary, may pinch or prune the tops of contiguous ſhoots of the year, early in June, to a few eyes or buds, to obtain laterals the ſame ſeaſon to furniſh the vacancy; but, except in this particular, continue the general ſhoots intire, and according as they extend in their ſummer's growth, nail them along regular, and keep the whole trained cloſe, to admit the beneficial influence of the ſun, air, &c. to promote the growth of the preſent fruit, to ripen in proper ſeaſon with a rich flavour.

The maturity of the fruit is principally in Auguſt and September, when having acquired full ſize, they change from green to their reſpective colours of white, blue, purple, black, &c. become ſoft, the ſkin, or outer cover, thin, and looſe at the end next the ſtalk; and at which tokens of mature ripeneſs they ſhould be gathered while in good perfection.

In autumn, when the fruit is all gathered, and the leaves of the trees are fallen, in October or November, it will generally be obſerved, that many green fruit, quarter or half grown, remain on the branches, which being the after production in the ſhoots of the year, and which never attain perfection in this country, ſhould be pulled off, and then all the projecting ſhoots ſhould be nailed up cloſe to the wall, that they may remain more ſecure from being injured by ſevere froſt, to have a proper abundance, in ſound condition, to chuſe from in winter-pruning, to train in for next year's bearers; or in rigorous froſts, if ſome principal trees are either defended with large thick mats, or the branches un-nailed from the wall, faſtened down low to ſtakes, and covered thick with ſtraw litter, it will more effectually protect the ſhoots; but in mild weather remove all the covering.

The winter-pruning of Figs compriſes a general regulation, both in the young wood and older branches; and which operation may be proceeded in either in autumn, after the decay of the leaves, or deferred till ſpring, the latter of which is rather moſt adviſeable, on account, that as the ſhoots, in their peculiar ſucculent nature, are liable, in ſevere winters, to be many of them killed, or greatly damaged, by the froſt; and that if the trees are pruned in autumn, or beginning of winter, cutting out the ſuperabundant, and leaving only what are neceſſary to furniſh the tree in regular order for bearers, and rigorous froſts ſucceed the operation, and kill or injure moſt of the retained ſhoots, there is no reſource for more that year, to make good the deficiency; but by leaving the whole till the end of winter, or early part of ſpring, February, or beginning of March, there is greater chance, out of the whole, to find enough that have eſcaped the depredations of the froſt, for training to the wall in ſufficient ſupply for bearing the fruit the enſuing year in full crops.

Thus, agreeable to theſe intimations, proceeding to the operation of winter-pruning, and in which obſerve, that having adviſed in ſummer to lay in abundant ſupplies of young wood to have plenty to chuſe from in this pruning, theſe will now probably require thinning more or leſs, cutting out the worſt or moſt unpromiſing, leaving a ſufficiency of the beſt in all parts; and at the ſame time to prune out part of the old bearers and naked branches to make room for the ſucceſſive bearing wood, as explained below in the general particulars.

Obſerve, previous to this pruning, it is proper to un-nail all the young ſhoots, and moſt of the ſmaller branches; then, proceeding to the buſineſs, be careful to ſelect, for bearing, and occaſional ſupplies of wood, the moſt robuſt, ſhort-jointed, firm ſhoots, of moderate length, and that are beſt placed on the ſides and at the termination of the mother branches, to be left in all parts from the bottom to the top, and utmoſt extent of the tree, for training in, ſix or eight inches aſunder; and from which prune away the ſuperfluous, with all weak and improper ſhoots, fore-right and others ill-placed, cutting them cloſe to whence they proceed or originate, together with part of the former bearers, to admit of proper room for the ſucceſſion ſupply, as above obſerved; either ſome cut clean out to their origin, or others pruned down to ſome eligible young ſhoot ſituated thereon, as it may ſeem proper, according to circumſtances in different parts of the tree; likewiſe caſual, long, naked, old branches, extended a conſiderable length, and not furniſhed with lateral young wood, or that the ſaid wood is ſituated principally only at the extremity, ſhould be retrenched, or cut down either to the bottom, or to ſome convenient lower ſhoot or young branch it may ſupport, this then terminating the reduced old branch; and in the general pruning, always contrive every mother branch to terminate in a young ſhoot; either naturally ſituated at the end, or where any particular branch is extended conſiderably, it may be pruned down to an eligible ſhoot to remain for a leader, continuing all the retained ſhoots intire, and to be trained at their whole length to the wall.

As ſoon as one tree is pruned, nail the whole regularly to the wall, arranging the ſhoots and branches horizontally, ſix or eight inches diſtance, extended ſtraight, and equally on both ſides of the tree.

Where

Where any are trained in eſpaliers, they ſhould be managed as directed above for the wall Figs, in regard to the ſummer and winter-pruning, &c.

Early Figs are obtained by having trees planted in forcing-houſes, or hot-walls, &c. and forced by means of fire-heat, commencing in January or beginning of February, and continued every night and cold days all the ſpring months, till the beginning or middle of May; thereby forwards the trees in fruiting, to produce ripe fruit in June and July, and ſometimes will furniſh a ſecond crop ripening in September.

They may be forced along either with other choice fruit-trees, as peaches, nectarines, vines, &c. or in a ſeparate or diſtinct forcing-houſe or hot-wall, &c. as may be convenient.

The trees for this purpoſe ſhould be ſuch as are trained principally in the wall-tree manner, or ſome occaſionally in ſmall ſtandards: they are planted in the borders of the forcing apartments, either in young plants, or trained trees, obtained at the nurſeries, to commence bearing as ſoon as poſſible, and may ſometimes be procured in pots, for tranſplanting, with balls of earth to their roots, or ſome to continue in the pots for forcing; or the trees may be removed ſucceſsfully from the full ground: they ſhould be planted in the forcing places principally in autumn, about October or November, placed ſome in the borders towards the back wall, and the branches trained to a light trellis-work of poſts and rails; the forcing them by fire may be commenced the latter end of January, or beginning or middle of February; but the glaſſes may be put on cloſe a month or more before, to protect the ſhoots from froſt, and prepare the trees for forcing; in which make moderate fires in the furnace of the flues every evening, and ſupported till nine or ten o'clock to heat the flues ſufficiently, to warm the internal air till morning, when alſo make a moderate fire, and in very cold weather may be continued all day; and when the trees begin to bud, admit air, in mild, open weather, in the warmeſt time of the day, eſpecially when ſunny; and as the warm ſeaſon advances, encreaſe the portion of air, by drawing open ſome of the top or front glaſſes two or three to five or ſix inches, ſhut cloſe when cold; likewiſe give occaſional waterings to the borders, and over the branches of the trees; ſo continuing the aſſiſtance of fire-heat, freſh air, water, &c. till May, the Figs will ſet in tolerable abundance, ſwell, and begin to ripen in June or July.

Or ſometimes the trees are forced by means of bark-bed heat, having a long capacious pit within the forcing-houſe, in which is made the bark-bed, in January or beginning of February, to continue in conſtant heat day and night; or the forcing is ſometimes effected by bark-bed and fire heat together, making the fires only principally of nights or cold mornings.

GAULTHERIA—(GAULTHERIA)

Claſs and Order.

Decandria Monogynia,
Ten Males, One Female;

Or Flowers (Hermaphrodite) having ten Stamina or Males, and one Piſtillum or Female.

THIS Genus, GAULTHERIA, furniſhes but one ſpecies, a low, trailing, under-ſhrubby ever-green, having ovate leaves, and ſmall greeniſh flowers, with a double calyx, and a monopetalous five-parted corolla, containing ten ſtamina, and one piſtillum, or ſtyle, ſucceeded by a pentangular capſule, with many ſeeds, by which the plant is propagated, and by layers and cuttings.

One Species, viz.

GAULTHERIA *procumbens*, Procumbent or Trailing Gaultheria.

A ſmall, trailing under-ſhrub, of two or three feet growth—the leaves (*ſmall*) ovate.—Native of Canada. (*Sandy, or any common ſoil.*)

This ſmall ſhrub is admitted in ſhrubberies for variety and ornament, may be obtained at the nurſeries, and planted in autumn or ſpring; and is propagated by ſeed, ſowed in March or April; and the plants of one or two ſummers growth, tranſplanted in nurſery-rows, to acquire ſtrength for the ſhrubbery; likewiſe by layers and cuttings of the trailing ſhoots, in autumn or ſpring, will be rooted in one ſummer.

GENISTA, Dwarf, or JOINTED BROOM.

Claſs and Order.

Diadelphia Decandria,
Two Brotherhoods, Ten Males;

Or Flowers (Hermaphrodite) having the Stamina or Males diſpoſed in two Sets, and in each Flower ten Stamina.

THE *Geniſta* Family compriſe eight or ten hardy ſpecies of ſmall deciduous flowering-ſhrubs, very floriferous and ornamental for adorning the ſhrubbery; are of moderate, or ſmall, and ſlender growth, two or three to four or five feet; garniſhed in ſummer with ſmall ovate-lanceolate, ſpear-ſhape, linear, and ternate leaves in the different ſpecies, and many papilionaceous yellow flowers, ſingly, and in bunches at the ſides and ends of the branches; having monophyllous, or one-leaved, two-lipped calyxes, a corolla of four unequal petals, conſiſting of an oval reflexed vexillum, or ſtandard, two ſhort wings, and a long

a long carina, or keel, and with ten ſtamina in two ſets, or nine joined; the other ſeparate, and one piſtillum, ſucceeded by roundiſh, bilvalve, leguminous pods, containing kidney-ſhaped ſeeds, ripe in autumn, and by which the ſhrubs are generally propagated, ſowed in autumn or ſpring.

Principal Characters.—Flowers hermaphrodite; having a monophyllous, or one-leaved, tubulous, bilabiated cup, with the upper lip two, and the under three-parted; corolla or flower papilionaceous, compoſed of an oval, acute, reflexed ſtandard, two ſhorter wings looſe, a long, erect carina, or keel, the top indented; ten ſtamina in two ſets, or nine joined, one ſeparate, crowned with ſingle anthera; an oblong germen, ſupporting a riſing ſtyle, terminated by an acute, twiſted ſtigma; and the germen grows a roundiſh, ſwelling pod, two-valved, with one cell, containing kidney-ſhaped ſeeds.

The hardy ſhrubby GENISTAS are,

1. GENISTA *ſagittalis*, Arrowed, Dwarf, Jointed Broom.

A ſmall, under-ſhrubby, herbaceous-like plant—the branches two-edged jointed, ſpreading on the ground; leaves ovate-lanceolate; cloſe ſpikes of yellow flowers at the ends of the branches; June and July.—Native of Germany and France, in ſandy ſterile ground.

2. GENISTA *tinctoria*, Tinctorous, or Dyers Geniſta, or Common Dyers Broom.

A low ſhrub, three feet high—the branches roundiſh, ſtriated, or channelled, erect; and ſmall, lanceolate, or ſpear-ſhape, ſmooth leaves, with terminal, looſe ſpikes of ſmall yellow flowers; June, July.—Native of England and Germany.

Varieties.—Broad-leaved Dyers Broom.
Narrow-leaved Dyers Broom.

The branches of this ſpecies being uſed in dying yellow, derives the name Dyers Broom.

3. GENISTA *florida*, Florid, Spaniſh Dyers Broom.

A ſmall ſhrub, three feet high—the branches ſtriated, or channelled—leaves (*ſmall*) ſpear-ſhape, hoary-ſilky; flower-racems, one-ranked, with the flowers yellow; June and July.—Native of Spain.

4. GENISTA *tridentata*, Tridented-leaved Geniſta, or Portugal Dyers Broom.

A ſmall, low under-ſhrub, one to two or three feet;—the branches three-ſided, ſomewhat jointed; leaves (*ſmall*) tricuſpidate, or three-piked, and looſe ſpikes of yellow flowers at the ends of the branches; June and July.—Native of Portugal.

5. GENISTA *anglica*, Engliſh Dwarf Broom, or Petty-Whin (Little Furze.)

A low, ſhrubby plant, two or three feet high—the ſtems armed with ſpines, ſingly, flower-branches thornleſs; leaves (*ſmall*) ſpear-ſhape; with yellow flowers in terminal cluſters; April and May.—Native of England, &c. on heaths and commons.

6. GENISTA *candicans*, Upright Montpelier Broom.

A moderate ſhrub, three to four or five feet high—ſtem erect; the leaves (*ſmall*) ternate, or by threes, hairy underneath; peduncles or flower-ſtalks lateral, moſtly five-flowered and leafy, with yellow flowers, ſucceeded by hairy pods.—Native of Montpelier and Italy.

7. GENISTA *germanica*, German Dwarf Broom.

A ſmall ſhrub, three feet high—the ſtem thorny, with the ſpines compound-branching; flower-branches thornleſs, and leaves (*ſmall*) ſpear-ſhape, with ſhort terminal ſpikes of yellow flowers, in June.—Native of Germany.

8. GENISTA *pilosa*, Hairy Dwarf Broom.

A ſmall, decumbent, branchy ſhrub, two or three feet high—the ſtems decumbent, or declining to the ground, and ſet with tubercles; leaves (*ſmall*) ſpear-ſhape, obtuſe; and terminal looſe ſpikes of ſmall yellow flowers; June, July.—Native of Hungary, Germany, and Narbonne, in France.

9. GENISTA *purgans*, Purgant, Dwarf Montpelier Broom.

A ſmall, low ſhrub, two feet high—the ſtem and branches armed with terminal thorns, branches round, ſtriate, or channelled; and ſmall, ſpear-ſhape, down leaves; yellow flowers.—Native of Montpelier.

10. GENISTA *hiſpanica*, Spaniſh, linear-leaved Geniſta.

A moderate ſhrub, four or five feet high—the branches armed with thorns, with the thorns double-compound, or doubly-branching; flower-branches thornleſs; leaves (*ſmall*) linear and hairy; and terminal

minal clusters of yellow flowers; May, June, &c.—Native of Spain and Narbonne.

11. GENISTA *italica*, Italian Genista, or Lucca Broom.

All these shrubby Genistas are eligible, as flowering-shrubs, for adorning shrubbery compartments of the pleasure-ground, and are hardy to grow in most situations, in dry, or almost any common soil; proper to assemble with other shrubs of similar, moderate, and small growth, and will effect an agreeable diversity and ornamental appearance in their flowering season, May, June, July, &c. and all or most of the species may be obtained at the nurseries for planting, especially the first six or seven sorts; and planted in autumn or spring, or any time in mild open weather, from October to March or April; placing them more or less forward, according to their different sizes, and in diversified order.

They are propagated principally by seed, sowed in October or November, or in the spring months, February, March, or beginning of April, on beds of light earth, either in drills or broad-cast, and earthed in an inch deep; and the young seedling-plants, when of one or two summers growth, transplanted into nursery-rows in autumn or spring, to train for the shrubbery, permitting them to grow with branchy heads, one to two or three feet, for final transplanting.

GLEDITSIA, THREE-THORNED ACACIA.

Class and Order.

Polygamia Dioecia,
Many Marriages, Two Habitations;

Or Flowers of different Sexes, as Males, Hermaphrodite, and Females, on two distinct Plants.

THE Family of *Gleditsia* consists of deciduous ornamental trees of the pinnated-leaved tribe, most desireable to introduce in all pleasureable plantations; are of moderately-large growth, with spreading branches, in some armed with strong thorns, and all adorned, in summer, with beautiful doubly-pinnated or winged leaves, composed each of many pair of pinnæ, or distinct lobes, arranged along both sides of the pedicles or main foot-stalks; and long, cylindric, and loose amentums, of small, greenish, and purple colour, tripetalous, and five-petalled, of three different sexes, as males, hermaphrodite, and females, on two distinct trees, furnished with three and five-parted calyxes, a small corolla, of three to five roundish petals, six stamina in the males and hermaphrodite flowers, and in the latter and the females a broad germen, supporting one stylus; and the germen grows a large, flat, legumenous pericarpium, containing round hard seeds; and by which the trees are principally raised, by sowing them in the spring.

Generic Characters.—Male, hermaphrodite, and female flowers, on two separate trees; the males and hermaphrodite on one, and the females on the other; the males and hermaphrodite flowers produced in long, cylindric, compact amentums, having small three-leaved cups, three roundish-spreading petals, six small stamina, longer than the petals, crowned with oblong compressed anthera; the hermaphrodite flowers being in the end of the same catkin, have also cups, petals, and stamina, like the males, and with a germen and stylus; the female flowers, on a separate tree, in loose catkins, have five-leaved cups, five oblong petals, a broad germen, longer than the petals, having a reflexed style, terminated by a thick stigma; and the germen, in the hermaphrodite and female flowers, grows a large flat pod, of several transverse partitions, each containing one roundish hard seed, surrounded by a soft pulp.

The Species and Varieties of GLEDITSIA are,

1. GLEDITSIA *triacanthos*, Triple or Three-thorned Acacia.

A large deciduous tree, growing thirty or forty feet high—armed with long, strong, triple thorns at the axillas or angles of the stem and branches; the leaves (*long, shining*) pinnated or doubly-pinnated, of many pair of small pinnæ or lobes; greenish flowers, and very long seed-pods.—Native of Virginia and other parts of North America. (*Loamy, or any common soil.*)

Variety. — (GLEDITSIA *triacanthos monosperma*) Monospermous or Single-seeded Gleditsia, or Water Acacia.
A middling tree, growing thirty feet high—armed with long triple thorns; the leaves (*smaller*) pinnated, of many pair of small lobes; greenish flowers, and oval pods, having generally but one seed.—Native of Carolina and North America. (*Loamy, or any soil.*)

2. GLEDITSIA *inermis*, Unarmed, or Thornless Eastern Acacia.

A moderate deciduous tree, growing twenty feet high—the stem and branches without thorns; leaves (*long, splendent*) doubly-pinnated, of many pair of small folioles; purple flowers.—Native of the East. (*Any common soil.*)

These beautiful deciduous trees merit admittance in all principal decorative plantations, in pleasure-grounds, parks,

parks, &c. and large ſhrubbery diſtricts, aſſembled with other ornamental trees and large ſhrubs of the deciduous tribe, in which they will diſplay a conſpicuouſly-fine variety, eſpecially in ſummer, when cloathed with their abundant and moſt curious bi-pinnated leaves, of ſome conſiderable length in their compound order, in numerous lobes; and they are hardy to grow in moſt ſituations, delight in a deep, loamy ſoil, but will alſo ſucceed in any tolerably good ground, or almoſt any common ſoil, where they may be required for planting.

They may be procured at moſt of the public nurſeries for planting, which may be effected in autumn, at the decay of the leaves, or any time during the winter, in mild weather, or in the ſpring months, till the middle of April.

The trees are propagated principally by ſeed, which, in the firſt and ſecond ſorts particularly, is commonly obtained from America, &c. by the ſeedſmen, in the ſpring; and in which ſeaſon, about March or April, they ſhould be ſowed in a bed of light earth, half an inch to an inch deep, giving water in dry weather; or ſome may be ſowed in pots, and plunged in a moderate hot-bed to have them come up ſooner, and the plants forwarder in growth; in which expoſe the plants, by degrees, to the full air, giving frequent waterings in dry weather, in ſummer; and in winter, thoſe in pots may have ſhelter of a frame, &c. from ſevere froſt; and next ſpring, in March or April, the whole, both in the beds and pots, ſhould be tranſplanted into nurſery-rows, a foot aſunder, by ſix or eight inches in the rows; and when of one or two years advanced growth, may be tranſplanted at wider diſtances, training them with clean ſingle ſtems, by pruning up lateral ſhoots by degrees, permitting them to run with full heads, to a proper ſize for final tranſplanting.

When the trees raiſed as above, either in private or public nurſeries, are grown three or four, to five or ſix feet high, they are of eligible ſizes for tranſplanting in the different intended plantations, in pleaſure-grounds, ſhrubberies, &c.

GLYCINE (Liquorice Vetch) KIDNEY-BEAN TREE.

Claſs and Order.

Diadelphia Decandria,
Two Brotherhoods, Ten Males;

Or the Flowers (Hermaphrodite) having the Stamina, or Males, in two Sets, and in each Flower ten Males, or Stamina.

THIS Genus of *Glycine* furniſhes one ſhrubby, climbing plant, to admit as a climber in ſhrubbery compartments; grows with volubilate or twining-climbing ſtalks, aſcending many feet high; garniſhed, in ſummer, with pinnated or winged leaves, and papilionaceous purple flowers in cluſters, having bilabiated cups, a corolla, with hearted ſtandard, ovate wings, and bent carina, ten diadelphous ſtamina, one ſtylus; and ſucceeded by oblong legumenous pods, containing kidney-ſhape ſeeds, by which the plants may be raiſed, alſo by layers.

One Species, viz.

GLYCINE *frutescens*, Shrubby Climbing Glycine, or Carolina Kidney-Bean Tree.

A volubilate climbing ſhrub, mounting, by ſupport, fifteen or twenty feet high—the ſtems twining-climbing, and perennial; leaves (*large, light-green*) compleat-pinnated or winged, of many pair of lobes, terminated by an end one; bunches of purple flowers, and long cylindric pods, ſomewhat reſembling the Scarlet Kidney-Bean.—Native of Carolina. (*Warm ſituation.*)

This curious climber is proper to admit in ſhrubberies, and other pleaſurable plantations, to increaſe the variety in its climbing growth, in which it will twine round trees, poles, or any ſimilar ſupport, to a conſiderable height, and effect a diſtinguiſhable diverſity and ornamental appearance in its pinnated foliage, papilionaceous flowers, and ſingular ſeed-pods: may be obtained at moſt of the nurſeries, for planting in autumn or ſpring; and is propagated by layers of the branches in the ſame ſeaſons, which will be rooted for planting off in the following autumn, &c. is likewiſe propagated by ſeed from America; ſowed in the ſpring; and in both methods, the young plants tranſplanted in a nurſery for a year or two, or more, then planted where they are to remain.

They ſhould be planted in a warm, dry ſituation, and have ſupport of poles, or placed to twine round trees, &c.

GUILANDINA, BONDUC, or NICKAR TREE.

Claſs and Order.

Decandria Monogynia,
Ten Males, One Female;

Or Flowers (Hermaphrodite) having ten Stamina, or Males, and one Piſtillum, or Female.

THIS Genus affords but one hardy ſpecies, a moderate deciduous tree, for ornamental plantations; garniſhed, in ſummer, with beautiful large doubly-winged leaves; flowers having bell-ſhape cups five-parted at the brim; a corolla of five ſpear-ſhape equal petals, inſerted into the calyx; ten awl-ſhape ſtamina, alternately ſhorter, crowned by obtuſe anthera; an oblong germen, with a ſlender ſtylus, terminated by a ſingle ſtigma; and the germen grows a rhomboid, ſwelling, compreſſed pod, including roundiſh compreſſed ſeeds;

by which, obtained from America, the tree is propagated, alſo by layers of the branches, and cuttings of roots.

The hardy GUILANDINA is,

GUILANDINA *dioica*, Dioicous-flowered Guilandina, or Canada Bonduc.

A middling deciduous tree, growing twenty or thirty feet high—the ſtem and branches without thorns; leaves (*large, dark-green*) doubly-pinnated or winged, the baſe and apex ſingly-pinnated; compoſed of many ovate alternate folioles.—Native of Canada, in North America. (*Light, dry, or any common ſoil.*)

This is a deſirable ornamental tree to aſſiſt in compoſing principal plantations in pleaſure-grounds, and in beautifying ſhrubberies, in aſſemblage with other deciduous kinds; and in all of which ſhould occupy a conſpicuous ſituation: is cultivated in moſt of the nurſeries, where it may be procured for planting; and is propagated by layers of the young branches, ſometimes ſuckers from the bottom, and by cuttings of the upper roots; as alſo by cutting ſome of the remaining roots through in ſpring, to promote their ſending up ſhoots, and then may be tranſplanted from the main roots in autumn; and is alſo raiſed by ſeed, ſowed in the ſpring months, and the plants tranſplanted in the nurſery; and when the young trees are raiſed in the different methods, three or four, to five or ſix feet, they are proper for the intended plantations.

HALESIA—(HALESIA.)

Claſs and Order.

Dodecandria Monogynia,
Twelve Males, One Female;

Or Plants with Hermaphrodite Flowers, having twelve Stamina and one Piſtillum.

THE HALESIA furniſhes two ſpecies of large deciduous flowering-ſhrubs, eligible to aſſemble in ſhrubberies, for ornament and variety: are of tall, upright growth, adorned in ſummer with lanceolate and ovate ſimple leaves; and campanulate or bell-ſhape white flowers, in cluſters, having each twelve ſtamina and one piſtillum, ſucceeded by oblong quadrangular and biangular nuts, containing ſingle ſeeds; and by which the ſhrubs are propagated, ſowed in the ſpring; likewiſe by layers.

The Species of HALESIA are,

1. HALESIA *tetraptera*, Four-winged or Quadrangular-fruited Haleſia, or Silver-Bell Tree.

A large deciduous ſhrub, growing ten, to twelve or fifteen feet high—the leaves (*largiſh*) ſpear-ſhape-ovate, with the petioles or foot-ſtalks glandulous; and white bell-ſhape flowers, ſucceeded by thick, quadrangled, or four-winged fruit.—Native of Carolina. (*Any common ſoil.*)

2. HALESIA *diptera*, Two-winged-fruited Haleſia.

A large deciduous ſhrub, ten or twelve feet high—the leaves (*larger*) ovate, with the foot-ſtalks ſmooth, and bell-ſhape flowers, ſucceeded by pointed two-winged fruit.—Native of Carolina. (*Any common ſoil.*)

Theſe two curious flowering-ſhrubs are cultivated in pleaſure-grounds, to adorn ſhrubberies and other plantations; and for which they may be had at the nurſeries, for planting in the proper ſeaſons; and are raiſed by ſeeds and layers: the ſeeds are generally obtained from America, by the ſeedſmen; ſhould be ſowed in the ſpring, in a ſheltered bed, or border of light earth; or ſome ſowed in pots, in order for placing in a warm ſituation till ſummer, then removed to an eaſt or ſhady border, and in winter placed under ſhelter from froſt; and the young ſeedling-plants tranſplanted in a nurſery, in the ſpring; or may likewiſe pot ſome ſingly, for moving, to a place of ſhelter from froſt, the firſt winter or two, then planted in the full ground: layers of the young wood, in autumn or ſpring, will root in one year for planting off from the mother plants.

When the ſhrubs, raiſed as above, are from two or three, to four or five feet growth, they are proper for the ſhrubbery, &c.

HAMAMELIS, WITCH HAZEL.

Claſs and Order.

Tetrandria Digynia,
Four Males, Two Females;

Or Plants with Hermaphrodite Flowers, having four Stamina, or Males, and one Piſtillum, or Female.

THERE is but one ſpecies, a ſmall deciduous ſhrub, cultivated in ſhrubberies for variety; is of ſlender, branchy growth, garniſhed with oval rough leaves, reſembling thoſe of the Common Hazel; and ſmall four-petalous flowers, in cluſters, which have a three or four-leaved involucrum, and to each flower, a double ſix-leaved cup; the corolla, or flower, four long, narrow petals, containing four ſhort ſtamina, with horned anthera; an oval germen, ſupporting two ſtyles, crowned with headed ſtigmas; and the germen becomes an oval hard nut in the permanent calyx, by which the plant may be raiſed, and by layers of the young branches.

One

One Species, viz.

HAMAMELIS *virginiana*, Virginian Hazel-leaved Hamamelis, or Witch Hazel.

A moderate deciduous ſhrub, three or four feet high—the leaves (*middling*) ovate-roundiſh, indented on the edges, and placed alternate; and ſmall cluſters of flowers late in autumn.—Native of Virginia. (*Moiſt, or any ſoil.*)

This ſhrub is introduced in ſhrubberies, for variety; and for which occaſion, may be obtained at the nurſeries, and planted in autumn, winter, or ſpring; and is propagated by ſeeds and layers; the ſeeds commonly obtained from America, with others, in the ſpring, when they may be ſowed in beds or pots of common earth; they will probably not come up till the ſecond ſpring, and in the interim, thoſe in pots may have ſhelter in winter; the plants coming up in the ſpring aforeſaid, may be tranſplanted in autumn or ſpring following, in the nurſery, and in two or three years, will be of proper growth for the ſhrubbery: layers of the young branches will be rooted in one year for tranſplanting.

HEDERA, IVY TREE.

Claſs and Order.

Pentandria Monogynia,
Five Males, One Female;

Or Plants with Hermaphrodite Flowers, having five Stamina, or Males, and one Piſtillum, or Female.

THE HEDERA furniſhes two noted ſpecies of ſhrubby, climbing plants; one an ever-green, the other deciduous, remarkable for their lofty, climbing growth, aſcending, by their rooting-ſtems, upon walls, buildings, trees, &c. fifty or ſixty feet, or more; garniſhed their whole length with lobated ovate, and five-lobed leaves, in the different ſpecies; and umbellate or corymbus cluſters of ſmall greeniſh flowers, of five petals, having five ſtamina, an oval germen below, ſupporting one ſtylus; and are ſucceeded by cluſters of round berries, containing four or five ſeeds, ripe in autumn and winter; and by which the plants may be raiſed, alſo by cuttings and layers.

Generic Characters.—Flowers in umbellate or corymbus bunches, furniſhed with a many-parted general involucrum, and to the flowers, a five-parted calyx, ſitting on the germen; a corolla or flower, five oblong ſpreading petals, with the points incurved; the ſtamina five awl-ſhaped filaments, crowned by proſtrate anthera, two-parted at the baſe; a roundiſh germen under the flower, having a ſhort ſtyle, terminated by a ſingle ſtigma; and the germen grows a globular, unilocular berry, containing four or five large gibbous ſeeds.

The Species of HEDERA are,

1. HEDERA *Helix*—(Helix) or Common Ever-green Ivy.

A moſt lofty-climbing, ſhrubby ever-green, mounting, by its rooting-ſtems, forty or fifty to ſixty feet high, or more—the leaves (*middling, dark-green*) ovate and lobated; cluſters of greeniſh flowers in autumn. —Native of England, and moſt parts of Europe, in woods and hedges. (*Any ſoil and ſituation.*)

Varieties.—Common green Ivy.
Silver-ſtriped-leaved Ivy.
Gold-ſtriped-leaved Ivy.
Black-berried Ivy.
Yellow-berried Poet's Ivy.
Dwarf-creeping Ivy.

2. HEDERA *quinquefolia*, Five-leaved deciduous Ivy, or Virginia Creeper.

A moſt lofty-climbing, deciduous ſhrubby plant, aſcending, by its rooting-ſtems, thirty to forty or fifty feet high, or more—the leaves (*middling, light-green*) compoſed of five oval, ſawed lobes, expanding in a fingered manner.—Native of Virginia, Canada, and other parts of America. (*Any ſoil and ſituation.*)

Theſe two ſhrubby climbers are moſt hardy and lofty growers, in their climbing nature, by their rooting ſtems, emitting eirrhoſe fibres into walls, bark of trees, &c. attaching themſelves cloſe thereto, and mount to the tops; ſucceed in any ſoil, and in cloſe and open expoſures; and are therefore eligible to plant, as climbers, againſt walls, buildings, fences, &c. in partieular parts, where required to have them covered, or for variety; or likewiſe to plant againſt large old trees to aſcend upon their ſtems; or the Ivy to plant, detached, in ſhrubberies, and trained to ſtakes, in upright ſtems and buſhy heads; or, in want of ſupport, will run along the ground, root, ſpread, and cover the ſurface; and the *Hedera quinquefolia*, or Virginia Creeper, is often planted in courts, yards, areas, and in cities and towns, as frequently practiſed in London, to aſcend upon and cover naked walls, in which the ſtem will root, and thereby mount to the tops of the higheſt buildings; and for which occaſion it may be planted in cloſe, or open places, as it will thrive any where, in ſituations where other plants will not proſper.

Plants, of the different ſorts for planting, may be had at the nurſeries, in young growth, and planted in autumn or ſpring.

Or both the ſpecies, and reſpective varieties, may be expeditiouſly raiſed, by cuttings of the rooting young ſhoots and branches, in autumn or ſpring; which being cut off and planted, will moſt freely grow, either planted where they are deſigned to remain, or in a nurſery, for a year or two, or till wanted for the purpoſes intended; they will likewiſe grow freely by layers; and alſo the Common Ivy, furniſhing plenty of ripe ſeed, may be raiſed by ſowing it in a ſhady border, and the ſeedling-plants tranſplanted as above.

When deſigned to plant theſe ſhrubs as climbers, they may be ſet cloſe to walls, pales, buildings, &c. or near the ſtems of large old trees, they will ſhoot, and affix their rooting fibres therein, aſcend in height, and ſpread on every ſide, without any future culture, except to cut out caſual dead wood; or, in particular compartments, the Common Ivy may be planted detached, and trained with an upright ſtem and branchy head; or in ſome places, as in the borders of ſhady walks, &c. be permitted to run on the ground, and cover the ſurface, keeping it trimmed within proper bounds.

HIBISCUS (SYRIAN MALLOW) ALTHÆA FRUTEX, (Shrub Althæa.)

Claſs and Order.

Monadelphia Polyandria,
One Brotherhood, Many Males;

Or Plants with Flowers (Hermaphrodite) having all the Stamina, or Males, united in one Set, and with numerous Stamina in each Flower.

THIS Genus, HIBISCUS, furniſhes one hardy, ſhrubby ſpecies, a large, upright, deciduous, very ornamental flowering-ſhrub, growing with a regular, branchy, buſhy head; adorned in ſummer with wedge-ſhape-lobate leaves, and numerous, large, beautiful flowers, in daily ſucceſſion; having double, many-parted cups, five heart-ſhape petals, many joined ſtamina, and one ſtyle, ſucceeded by capſules, containing kidney-ſhape ſeeds; by which, ſowed in the ſpring, the ſhrub is propagated; alſo by layers and cuttings of the young ſhoots.

Principal Characters.—Calyx of the flower double and permanent, compoſed of an outer ſeries of many narrow leaves, an inner, monophyllous, or one-leaved cup, cut into five acute parts, at the brim; a corolla of five broad heart-ſhape petals, joined at the baſe; many ſtamina joined in a column below, expanding at top, and crowned with kidney-ſhape anthera; a roundiſh germen, ſlender ſtyle, terminated by a round ſtigma; the germen grows a five-valved capſule, of five cells, containing kidney-ſhape ſeeds.

One Species, viz.

HIBISCUS *ſyriaca*, Syrian Shrubby Hibiſcus, commonly called Althæa Frutex.

A deciduous ſhrub, of branchy growth, five to ſix or ſeven feet high—a tree-like ſtem; the leaves (*moderate*) wedge-ſhape-ovate, the upper parts cut-indented, ſometimes three-lobed; and many large flowers at the ſides of the branches, in July or Auguſt, till September.—Native of Syria. (*Light, or any common ſoil.*)

Varieties.—Purple-flowered Althæa, with dark bottoms.
Red and white-flowered, with dark bottoms.
Bright-purple-flowered, with black bottoms.
White-flowered, with purple bottoms.
Yellow-flowered, with dark bottoms.
Variegated-flowered, with dark bottoms.
Silver-ſtriped leaved.
Gold-ſtriped leaved.

This is an admirable fine flowering-ſhrub, to plant for ornamenting ſhrubberies, and other parts of pleaſure and flower-gardens; in which, when in flower, it makes a ſingularly fine appearance, for a month or five weeks, and one of the fineſt ornaments of the ſeaſon; begins flowering, ſometimes the end of July, but principally in Auguſt; the flowers numerous, and continue in abundant ſucceſſion all that month till September; and therefore, this fine ſhrub deſerves a principal ſituation in ſhrubberies, and is adapted to place ſingly on plats, borders, &c.

The different varieties are cultivated, for ſale, at all nurſeries, where they may be obtained in collection, or any particular variety; and planted in autumn, or any time from October or November to March, or beginning of April, or principally in the ſpring months.

They are propagated by ſeeds and layers, or the varieties by grafting upon ſeedling-ſtocks, of any of the ſorts.

To raiſe them from ſeed, ſow it in the ſpring in a bed of light earth, or ſome ſowed in pots, and if plunged in a gentle hot-bed, it will forward the germination of the ſeed, and the plants will come up much ſooner, when they ſhould be expoſed by degrees to the full air; however, they will alſo ſucceed, ſowed in the common ground, or in pots, to move to a ſheltered place in winter, to protect the young plants from froſt; and in ſpring, in March or beginning of April, tranſplant them in nurſery-rows in beds, or ſome planted

planted in pots ſingly: train the plants with a ſingle ſtem below, and a branchy head above; and when two, to three or four feet high, are proper for the ſhrubbery.

Layers of the lower young ſhoots, in autumn or ſpring, will root in one year, for planting off in theſe ſeaſons; and by this method of propagation, any of the varieties are continued permanent in their reſpective differences.

Likewiſe, by grafting or budding upon ſeedling-ſtocks of any of the ſorts, the different varieties, are propagated, and continued the ſame; and ſometimes, for curioſity, different varieties are budded or grafted on branches of the ſame ſtock or ſtem; as the two ſorts of ſtriped-leaved kinds, and the purple and white-flowered, &c.

HIPPOPHAE, SEA-BUCKTHORN.

Claſs and Order.

Dioecia Tetrandria,
Two Habitations, Four Males;

Or Male and Female Flowers, diſtinct on two ſeparate Plants, and the Male Flowers having four Stamina.

THIS Genus compriſes two large, hardy, deciduous ſhrubs, employed in ſhrubberies, and any ornamental plantations, for variety; are garniſhed in ſummer with ſmall, narrow, ſpear-ſhaped, and broader, ovate leaves; and ſmall cluſters of male and female flowers, ſeparate on two diſtinct plants; have no petals, the male flower a one-leaved cup, two-parted, and contain four ſhort ſtamina, with oblong, angular, anthera; female has a one-leaved calyx, oblong, tubulous, bifid at top, contains a roundiſh germen, ſupporting a ſhort ſtyle, crowned by an oblong, thick ſtigma, and the germen becomes a globular, unilocular berry, with one roundiſh ſeed; by which the ſhrubs may be raiſed, but are more commonly propagated by ſuckers and layers.

The Species of HIPPOPHAE are,

1. HIPPOPHAE Rhamnoides—(Rhamnoides) or Baſtard Rhamnus, or Sea-Buckthorn.

A large, deciduous ſhrub, branching irregularly, eight or ten feet high, with a brown, ſilvery bark—the leaves (*narrow*) ſpear-ſhape, hairy underneath; and ſmall cluſters of male and female flowers, ſucceeded, in the latter, by ripe berries in autumn.—Native of England, and other parts of Europe, near the ſea. (*Sandy, or any ſoil.*)

2. HIPPOPHAE *canadenſis*, Canada Sea-Buckthorn.

A large, deciduous ſhrub, growing eight or ten feet high—the leaves (*middling*) ovate, hoary, ſilvery on the under ſide.—Native of Canada. (*Sandy, or any common ſoil.*)

Theſe two deciduous ſhrubs may be admitted in large ſhrubberies, and other plantations in pleaſure grounds, to encreaſe the variety; they may be procured at the nurſeries, for planting, particularly the *Rhamnoides*, or Common Sea-Buckthorn; and both the ſorts may be planted in any ſituation, in autumn or ſpring: may be propagated plentifully by bottom-ſuckers, ariſing from the roots, and tranſplanted in a nurſery for one or two years, or more, till proper for the ſhrubbery, &c. or may likewiſe be raiſed by layers; alſo by ſeed ſowed in autumn or ſpring; and when, by either methods of propagation, the plants are three, to four or five feet high, they are of proper ſize for any intended plantations.

HYDRANGEA—(HYDRANGEA.)

Claſs and Order.

Decandria Digynia,
Ten Males, Two Females;

Or Plants with Hermaphrodite Flowers, having ten Stamina, or Males, and two Piſtillums, or Females.

The *Hydrangea* compriſes but one ſpecies; a low, deciduous under-ſhrub, admitted in ſhrubbery collections for variety; having heart-ſhape leaves, and terminal bunches of white flowers in cymoſe umbels; the calyx of the flowers one-leaved, five-dented; corolla, five roundiſh petals, ten ſtamina, alternately longer, crowned by roundiſh anthera; a roundiſh germen under the flower, ſupporting two ſhort ſtyles, ſtanding diſtant, terminated by obtuſe ſtigmas; and the germen becomes a roundiſh capſule, crowned by the permanent ſtigmas, and filled with ſmall angular ſeeds; ſeldom uſed for ſowing, as this plant propagates plentifully by off-ſet ſuckers, and parting the roots.

One Species, viz.

HYDRANGEA *arboreſcens*, Arboreſcent, or Shrubby Hydrangea.

A ſmall, under-ſhrubby plant, riſing with ſoft ligneous ſtems, two or three to four feet high—the leaves (*large, light-green*) oblong-heart-ſhape, placed oppoſite; and cymoſe bunches of white flowers at the top of the ſtems; July and Auguſt.—Native of Virginia. (*Any common ſoil.*)

This

This ſhrub may be introduced in any ſhrubbery compartments; it will effect a proper variety in its growth, foliage, and flowers: may be planted in autumn or ſpring; and is propagated by off-ſet ſuckers, or dividing the roots and ſtems together, in autumn, or in any of the ſpring months; and planted either where they are to remain, or in a nurſery, for a year or two, then tranſplanted into the ſhrubbery.

HYPERICUM, St. JOHN's WORT.

Claſs and Order.

Polyadelphia Polyandria,
Many Brotherhoods, *Many Males*;

Or Plants with Flowers (Herm.) having many Sets of united Stamina, and many Stamina, or Males, in each Flower.

THE HYPERICUM Family compriſes ſeveral ſpecies of deciduous flowering-ſhrubs and under-ſhrubby plants, for adorning the ſhrubbery, riſing moſtly with ſeveral ſtems; others ſingly, from two or three, to four, five, or ſix feet high; garniſhed, in ſummer, with ſimple leaves, oblong-ſhaped, oval, ſpear, and heart-ſhape in the different ſpecies, moſtly in oppoſite pairs; and the branches terminated by numerous pentapetalous yellow flowers, in cluſters; having five-parted perſiſtent cups, five oval petals; many ſtamina in ſeveral ſets; and one, three, or five ſtyles, ſucceeded by roundiſh capſules, filled with numerous ſeeds; proper for ſowing to propagate the ſpecies, which are alſo raiſed, plentifully, by ſuckers, and dividing or ſlipping the roots.

Generic Characters.—Flowers hermaphrodite; the calyx one-leaved, divided into five oval ſegments, and permanent; corolla or flower, five oblong-oval petals, ſpreading open; numerous ſmall ſtamina, joined below in ſeveral bodies, terminated by ſmall anthera; a roundiſh germen in the centre, ſupporting one, three, or five ſtyles, as long as the ſtamina, crowned by ſingle ſtigmas; and the germen grows a roundiſh capſule, having one, to three, or five cells, according to the number of ſtyles, containing many oblong ſeeds.

The Species of HYPERICUM are,

1. HYPERICUM *hircinum*, Stinking Shrubby St. John's Wort.

A ſmall ſhrubby plant, riſing with ſeveral ſtems, three feet high, branching at each joint—the ſtems ſhrubby, two-edged; leaves *(moderate ſize)* oblong-ovate, by pairs, oppoſite; and terminal cluſters of yellow flowers, with the ſtamina longer than the corolla; and three ſtyles.—Native of Sicily, Spain, Portugal, and Creta. *(Any common ſoil.)*

Varieties.—Common Rank-ſcented Shrubby St. John's Wort.
Inodorous or Scentleſs.
Variegated-leaved.

2. HYPERICUM *Androſæmum*—(Androſæmum) or Common Tutſan or Park Leaves.

A ſmall ſhrubby plant, riſing with a branchy ſtalk, two feet high—the ſtems ſhrubby, two-edged; leaves (*middling*) ovate-heart-ſhape, by pairs, oppoſite; and terminal cluſters of yellow flowers, having three ſtyles, and the pericarpium, or fruit, berried.—Native of England, France, and Italy, in woods, &c. *(Moiſt, or any ſoil.)*

3. HYPERICUM *olympicum*, Olympian, or Eaſtern, St. John's Wort.

A ſmall under-ſhrub, one to two or three feet high, with ſlender ligneous ſtalks—the ſtems ſhrubby; leaves *(ſmall)* ſpear-ſhape, by pairs, oppoſite; and largiſh bright-yellow flowers, terminating the ſtalks in ſmall cluſters, having acute cups, ſtamina ſhorter than the petals, and three ſtyles.—Native of Mount Olympus and the Pyrenees. *(Dry, or any common ſoil, and warm ſituation.)*

4. HYPERICUM *canarienſe*, Canary St. John's Wort.

A middling ſhrub, riſing with upright branchy ſtem, ſix or ſeven feet high—the ſtem ſhrubby; leaves (*middling*) oblong, by pairs; and terminal cluſters of many yellow flowers, having obtuſe cups, ſtamina longer than the petals, and three ſtyles.—Native of the Canaries. *(Dry, or any common ſoil.)*

5. HYPERICUM *monogynum*, Monogynous, or One-ſtyled China Hypericum.

A ſmall ſhrubby plant, two feet high—the ſtem ſhrubby, purpliſh; leaves *(ſmall)* oblong, narrow; ſmall terminal cluſters of bright yellow flowers, having a coloured calyx, the ſtamin longer than the corolla; and the flowers have but one ſtyle.—Native of China. *(Warm, dry ſituation; and ſome potted, to place under ſhelter in winter.)*

All theſe ſpecies of St. John's Wort are deſirable flowering-ſhrubs and under-ſhrubby plants, for ornamenting the ſhrubbery; they being all very floriferous, producing numerous yellow flowers, terminating the branches in cluſters, in May, June, July, or great part of ſummer, in the different ſpecies, and appear very conſpicuous; though, in ſome of the ſorts, the flower impart a ſtrong, rank, odour, particularly the *Hypericum hircinum* and Canary St. John's Wort; but as the whole make a good appearance during the ſeaſon;

of

of their flowering, they deserve admittance in principal and general shrubbery compartments.

They are hardy to succeed in any common soil and situation, except the *Hypericum monogynum*, which should have a warm, sheltered situation; and some kept in pots, to move, under protection of a frame or greenhouse, in winter; but all the others may be planted any where in the full ground; or generally allot the Olympian St. John's Wort a place in some dry, warm compartment; or likewise, keep some of that sort in pots.

All the sorts may be obtained at the public nurseries, for planting in autumn or spring; or may be raised, plentifully, by different methods of propagation, as seed, suckers, off-sets of roots, &c.

The propagation, or methods of raising these plants, is effected principally by suckers, from the bottom slips of, and dividing the roots; likewise, occasionally, by cuttings, and seeds; suckers are produced from the roots in most of the sorts, but more abundantly in the first, and Canary Hypericum, and in which, and other sorts, where suckers occur, they may be taken up with roots in autumn and spring, and planted either at once where they are to remain, or in a nursery, for a year or two, ready for the shrubbery; or any of the smaller under-shrubby kinds, and others, not furnishing separate sucker-shoots, may be propagated by parting the roots; likewise by cuttings of the young shoots in the spring; and seed sowed in the autumn or spring months, in a bed of light earth, will grow freely, and the plants, when a year old, transplanted in a nursery, or some of the more tender sorts planted in pots, to place under shelter in winter.

When the plants, raised by any of the above methods, are from one to two or three feet growth, according to their different sizes, they are proper for the shrubbery.

They may be planted in shrubberies, in autumn or spring, disposing them, according to their growth, placing the smaller kinds in the front part, the taller sorts stationed behind, more or less, in proportion to their height, and the whole disposed in a diversified manner, in assemblage with other deciduous flowering-shrubs, and permitted to shoot and branch nearly in their natural order; and they will flower abundantly several months every summer.

JASMINUM, JASMINE TREE.

Class and Order.

Diandria Monogynia,
Two Males, One Female;

Or Plants with Hermaphrodite Flowers, having two Stamina, or Males, and one Pistillum, or Female.

THE JASMINUM affords three species of hardy, deciduous flowering-shrubs, others more tender; all very ornamental in the pleasure-ground, in their numerous flowers in summer: are mostly of trailing growth, shooting with long, slender, flexible stems and branches; adorned in summer with small pinnated and ternate leaves; and numerous small, long, tubulous, white and yellow fragrant flowers, in bunches, in June, July and August; each flower having a monophyllous cup, a corolla of one long, tubulous, five-parted petal, containing two stamina and one stylus; succeeded by oval berries, furnished with two seeds, which ripen in England, but are seldom used for sowing, as the plants propagate plentifully by layers, cuttings, and sometimes by suckers.

Principal Characters.—The flowers hermaphrodite; the calyx or cup one-leaved, tubulous, five-parted at the brim; corolla, one long, tubulous petal, divided above in five spreading segments; two short stamina, crowned by small anthera; a roundish centril germen, having a slender style, terminated by a bifid stigma; and the germen grows an oval berry, containing two oval and oblong seeds, one side flat, the other convex.

The hardy Species of JASMINUMS are,

1. JASMINUM *officinale*—Officinal, or Common White Jasmine.

A deciduous shrub, growing with long, slender, flexible stems and shoots, extending eight or ten feet in length, or more—the leaves (*small, dark-green*) pinnated, placed opposite, with the lobes acute-pointed; and numerous white flowers, in small bunches, terminating the young shoots; June, July, and August. —Native of Malabar, and other parts of the East-Indies. (*Any soil and situation.*)

Varieties.—Silver-striped-leaved Common Jasmine.
Gold-striped-leaved Common Jasmine.

2. JASMINUM *fruticans*, Shrubby Yellow Jasmine.

A deciduous shrub, with slender, flexible branches, of six or eight feet growth—the branches angular; leaves (*small, dark-green*) ternate or trifoliate, and simple, placed alternate; yellow flowers, June, July, &c.—Native of the south parts of Europe, and all parts of the East. (*Any soil and situation.*)

3. JASMINUM *humile*, Humble or Dwarf Italian Jasmine.

A smaller deciduous shrub, with weak branches, of three or four, to five or six feet growth—the branches angular; leaves (*small, dark-green*) ternate and pinnated, placed alternately; and larger yellow flowers produced at the ends of the shoots, June, July, &c.

&c. Native of the ſouth of Europe. (*Dry ſoil, warm ſituation.*)

4. JASMINUM *grandiflorum*, Great-flowered Catalonian Jaſmine.

A deciduous ſhrub, with long flexible ſtems and branches, extending eight or ten feet, or more—the leaves (*larger*) pinnated, placed oppoſite, compoſed of three pair of ſhort obtuſe lobes, acute-pointed; and large flowers, bluſh colour, and white; July, Auguſt, to October, &c. (very beautiful.)—Native of India. (*Warm, dry ſoil, ſheltered ſituation, againſt a ſouth wall, and ſome in pots, to place in a green-houſe.*)

5. JASMINUM *azoricum*, or Azorian White Jaſmine.

A deciduous ſhrub, with long, ſlender ſtems and branches, extending ten to fifteen or twenty feet—the leaves (*larger, ſhining-green*) triſoliate, placed oppoſite, with large heart lobes; and bunches of bright-white flowers at the ends of the ſhoots; June, July, &c.—Native of the Azores, in India. (*Dry, warm ſituation, againſt a ſouth wall, and in pots, to have ſhelter in winter.*)

6. JASMINUM *odoratiſſimum*, Moſt-odorous Yellow Indian Jaſmine.

A deciduous ſhrub, with an upright ſtem and firm branches, growing eight or ten feet high—the leaves (*middling, ſhining-green*) ternate and pinnated, placed alternately, with the lobes oval; and bright-yellow flowers at the ends of the ſhoots; July, Auguſt, and September; impart a moſt ſweet odour.—Native of India. (*A dry, warm, ſituation, againſt a ſouth wall; and alſo in pots, to move under ſhelter in winter.*)

Of the above five ſpecies of *Jaſminum*, the firſt three are hardy ſhrubs that will moſtly proſper in any common ſoil and ſituation, particularly the firſt and ſecond; but the third is adviſeable to plant in a warm compartment, or ſome planted againſt a ſouth wall; and the fourth, fifth, and ſixth ſorts, are more tender, generally kept in green-houſe collections, in pots, and houſed in winter; but ſometimes they are planted againſt a ſouth wall, and defended in winter, when ſevere froſt, with mats; likewiſe, the two ſtriped-leaved varieties of the Common Jaſmine ſhould generally have a ſheltered ſituation, but do not require covering in winter.

The Jaſmines merit culture in pleaſure-grounds and flower-gardens, as very ornamental flowering-ſhrubs, producing numerous flowers in June or July, and Auguſt, of a delicate pretty appearance, and diffuſe an agreeable odour; particularly the Common White, not ſo much in the ſecond and third yellow ſorts, but very fragant in the Azorian White, and Odorous Yellow Indian Jaſmine.

As moſt of the Jaſmines grow with long, ſlender, declining ſtems and branches, requiring ſupport, they are proper to train againſt walls; and for which the Common White Jaſmine is moſt commonly employed, as it ſhoots ſtronger, and conſiderably more floriferous than the other two hardy kinds, which are alſo, occaſionally, planted and trained againſt walls: they all produce numerous long green ſhoots, in ſummer, and on which the flowers are produced; and as the branches and ſhoots are of ſlender, declining growth, require training to ſome ſupport of walls, palings, buildings, &c. they ſhould be trained thereto accordingly, four or five inches aſunder, either erect, or horizontally, as the ſpace of walling admits; or if required to run them in height againſt high walls, or that of a houſe, they ſhould be trained in an upright direction, generally training them with ſeveral ſhoots, or ſtems, from the bottom, cutting out the ſuperfluous and weak; thoſe retained, may be pruned at top, to three, four, five, or ſix feet, according to their ſtrength, and nailed up regular, either erect, or horizontally, as aforeſaid, and kept to regular order, by pruning them annually with a knife, not clipped, but generally kept pruned in winter or ſpring, cutting out the ſuperabundant ſhoots of the preceding ſummer, to continue them to diſtinct ſtems, and training in occaſional ſupplies of the ſtrongeſt ſhoots below, in vacancies, or to ſupply the place of any old naked ſtems, to be cut out accordingly; and by this method, they will always have a neat appearance, and flower in greater perfection.

Though, ſometimes, they are only trained up in a proper ſupply of ſhoots at firſt to the wall, and afterwards the numerous, ſuperabundant, and projecting ſtraggling ſhoots of each year, are clipped with garden ſhears; but by this method, they, in a year or two, grow into a confuſed, diſorderly thicket, of a diſagreeable appearance.

Therefore it is adviſeable to keep the branches thin and regular, by knife-pruning, training in plenty of the ſtrongeſt young ſhoots in ſummer, for flowering, cutting out the overabundant; and in winter, to prune out the unneceſſary ſhoots, with dead and any irregular, naked, old wood, and train in young.

Or Jaſmines may likewiſe be trained in ſingle ſtandards, detached from walls, to plant in ſhrubberies, borders, &c. trimming them up to a ſingle ſtem, one, two, or three feet, and branching out at top; prune the ſtraggling ſhoots ſhort, to form buſhy heads.

But in ſummer-pruning Jaſmines, ſhould not ſhorten the flowering-ſhoots, or cut off long ſtragglers; and train

train in the others intire, as they flower moſtly at the extremities.

All the ſorts of Jaſmines may be had at the nurſeries, for planting, or more generally the firſt three ſpecies, and all which may be propagated plentifully by cuttings, layers, and ſuckers; and occaſionally by grafting, budding, and inarching, particularly the Italian, and ſome of the three tenderer ſorts, as the Catalonian, Azorian, and Yellow Indian Jaſmine.

The planting of Jaſmines may be performed in autumn or ſpring; or the common, and other hardy ſorts, may be planted any time in open weather, from the fall of the leaves, till March or April; but the tenderer ſorts only in the ſpring: the Common Jaſmine is often planted againſt buildings, and to train againſt naked walls and fences, in pleaſure-grounds, fore-courts, or where required to have the walls, &c. covered, and the plants to appear ornamental in flowering, training them to the wall regularly with ſeveral ſhoots for ſtems, as formerly obſerved, proceeding from or near the bottom; the weak tops ſhortened, and nailed erect or horizontally, as may ſeem expedient or convenient, three or four, to five or ſix inches aſunder; the Shrubby Italian, and Dwarf yellow ſorts, may alſo be planted and trained as above; likewiſe, all the above three ſorts may be planted detached in ſhrubberies, borders, &c. and trained each with a ſingle ſtem below, ſupported with a ſtake in an upright poſition; and the long, ſtraggling branches pruned in, more or leſs, to form a buſhy head, as before intimated; obſerving, in giving occaſional pruning in ſummer, both in the Wall Jaſmines and detached plants, not to cut all the ſhoots cloſe, but leave plenty of the ſhorter growths for flowering, as the flowers generally riſe at the ends of the young ſhoots of the year.

The propagating, or raiſing Jaſmines, is by cuttings and layers of the ſtrong, young ſhoots; and likewiſe by ſuckers, eſpecially the ſhrubby, Yellow Jaſmine, and others occaſionally; alſo ſome ſorts are propagated by budding, inarching, and grafting, particularly the Dwarf Italian Jaſmine and Catalonian ſorts, on ſtocks of the common white and yellow kinds.

To propagate them by layers and cuttings; the former may be performed in autumn or ſpring, in the young ſhoots, and cuttings planted principally in the ſpring, about March or beginning of April; they will all, both layers and cuttings, be rooted in one ſummer; and in autumn or ſpring tranſplant them, either ſome where they are to remain, others, or the whole, into a nurſery, for one or two years, or more, then tranſplanted to the places where they are deſigned.

Suckers from the roots may be taken up in autumn or ſpring, and planted as above.

When deſigned to propagate the Dwarf Italian Jaſmine, by grafting or budding, or the other tenderer ſorts by budding or inarching, it may be performed upon ſtocks of the common white and yellow; and, by this method of propagation, plants of theſe ſorts are annually brought or ſent from Italy to this country in the ſpring; and, in London, are ſold at the Italian warehouſes, where they may be purchaſed for planting, in which it is adviſeable to plant the tenderer ſorts, as the Catalonian, &c. in pots, and plunged in a bark-bed to ſtrike, and run them off ſooner, giving water and freſh air, and expoſed thereto, by degrees, in ſummer.

The Azorian and Yellow Indian Jaſmine are alſo raiſed from layers and cuttings; likewiſe by ſeed ſowed in the ſpring in a hot-bed.

When deſigned to plant any of the tenderer Jaſmines in the full ground, it ſhould be cloſe to warm, ſouth walls, their branches trained thereto; and, in winter, cover them with mats in all froſty weather; as alſo to mulch the ground over the roots.

The Common Jaſmine, and others trained againſt walls, will require a regulation of pruning and training every year, in ſummer and winter; go over them in ſummer, and with your knife prune the moſt irregular, long-projecting and ſtraggling ſhoots of the year, and train in the others to the wall, with ſome degree of regularity, for flowering the ſame ſeaſon; preſerving the flowering-ſhoots moſtly at their full length, or ſhorten very long ramblers; and let all the long-extending productions be kept trained in tolerably cloſe order all ſummer; and in winter, or rather towards the ſpring, February or March, give a more general pruning, cutting out the ſuperabundant ſhoots of laſt ſummer, and decayed branches, retaining requiſite ſupplies of the ſtrongeſt ſhoots in vacant parts, and prune off the weak tops, or upper part; and then nail the whole to the wall in a regular manner, agreeable to former intimations.

Or, if any are trained in ſtandard ſhrubs, they ſhould have the long ſtraggling ſhoots pruned, to keep the head in ſome regular order.

ILEX, HOLLY TREE.

Claſs and Order.

Tetrandria Tetragynia,
Four Males, Four Females;

Or Plants with Flowers (Herm.) having four Stamina, or Males, and four Piſtillums, or Females.

THE ILEX, or HOLLY, compriſe two principal hardy ſpecies, of moderate tree and ſhrub kinds, furniſhing many fine varieties; all moſt beautiful ever-

greens, ten or fifteen to twenty or thirty feet, of regular branchy growth, adorned, all the year, with oblong-ovate, and ſpear-ſhape, prickly-edged, and ſmooth leaves; and in ſummer, ſhort, cloſe cluſters of ſmall monopetalous white flowers, having one-leaved, four-parted cups; the corolla cut in four parts, containing four ſtamina, a roundiſh germen; and the flowers ſucceeded by cluſters of roundiſh quadrilocular berries, with four ſeeds, ripe in autumn and winter; and by which the ſpecies are propagated, likewiſe by budding and grafting, to continue any particular varieties.

Principal Characters.—Flowers hermaphrodite; the calyx, or cup, one-leaved, indented in four parts; corolla, or flower, monopetalous, or of one petal, divided into four ſegments; four awl-ſhape ſhort ſtamina, crowned by ſmall anthera; a roundiſh germen, moſtly without ſtyles, but crowned by four obtuſe ſtigmas; and the germen grows a roundiſh berry, of four loculi, or cells, containing each a ſingle, oblongiſh, hard, bony ſeed.

The hardy Species of ILEX are,

1. ILEX *Aquifolium*—(Aquifolium) or Common Holly Tree.

A middling-large ever-green tree, growing fifteen or twenty, to thirty feet high—the leaves (*middling, ſhining-green*) oblong-ovate, waved, and indented on the edges, acute ſpines terminating each denticle; and ſmall cluſters of whitiſh flowers, in May or June; ſucceeded by red and other coloured berries.—Native of England, ſouth parts of Europe, America, Japan, &c. (*Loamy, or any common ſoil.*)

Varieties.—Common Green prickly Holly.
Smooth or thornleſs Green-leaved.
Narrow-leaved Holly.
Box-leaved Holly.
Red-berried Holly. (Common.)
White-berried Holly.
Yellow-berried Holly.
Bloached-leaved Holly.
White-bloached-leaved Holly.
Yellow-bloached-leaved Holly.
White-ſtriped-leaved Holly.
Yellow-ſtriped-leaved Holly.
Cream-coloured-leaved Holly.
Silver-edged-leaved Holly.
Gold-edged-leaved Holly.
Mottle-leaved Holly.
Copper-coloured-leaved Holly.
Variegated-leaved Painted-Lady Holly.
Yeſlow-leaved Holly.
Long-leaved Holly.
(ILEX *echinata*) or Hedge-hog Holly; the edges of the leaves thorny, and the upper ſurface cloſely ſet with aculi, or prickles.
Common Green-leaved Hedge-Hog Holly.
Gold-bloached-leaved Hedge-Hog Holly.
Gold-edged Hedge-Hog Holly.
Silver-edged Hedge-Hog Holly.
With may other ſeminal varieties of the Common Holly, known in the nurſeries by different fancy names, as
Milk-Maids Holly.
Glory of the Eaſt Holly.
Glory of the Weſt Holly.
Chimney-ſweepers Holly; with ſeveral others.

2. ILEX *Caſſine*—(Caſſine) or Caſſine Holly of Carolina, commonly called Dahoon Holly.

A moderate ever-green tree, growing fifteen to twenty feet high—the leaves (*middling, light-green*) ovate, ſpear-ſhape, ſawed; and ſmall white flowers in thick cluſters; ſucceeded by ſmall red berries.—Native of Carolina. (*Loamy, or any common ſoil; warm ſituation while young.*)

Varieties.—Broad-leaved Carolina, or Dahoon Holly.
Narrow-leaved Dahoon Holly.

Both the ſpecies of Holly, and their reſpective varieties, are very ornamental ever-green trees, growing with a ſingle upright ſtem, very branchy quite to the bottom, and in their natural growth, forms a conical head, particularly the Common Holly; all very cloſely garniſhed with leaves of a thick, firm conſiſtance: are proper to cultivate both in ornamental and uſeful plantations; the Common Holly particularly, being alſo proper to aſſemble with ever-green foreſt-trees, in plantations for timber, as when permitted to advance in full growth, it attains ſome conſiderable ſtature and ſubſtance in the ſtem or trunk, and its wood being very white, is valued by the cabinet-makers, and ſome other trades; the wood is alſo made into hones, for razors, and of the bark of the tree is made the bird-lime.

The Common Holly, and all its varieties, are very hardy to grow any where in any common ſoil and ſituation, to plant both in ſtandards, for ornament in ſhrubberies, and other plantations in pleaſure-grounds; and from its cloſe, branchy growth, admits of training, by clipping, into ſeveral formal devices, as globes, pyramids, &c. as was formerly practiſed in the ancient method of gardening; and is well adapted for forming hedges, both for ornament in pleaſure-gardens, and for fences; and for the different purpoſes, the trees ſhould generally have the final tranſplanting while moderately

derately young, as, when old, the roots become woody and naked, and do not ſucceed well when tranſplanted of a large ſize.

But the Dahoon Holly is more tender, eſpecially in its young growth, requiring a warm ſituation, or protection in winter, till it obtains ſtrength, then may be planted in the full ground; is principally cultivated in ſhrubberies, &c. for ornament and variety.

Both the ſpecies of Holly are raiſed by the ſeed or berries, ſowed in autumn or ſpring, which will not come up till the ſecond year after; and the different varieties are propagated by grafting and budding them upon the Common Holly; each as hereafter explained.

All the ſorts of Hollies are cultivated in the nurſeries, for ſale, where they may be obtained of proper growth for planting; in which it is generally adviſeable, to perform it while the trees are of moderately young growth, as before intimated, from two or three, to four or five feet at moſt; as, when older or larger, they ſeldom ſucceed well, and often fail, when removed of a large ſize, unleſs where convenient to tranſplant them with complete balls of earth to the roots.

The ſeaſon for planting Hollies is either principally in autumn, the middle or end of September, any time in October, or early part of November; not ſo eligible in winter, unleſs a very mild ſeaſon, but may be tranſplanted ſucceſsfully in the ſpring, in February, March, and beginning of April.

For ornamental planting, they ſhould aſſemble principally in ever-green plantations in ſhrubberies, and other plantation diſtricts, in pleaſure-grounds, parks, &c. or occaſionally dotted in ſome principal deciduous plantations, in which both the common and variegated kinds, will add to the variety, and give a more lively appearance in winter, when the deciduous ſhrubs and trees are deſtitute of foliage, and in which the common and variegated ſorts will effect a very agreeable diverſity; or in any plantations the variegated kinds are beautifully ornamental at all ſeaſons, and when interſperſed, theſe and the green-leaved, in principal clumps of ever-greens, they have a fine effect; and in which plantations, ſome may either be permitted to advance principally in their natural growth, buſhy from the bottom, or occaſionally trimmed up below, by degrees, one, two, or ſeveral feet, to clean ſtems, to run up more in height, where required, and permitted to branch out above in full heads.

Hedges of Holly were formerly in great eſtimation, for their cloſe, beautiful ever-green growth, both for ornament, in interior diviſions of pleaſure-grounds, and for affording ſhelter to particular compartments, and to tender plants, and forms a very effectual impenetrable fence; and for which purpoſes, the Common Green Holly, as being the moſt readily raiſed in abundance, is principally employed, eſpecially for any conſiderable extent; and the variegated ſorts, in particular parts, for their ornamental appearance, in their diverſified colours; and, in all of which, they admit of training in low, middling, and lofty hedges, five or ſix, to eight or ten feet high, or more.

The Hollies, likewiſe, in the former deſigns in ornamenting pleaſure-grounds, were in great repute for training by clipping, into various forms, as pyramids, ſpheres, arches, porticoes, galleries, and other rural devices, and kept in their reſpective forms by clipping every year, in ſummer; which, according to the then prevailing taſte in gardening, together with yews trained in a ſimilar ſtile, were conſidered as great ornaments to gardens; but are now moſtly excluded, at leaſt ſeldom admitted in modern plans.

The propagation, or methods of raiſing Hollies, is principally by ſeed, in the two ſpecies, the Common Green, and Dahoon Holly; the former of which, Common Holly, produces abundance of berries, ripe in autumn and winter for ſowing, but not ripening ſo freely in the Dahoon kind: they are obtained from America by the ſeedſmen; but the different variegated ſorts, and other curious varieties, are propagated, and continued in their reſpective differences, by grafting or budding them upon ſeedling-ſtocks of the Common Holly, as they will not come the ſame from ſeed; and the Dahoon Holly is alſo occaſionally propagated by grafting and budding upon the common ſorts.

To raiſe the Common Holly, it ripening berries in great plenty late in autumn, they ſhould be gathered in November or December, and either ſowed at once in beds, an inch deep; or, as the ſeeds of the berries are of a hard, bony nature, and the outer pulp adhering cloſe, that they remain in the ground a whole year before they begin to germinate or grow, they, previous to ſowing, are generally prepared by burying them in an heap in a pit, or depoſited in large garden pots; theſe plunged in ſome dry ground, and earthed over eight or ten inches deep, to remain thus for a year, preparing for vegetation, then taken up in October or November, and ſowed in beds, either broadcaſt, and covered in an inch or two deep with earth, or ſowed in drills that depth, and they will thus come up in the ſpring following; but thoſe ſowed at once from the trees remain dormant till the ſecond ſpring.

When the young Hollies are come up, keep them clean from weeds, and, if very dry weather, moderate waterings will prove very beneficial; and after the plants are of one or two years growth, they ſhould be tranſplanted in nurſery-beds, in autumn, about October, or in March, in rows, ſix inches to a foot aſunder; and, after having two years growth in theſe beds,

if any are deſigned for hedges, they will be of a proper ſize for that purpoſe; or thoſe intended to train for ſtandard ſhrubs and trees, ſhould be tranſplanted again into nurſery-rows, two feet and a half diſtance, by a foot to fifteen or eighteen inches in the rows, in which, growing two or three years, or till they have attained two or three, to four or five feet growth, are proper for the plantations for which they are intended; as they ſhould generally have their final tranſplanting in the allotted places where they are to remain, before they grow large; or, when of advanced ſize, they may be removed, with balls of earth to their roots, both for hedges and other occaſions.

The Dahoon Holly is likewiſe raiſed from ſeed, and occaſionally by grafting or budding it upon ſtocks of the common ſort: the ſeed ſhould be managed and ſowed as directed for the Common Holly, or ſowed in pots, placed under ſhelter from froſt; and if in March they are plunged in a hot-bed, it will bring up the plants ſoon, and forward them in growth, when harden them to the full air in ſummer, and ſheltered under a frame, in winter, from froſt; and when the plants, in either method, are one or two years old, tranſplant them in a warm ſituation, in the ſpring, or ſome in pots, to have protection, in winter, for two or three years; then may be turned out into the full ground, in a nurſery, or where they are to remain; the others planted in the nurſery, may alſo be tranſplanted finally, when two, to three or four feet growth, into the ſhrubbery.

To propagate the different varieties of the ſpecies of Holly, it is effected, only, by grafting or budding them upon ſtocks of the common kind, for they will not come the ſame from ſeed; but the ſtocks, on which to graft and bud them, are always raiſed from ſeed, by the methods already explained, and the plants ſet out in nurſery-rows, to have one or two years growth, with ſtems a quarter to half an inch thick; then may be grafted or budded with grafts and buds of the variegated ſorts: the grafting is performed in the ſpring, March, or beginning of April, by whip-grafting for ſmall ſtocks, and ſlit or cleft-grafting for larger; and the budding is effected in July or Auguſt, in the common method; and in both of which is performed generally low in the ſtock, within a few inches of the bottom, or occaſionally at one or two feet height in taller ſtocks; and when, after this operation, the grafted and budded plants have remained two or three years, or more, to make proper ſhoots from the grafts and buds, and form the beginning-heads of the reſpective kinds, with which they were grafted and budded, they are proper for tranſplanting into ſhrubberies, and other ornamental plantations, and for hedges, &c. or, when they are occaſionally to be tranſplanted of larger ſize, if they could be removed with balls to the roots, it would be of particular advantage, in having them ſucceed more certainly in a proſperous growth.

The Hollies, planted in ſhrubberies, &c. or in ſingle, detached ſtandards, in any particular compartments, may either be permitted to branch in their natural order, or the under-branches pruned up moderately by degrees, and the whole encouraged to ſhoot above in full heads, or of which may only prune to order any caſual rambling branches and ſhoots.

Or, if any are deſigned for foreſt-tree plantations, the Common Green Holly, raiſed from ſeed, is the only proper ſort for this purpoſe, and may be introduced among others of the ever-green tribe; though, as the Holly trees are of ſlow growth, they are not much planted for this purpoſe; but in ſome parts of this country, where the trees are growing naturally in woods and foreſts, they are of a conſiderable ſize, thirty or forty feet high, and large trunks; ſo that ſome trees may be admitted among other ever-green, foreſt-trees, generally planted out in young growth, and, in their advancing ſtate, prune up the under-branches by degrees; and run them with the leading top-ſhoot entire, that they may advance with a ſingle, clean ſtem, of ſtraight growth, and permitted to grow with full heads.

For Holly hedges, the Common Green, raiſed from ſeed, is proper for general uſe, and any of the variegated kinds principally for ornament; though all the ſorts, or varieties of the *Ilex Aquifolium*, are admirably adapted for hedges, moſt beautiful and uſeful, both for ornament, and for ſhelter to particular diviſions, and to afford protection to tender plants from cold; as alſo for outward fences, and for which purpoſe it is ſingularly effectual, as well as ornamental, at all ſeaſons; and the plants may be as eaſily raiſed for hedges as the Hawthorn, and planted and trained nearly as directed for that ſpecies, in hedges, under the Genus *Cratægus*; only the Hollies are rather of ſlow growth in the beginning, but when once well eſtabliſhed in the ground, they advance freely in a cloſe, branchy growth, from the bottom upward, and ſhoot at top proportionally, to admit of training the hedge, five or ſix, to eight, ten, or fifteen feet high, or more.

Where Holly hedges are intended, they may be formed either by planting young plants from a nurſery, of two or three years old, or by ſeed, prepared as before directed, previous to ſowing, then ſowed in autumn or ſpring, in the place where the hedge is intended, in a drill; and, in either of which, where a double thick hedge is required for an outward fence, may plant two rows of ſets a foot aſunder, the plants ſix inches to a foot apart in the row; and if ſeed is intended, it may alſo be ſowed in two drills, the ſame diſ-

diſtance, having the drills one to two inches deep, the berries, or ſeed, ſowed moderately thick, and earthed over; and when the plants are come up, if too cloſe, ſome may be drawn out; or, for a moderate hedge, eſpecially in any internal diviſion, a ſingle row of plants, or ſeed, may be ſufficient: keep the whole clean from weeds; or, if any are in outward hedges for fences, &c. they ſhould be defended on the outſide, either by a ditch, rails, paling, &c. or a ſtake and buſh-hedge, while the plants are advancing.

In the advancing growth of the hedge, give a requiſite training, when they advance in ſtrong ſide-ſhoots, by cutting them moderately, to form and thicken the hedge, permitting it to ſhoot in height, or only cutting any run-away top-ſhoot; or top the whole but little, or very moderately, till the hedge is arrived to the height intended; then ſhould have a regular clipping annually, in ſummer, at ſides and top, to keep the hedge regular; generally, in hedges intended to run up high, ſhould clip them up taper, or gradually thin, or narrowing to the top, cutting both ſides equally.

The hedges raiſed and trained as above, will require an annual clipping once or twice every ſummer; *(never cut in winter)* but to preſerve the hedge in the moſt regular, neat order, two clippings in ſummer would be neceſſary, the firſt in June, and the ſecond cutting in Auguſt; but, if they have only one clipping, July or Auguſt is the proper time to perform the operation: generally keep the hedge of a moderate width, a foot to fifteen or eighteen inches, for low or middling hedges, cut even at ſides and top, but lofty hedges kept as thin at top as poſſible, run up in a tapering manner, as before obſerved.

ITEA—(ITEA.)

Claſs and Order.

Pentandria Monogynia,
Five Males, One Female;

Or Flowers (Hermaphrodite) having five Stamina, or Males, and one Piſtillum, or Female.

THIS Genus furniſhes but one ſpecies, an ornamental, deciduous, flowering-ſhrub, for beautifying the ſhrubbery; is a ſhrub of middling growth, adorned with ſpear-ſhape leaves, and terminal ſpikes of white flowers, each flower having a monophyllous, five-parted calyx, a corolla of five petals, containing five ſtamina and a permanent ſtyle, ſucceeded by an oval capſule, terminated by the perſiſtent ſtyle, and furniſhed with oblong ſeeds, by which the ſhrub may be propagated; alſo by layers, cuttings, and ſuckers.

One Species, viz.

ITEA *virginica*, Virginian Itea.

A middling, deciduous ſhrub, growing five or ſix feet high—the leaves *(middle ſize)* ſpear-ſhape, alternate; and ſpikes of white flowers terminating the ends of the ſhoots very ornamentally in ſummer.—Native of Virginia. *(Moiſt, or any common ſoil.)*

Varieties.—Major, or Greater Virginia Itea.
Minor, or Leſs Virginia Itea.

This beautiful, flowering-ſhrub claims a place in all principal ſhrubberies, in which it will make a fine appearance in its numerous, floriferous ſpikes; may be procured at the nurſeries, for planting, which is performed either in autumn or ſpring, allotting it a conſpicuous ſituation; and is propagated by layers and cuttings of the young ſhoots, in the above ſeaſons: they will be rooted in one year; alſo by ſuckers from the roots; likewiſe by ſeed ſowed in the ſpring, in a bed of light earth; or, as the ſeed ſometimes remains in the ground till the ſecond ſpring, before it grows, it may be ſowed in pots, to place in a ſhady border in ſummer, and under ſhelter in winter, or may be forwarded in a hot-bed in the ſpring.

IVA, FALSE JESUITS BARK TREE.

Claſs and Order.

Monoecia Pentandria,
One Houſe, Five Males;

Or Flowers, Male and Female, diſtinct on one or the ſame Plant, and the Males have five Stamina.

THE IVA, conſiſting of one ſpecies, is a large, deciduous ſhrub, admitted in ſhrubberies to encreaſe the variety; is of upright growth, garniſhed in ſummer with ſpear-ſhape leaves, and cluſters of ſmall purple flowers, male and female, ſeparate on the ſame plant; having a roundiſh, general calyx, containing many florets, of one funnel-ſhaped petal in the males, no petals in the females; and in the former, five ſmall ſtamina; in the latter, two hair-like ſtyles, and ſucceeded in the female flowers by naked ſeeds in the calyx; and by which, ſowed in the ſpring, the tree is raiſed, and likewiſe freely by layers and cuttings.

One Species, viz.

IVA *fruteſcens*, Shrubby, Falſe Jeſuits Bark.

A deciduous ſhrub, of large growth—the ſtems ſhrubby; leaves *(long)* ſpear-ſhape, ſawed; and cluſ-

ters

ters of purple flowers.—Native of Virginia and Peru. *(Any common ſoil.)*

The principal merit of this ſhrub is to diverſify ſhrubberies, and other plantations in pleaſure-grounds, and to encreaſe the variety in the collection of deciduous ſhrubs; is raiſed, for ſale, in all the nurſeries, and may be planted any time in the general planting ſeaſon; and is propagated by layers and cuttings of the young wood; alſo by ſeed, commonly obtained from America by the ſeedſmen, in the ſpring, and may then be ſowed in a bed or border of common earth, or in pots placed in an eaſterly border.

JUGLANS, WALNUT-TREE, and HICCORY.

Claſs and Order.

Monoecia Polyandria,
One Houſe, *Many Males*;

Or Flowers, Male and Female, ſeparate on the ſame Tree, with the Males having numerous Stamina.

THE Family of JUGLANS conſiſts of ſeveral ſpecies and varieties of large, deciduous, fruit, foreſt, and ornamental trees, to plant in orchards and gardens for their production of nuts, with eatable kernels, and to diverſify large plantations in pleaſure-grounds, parks, and other diſtricts, being moſtly of large growth, with conſiderable branchy heads, garniſhed, in ſummer, with large, compound, winged leaves, compoſed of from two or three, to five, ſix, or ſeven pair of oblong folioles, or diſtinct lobes, terminated by an odd or end foliole; and male and female flowers, ſeparate; the males collected into ſmall, oblong, cylindric, ſcaly catkins, each ſcale forming a cup to one floret, and females growing in cloſe-placed cluſters, and have four-parted cups; the corolla, or flower, ſmall, monopetalous, ſix-parted in the males, in the females four-parted; with many ſtamina in the males, and in the female flowers an oval germen ſupporting two ſtyles; and the germen grows a large, oval, roundiſh, drupaceous, green fruit, two, three, or more, together in a cluſter, containing each a roundiſh, or oval, furrowed, hard-ſhelled nut, filled with a four-lobed eatable kernel, ripe in autumn, and by which alſo the trees are commonly raiſed.

The Species of JUGLANS are,

1. JUGLANS *regia*, Royal, or Common Walnut Tree.

A large, deciduous tree, growing fifty, to ſixty or ſeventy feet high, with a large, widely-branching head —the leaves (*large*, *light-green*) winged or pinnated, compoſed of two or three pair of oval, ſawed, ſmooth, equal folioles, terminated by an odd one; and ſmall greeniſh flowers, in April and May, ſucceeded by large nuts, ripe, for eating, in September and October.—Native of Europe, &c. (*Loamy, chalky, or any common ſoil.*)

Varieties of the fruit.—Early, Oval Walnut.
Round Walnut.
Large Walnut.
Double Walnut.
Late Walnut.
Tender-ſhelled Walnut.
Hard-ſhelled Walnut.
Jagged-leaved Walnut Tree.

2. JUGLANS *nigra*, Black Virginia Walnut-Tree.

A large, deciduous tree, growing forty or fifty, to ſixty feet high—the leaves (*middling*, *dark-green*) winged or pinnated, compoſed of ſeven pair of ſpear-ſhape lobes, and an end-one, the exterior folioles ſmalleſt; and ſmall hard-ſhelled fruit.—Native of Virginia and Maryland. (*Loamy, or any common ſoil.*)

Varieties.—Round-fruited Black Walnut.
Oblong-fruited Black Walnut.

3. JUGLANS *alba*, White Virginia Walnut, or Hiccory Nut.

A middling, deciduous tree, thirty or forty feet high —the leaves (*middling*, *light-green*) winged or pinnated, compoſed of three pair of ſpear-ſhape, ſawed folioles, and an end-one ſeſſile, or ſitting cloſe; and ſmall whitiſh-ſhelled fruit.—Native of Virginia. (*Any common ſoil.*)

Varieties.—Smooth-barked White Virginia Walnut, or Hiccory-tree.
Rough, or Shag-barked Hiccory.
Small-fruited Hiccory.
Larger-fruited Hiccory.
Oval-fruited.

4. JUGLANS *cinerea*, Cinereous, or Aſh-coloured American Walnut-Tree.

A middling, deciduous tree, growing thirty or forty feet high—the leaves (*middling*) pinnated, of eleven ſpear-ſhape lobes, the baſe ſhorteſt.—Native of North America. (*Any common ſoil.*)

Varieties of different Species.—Pecan, or Illinois Hiccory.
Balſam Hiccory.
Small White Hiccory.
Virgate, or Twiggy Hiccory.

Of

Of the different ſpecies of *Juglans*, the Common Walnut is the ſort commonly cultivated in this country, for its fruit, both to uſe green, for pickling, in July and Auguſt, the green, outer cover, and internal part, together, before the nut begins to ſhell hard; and more abundantly the ripe nuts, which attain maturity in autumn, in September and October, and the kernels are then good for eating; all the other ſpecies produce fruit of a ſimilar nature, but ſmaller, and moſtly with a very hard ſhell and ſmall kernels, not equal in goodneſs to the Common Walnut, which, in all its varieties, are the moſt abundantly produced in this country, much larger and beſt flavoured; and therefore this ſort, *(Juglans regia)* is the principal ſpecies to cultivate for its fruit; the others chiefly for variety, or, together alſo with Common Walnut trees, to aſſemble in uſeful and ornamental plantations.

The different ſpecies of theſe trees, being moſtly of large and lofty growth, with conſiderably ſpreading branchy heads, are proper to introduce in large plantations of hardy, deciduous trees, and to arrange in groves, clumps, both in aſſemblage, and diſtinct, as alſo to dot ſingly; and the Common Walnut to diſpoſe plentifully in rows, in parks, and other extenſive diſtricts; in which, when of advanced growth, they will be very profitable in their annual productions of nuts, which always find a ready ſale to thoſe who ſupply the markets; and Walnut trees are proper to introduce in foreſt-tree collections, to advance in large ſtandards for timber, the wood being much eſteemed, for many occaſions, in the cabinet-making branches, for various articles of houſehold furniture, and ſeveral other particular purpoſes.

All theſe trees delight moſt in a loamy ſoil, but will alſo grow in any moderately-good ground, or where convenient, in common with other hardy trees, or in any common ſoil and ſituation, as different premiſes may afford.

Young trees, of all the ſorts, are kept in the nurſeries, for public ſupply, where they may be obtained in collection, or of any particular ſpecies, required for planting; for which, generally have them of moderately young growth, of five, ſix or eight feet height, eſpecially for any conſiderable planting; or, for particular occaſions, the Common Walnut may ſometimes be obtained of larger growth, with a good head of branches advanced to a bearing ſtate, to plant for immediate bearers in a ſmall degree in the beginning; though, when planted of younger growth, either for fruit or foreſt-trees, or for ornament, they always make the moſt thriving trees in the long run; and for foreſt-trees particularly, if only three or four, to five or ſix feet, they will generally prove more ſucceſsful; or ſometimes the nuts are planted in the places where the trees are deſigned to remain, and, not having any check by removal, they commonly advance in a more free and expeditious growth; and all the ſorts are eaſily propagated, or raiſed, by planting, or ſowing the nuts in a nurſery, and the young plants of a year old tranſplanted therein, for two, three, or ſeveral years, and trained each with a ſingle clean ſtem, five or ſix feet, branching above in full heads; and being thus ready for the intended plantations, they may be planted as required, at the proper ſeaſons.

The ſeaſon for planting the different ſorts of Walnut trees, is either in autumn, at the decay of the leaves, or in the ſpring; or any time in open weather, from October or November, to March or April.

The propagation, or general method of raiſing the Walnut trees, and Hiccories, in all the different ſpecies, is principally by planting or ſowing the nuts, either in autumn, or preſerved ſound till the ſpring, and then ſowed, in February or March, in a bed or beds of common earth, which may be performed either in drills, ſix inches to a foot aſunder, and two inches deep, placing the nuts in the drills, and earthed over; or raking the earth off the bed the above depth, ſow the nuts on the ſurface, and, with a ſpade, preſs them into the bed, and cover them in with the earth that was raked off the bed for that purpoſe; they will all come up freely the ſame year: keep them clean from weeds all ſummer; and, when the plants are one or two years old, they ſhould be tranſplanted into nurſery-rows, two feet and a half or a yard aſunder, by eighteen inches or two feet in the lines; there trained each with a ſingle ſtem, preſerving the leading top-ſhoot intire, but any ſtrong, lateral ſhoots, pruned up by degrees, to form a clean ſtem of five, ſix, or ſeven feet, then permitted to branch out above in full heads; and are then proper for final tranſplanting.

Obſerve, when intending to raiſe the Common Walnuts principally for fruit-trees, ſhould be careful to procure nuts of the beſt varieties for planting or ſowing, chuſing them large, with thin or tender ſhells, whereby there will be the greater chance of having the trees raiſed therefrom produce good fruit in return; obſerving the ſame method of ſowing, nurſery-planting, and training, as directed above; or ſometimes the propagation of the approved varieties for fruit-trees, is tried by graſting them upon ſtocks of any of the Walnut kinds; though the general method for raiſing the principal ſupplies, is by the nuts, for general planting.

The trees, raiſed as above, in all or any of the ſpecies, they, when from four or five, to ſix, eight, or ten feet growth, are of proper ſize for general tranſplanting in the places where they are intended, in the proper ſeaſons before-mentioned.

When deſigned to have the Common Walnut planted for its production of nuts, it may be planted in any open ſituation, or in orchards, either in continued rows, forty feet diſtance, or placed principally only towards the outer boundary, and in any out-grounds, hedge-rows, parks,

parks, paddocks, fields, &c. having them trained principally in full ſtandards, with clean ſtems of five, ſix, or ſeven feet, branching out at theſe heights, to form the head; and planted thirty or forty, to fifty feet, to admit of full ſcope for their widely-extending branches; and, in their growth, permitted to branch out freely all round, and aſpire in height, wholly in their natural order; except occaſionally pruning any caſual, very irregular branch, or low ſtraggler, and long-extending rambler, either in the early or advanced ſtate of the trees, to preſerve ſome little regularity in the head, if thought expedient; permitting the other general branches to continue in their advancing growth.

Walnut trees ſeldom begin to produce fruit until of eight or ten years growth, nor do they bear any conſiderable quantity till they are above double that age; but in their more conſiderably advanced ſtate, they, in favourable ſeaſons, produce in great abundance: they bear moſtly towards the extreme parts of the branches on the young wood of the laſt year; the flowers appear in April and May, ſucceeded by the fruit in June, which, in July and Auguſt, is fit to gather green for pickling, and acquires maturity in the nuts towards the middle and latter end of September, and in October; when, being fully ripe, the outer green cover begins to open, or will readily ſeparate from the nuts, and ſhould then be gathered for preſent uſe, and for keeping for eating in winter.

In the moderate advanced growth of the bearing Walnut trees, the fruit may readily be gathered by hand; but in conſiderably large trees, with high and widely-extended boughs, the ripe fruit is commonly beat down with long poles; the nuts thereby generally falling from the trees, in their huſks, or when fully ripe, many ſeparate therefrom; and being gathered up, thoſe adhering faſt in their covers, are laid in heaps, to heat a few days, till the green huſks readily part from the nuts, which then, before the huſks begin to become black, and rot, ſhould, while clean and dry, be ſeparated, and depoſited in a dry room, and covered thickly with ſtraw, to exclude the air and moiſture, that they may keep longer in good perfection.

For ornamental planting, and for variety, all the ſpecies and varieties of Walnuts and Hiccory are proper; and for which, they may aſſemble with other deciduous kinds, as before intimated, in compoſing any general tree plantations, in woods, groves, avenues, &c. or planted, diſtinct, in groves, clumps, &c. in extenſive grounds, ſet thirty or forty, to fifty feet diſtance.

Or for timber or foreſt-trees, all the ſpecies of *Juglans* are eligible, and may be planted in young growth of three or four, to five, ſix or eight feet, to form woods, groves, &c. ſet at fifteen to twenty feet diſtance; or the Common Walnut planted in ſome places double that diſtance; and in their advanced growth, while growing for timber, they, in the interim, will afford plentiful annual productions of nuts; or this ſpecies is ſometimes raiſed for the above purpoſes, by ſowing the nuts at once in the places where it is deſigned the trees ſhall continue, the ground being prepared by digging or ploughing, and drills made in which to ſow the nuts; and when the plants are advancing, if they are too cloſe, ſome may be gradually thinned out, and planted in another place, if required, leaving a ſufficiency of the moſt promiſing, where raiſed, at eligible diſtances, to grow for full ſtandards; and in which all the others ſhould be trained, by pruning up lateral ſhoots of the ſtem, by degrees, and low, under-branches of the head, and permitted to advance above in full growth.

JUNIPERUS, JUNIPER TREE, compriſing alſo ſeveral CEDARS, and the SAVIN.

Claſs and Order.

Dioecia — Monadelphia,
Two Habitations, — *One Brotherhood;*

Or Male and Female Flowers, on two ſeparate Plants, and the Stamina joined in one Set, or Brotherhood.

THIS Family, or Genus, of *Juniperus*, conſiſts of many ſpecies of curious ornamental and uſeful evergreen ſhrubs and trees of the ſmall-leaved berry-bearing tribe; moſtly very branchy from the bottom upward, of pyramidal and conic growth, three or four, to twenty, thirty, or forty feet high; very cloſely ſet with ſmall or minute, narrow, awl-ſhape, and obtuſe leaves, placed by threes and fours, and *imbricatim*, or lying over one another like ſcales of fiſh; and ſmall male and female flowers, diſtinct, on two ſeparate trees; the males growing in conical amentums, without petals, having three ſtamina in one ſet; and the females, having three-pointed calyxes, and three petals, with a germen ſupporting three ſtyles, and ſucceeded by roundiſh, umbilicated, fleſhy berries, containing three oblong-convex and angular ſeeds, ripe in autumn; but, in this country, moſt abundantly in the Common Juniper, and by the berries, &c. all the ſpecies are principally raiſed or propagated, and ſome varieties, occaſionally, by layers and cuttings.

The Species of JUNIPERUS are,

1. JUNIPERUS *communis*, Common Juniper Tree.

An ever-green ſhrub, four or five, to ten or fifteen feet high—the leaves *(ſmall, awl-ſhape)* placed by threes, ſpreading, and dagger-pointed, and longer than the berries.—Native of Britain, and cold parts of Europe, on mountains and in woods. *(Dry, or any common ſoil.)*

Varieties.

Varieties.—Shrubby, Common Juniper.
Tree-like Common Juniper.
(*Juniperus communis ſuecia*) or Swediſh, Tree-like, Common Juniper—growing ten to fifteen, or eighteen feet high.

2. JUNIPERUS *Oxycedrus*—(Oxycedrus) or Greater Spaniſh Juniper.

A moderate, ever-green tree; growing twenty feet high, or more—the leaves (*very ſmall, awl-ſhape*) threed and foured, ſpreading, ſharp-pointed, and ſhorter than the berries; the berries largiſh red.—Native of Spain, &c. (*Dry, or any common ſoil.*)

3. JUNIPERUS *Virginiana*, Virginia Red Cedar.

A large ever-green tree, growing thirty or forty feet high—the leaves (*ſmall, dark-green*) placed by threes, joining at the baſe; the young ones imbricated, or placed over one another, and the old ones ſpreading.—Native of Virginia and Carolina. (*Dry, or any common ſoil.*)

4. JUNIPERUS *Lycia*, Lycian Cedar.

A middling ever-green tree, twenty to thirty feet high—the leaves (*ſmall*) placed by threes, ovate-obtuſe, and every where imbricated.—Native of Spain, Callia, and Siberia. (*Any common ſoil.*)

5. JUNIPERUS *Phœnicea*, Phœnician Yellow-berried Cedar.

A moderate ever-green tree, growing twenty feet high—the leaves (*ſmall*) obtuſe, placed by threes, ſlightly imbricated.—Native of the ſouthern parts of Europe, and the Eaſt. (*Warm, dry ſituation.*)

6. JUNIPERUS *thuriſera*, Thuriferous Spaniſh Cedar.

A middling ever-green tree, growing thirty feet high—the leaves (*ſmall*) acute, four-ranked, or ranged in four rows; and large black berries.—Native of Spain. (*Dry, or any common ſoil.*)

7. JUNIPERUS *bermudiana*, Bermudian Cedar.

A moderate ever-green tree, growing twenty feet high—the leaves (*ſmall, by twos and threes*) growing by threes below, and the upper ones by twos; decurrent or running at the baſe, awl-ſhape, ſpreading, and acute.—Native of America. (*Warm, dry ſituation; and ſome kept in pots, for ſhelter in winter.*)

8. JUNIPERUS *Sabina*—(Sabina) or Savin Tree.

A ſhrubby ever-green, two or three, to ſix or eight feet high—the leaves (*ſmall, linear*) oppoſite, erect, and decurrent, or running at the baſe.—Native of Portugal, Italy, Siberia, and the Eaſt. (*Any common ſoil.*)

Varieties.—Dwarf-ſpreading Savin, two to three feet high.
Variegated-leaved Dwarf Savin.
Upright Portugal Savin, ſix to eight, or ten feet high.

All theſe ſpecies of Juniperus are of the ever-green tribe, in eſtimation principally for ornamental planting in ſhrubberies, and other parts of pleaſure-grounds, in which they make a conſpicuous variety at all ſeaſons; moſtly of a cloſe, branchy growth, from the bottom upward, and, in the greater part, grow in a ſomewhat conic form; others ſpreading, as in the Dwarf Savin, &c. the branches very cloſely ſet with the minute leaves, in ſome ſpreading and pointing outwards, in others imbricated, or lying over one another, and ſome ſtanding erect, and adorn the trees in conſtant verdure; but the flowers, in their ſmall amentums and minute florets, make no ornamental appearance: are ſucceeded, in the females, by the roundiſh berries, which in ſome ſorts ripen plentifully in this country, as the Common Juniper, Portugal Savin, and ſometimes in the Virginia Red Cedar; though of this, and moſt of the other Cedar kinds, in which the berries are not produced plentifully, they are obtained from abroad by the ſeed-dealers, for ſowing; as all the ſorts, both Junipers, Cedars, and Savins, are raiſed from the ſeed in the ſpring, or ſome, occaſionally, by layers and ſlips of the young branches, as hereafter explained.

Theſe ever-greens, in moſt of the ſorts, are more or leſs of a reſinous nature, and impart an aromatic odour.

They are moſtly tolerably hardy to grow in any common, moderately dry ſoil, and almoſt in any expoſure; except the *Juniperus bermudiana*, which, being tenderer, is generally cultivated as a green-houſe plant, but ſometimes planted in the full ground; ſhould have a warm ſheltered ſituation, and defended from ſevere froſt; all the others may be planted in any ſituation, in common with other hardy ever-green ſhrubs and trees, or where they may be required, for ornament and variety in pleaſure-grounds.

Moſt or all the ſpecies are deſirable ever-greens, in their peculiar growth and foliage, to ornament and diverſify ſhrubberies, and other decorative plantations, and to plant ſingly on plats, lawns, &c. or ſome of the larger

tree ſpecies, as the Virginia Red Cedar, &c. may alſo aſſemble in plantations of ever-green foreſt-trees: they may be procured at the nurſeries, of proper growth for planting, one, two, or three, to four or five feet, in proportion to the natural ſizes of growth of the different ſpecies, and planted in the proper ſeaſons.

The principal ſeaſon for removing and planting theſe trees, is either in autumn, the middle or latter end of September, any time in October and November, or all principally in the ſpring months; or the hardier kinds, Common Juniper, Virginia Cedar, and Savins, might be occaſionally planted in winter, in mild, open weather, more eſpecially where convenient to remove any with balls; and by which moſt of the others may be tranſplanted, though, for the more tender ſorts, early autumn or ſpring planting is moſt adviſeable.

With regard to the order of planting them, as before obſerved, they having particular merit to plant in principal ſhrubberies, and other ornamental diſtricts, in aſſemblage moſtly in ever-green plantations, ſhould be diſpoſed in a diverſified manner, and placed according to their ſizes of full growth, the lower ones ſtationed, more or leſs, towards the front, and the taller behind; ſome alſo planted ſingly upon open ſpaces of graſs-ground, of lawns and plats, and in ſpacious borders, &c. and, in their advancing growth, ſuffered to grow nearly in their natural manner, branchy from or near the bottom, in full growth upwards; or, occaſionally, the larger tree kinds may be pruned up gradually, from lower branches, to advance with a clean ſtem below; or the whole permitted to grow natural, only pruning up caſual, low, ſtraggling, or diſorderly branches, and encouraged to grow up full above.

Sometimes the larger, hardy Cedar kinds are aſſembled in ever-green foreſt-tree plantations; particularly the Virginia Red Cedar, or the other tree ſorts occaſionally; and, in their advancing growth, have the low, under branches pruned up moderately by degrees, to form them with clean ſtems below; but this pruning of theſe kinds of reſinous, ever-green trees, ſhould be performed with much diſcretion, only gradually as they increaſe in height, and permitted to branch out upward in full heads.

Formerly, ſome of theſe ſpecies of Juniperus were planted to form ornamental garden hedges; and ſometimes planted detached, and trained in pyramidal figures.

The propagation, or method of raiſing the different ſpecies of Juniperus, is principally by ſeed; and ſome alſo occaſionally by layers and ſlips, or cuttings of the young ſhoots, particularly the Savins; but the Juniper and Cedar kinds are moſtly raiſed from ſeed.

The ſeed is ſowed in the ſpring, in a bed of light earth, each ſort ſeparate, and covered in with mold, half an inch to an inch deep; they will come up ſome the ſame year, others probably not till the ſpring following; or ſome of the foreign, or more tender ſorts, might be ſowed in pots, and plunged in a hot-bed, to forward them the ſame year, and ſhould be expoſed by degrees to the full air: keep the whole clean from weeds, and give moderate watering in dry, hot weather in ſummer; and the young plants, of one or two years old, tranſplanted in the ſpring, in nurſery-beds, in rows ſix inches to a foot aſunder, to advance in growth, for a year or two, and then tranſplanted in wider rows two feet diſtance, to acquire proper growth, generally permitting them to branch out from the bottom in their natural way; or may only prune any low, under-ſtraggling ſhoots, and let all the others, and the top-ſhoot advance in full growth, to proper ſizes, for the intended plantations.

Or, to propagate them by layers, ſlips, or cuttings, it may be performed in any of the ſorts occaſionally, in want of ſeed, or principally the Savins; chuſing for layers, the young, under-branches, furniſhed with young ſhoots, which, in the ſpring, lay in the earth, they will be rooted in one year; and ſlips or cuttings of the young ſhoots, planted in March or April, will emit roots, and grow; and when the whole, both layers, cuttings, &c. are properly rooted, next ſpring, tranſplant them in nurſery-beds, &c. to obtain a requiſite growth, as adviſed in the ſeedling-plants.

KALMIA—(KALMIA) or DWARF-LAUREL.

Claſs and Order.

Decandria Monogynia,
Ten Males, One Female;

Or Plants with Hermaphrodite Flowers, having ten Stamina, or Males, and one Piſtillum, or Female.

THIS Genus, *Kalmia*, conſiſts of two ſpecies of very beautiful ever-green flowering-ſhrubs, for adorning the ſhrubbery, flower-borders, &c. are of upright, moderate growth, with branchy, buſhy heads, ornamented with ovate and ſpear-ſhape leaves; and fine ornamental red flowers, in terminal and lateral, corymbus cluſters, moſt beautiful; having a five-parted permanent calyx to each flower; the corolla, or flower monopetalous tubular, divided above into five ſegments, and contain ten ſtamina and one piſtillum; ſucceeded by a roundiſh, quinquelocular, or five-celled capſule, furniſhed with ſmall ſeeds; and by which the plants are raiſed, likewiſe by ſuckers and layers.

The

The Species of KALMIA are,

1. KALMIA *latifolia*, Broad-leaved Kalmia.

A moderate ever-green ſhrub, of branchy growth, four or five feet high—the leaves *(middling)* ovate-obtuſe; and corymbus bunches of flowers, terminating the branches; June and July; moſt beautiful.—Native of Maryland, Virginia, Pennſylvania, &c. *(Moiſt, light, or any ſoil.)*

Variety.—Striped broad-leaved Kalmia.

2. KALMIA *anguſtifolia*, Narrow-leaved Kalmia.

A moderate ever-green ſhrub, of branchy, buſhy growth, three or four feet high—the leaves *(middling)* ſpear-ſhape, longiſh; and corymbus bunches of flowers, laterally, or at the ſides of the branches; June, July, &c. very beautiful.—Native of Pennſylvania, and near New York.

Theſe are the moſt delightful of all ſhrubs, beautiful as ever-greens, and moſt delicately-fine flowering-plants; demand admittance in every curious garden, to embelliſh principal ſhrubbery clumps: may be obtained at the nurſeries, for planting, in autumn or ſpring; and are propagated by ſeeds, layers, and ſuckers, in the ſame ſeaſons.

Sow the ſeeds principally in the ſpring, in a bed of light earth, or in pots; or, if the pots are plunged in a gentle hot-bed, it will forward the germination of the ſeed, and the plants in growth; they, in either method, will come up the ſame year: give them ſhelter in winter, and in ſpring prick them in a warm ſituation, or into pots, for moving under protection from froſt in winter for a year or two, then may be tranſplanted with balls into the full ground, either where they are to remain, or in a nurſery, till advanced more in growth, for planting in the ſhrubbery, &c. or ſome may be continued in pots, and in winter, placed under ſhelter from froſt.

Or by layers and ſuckers, the former may be performed in autumn or ſpring, in the lower, young branches, layed down in the earth with the tops a few inches above ground; they will be rooted for planting off in autumn or ſpring following; and ſuckers ariſing from the bottom, may be digged up in the ſpring with roots, ſo as each forms at once a rooted young plant, which may be planted either in a nurſery, or ſtrong ones in the ſhrubberies, &c. where they are to continue.

Generally, for planting theſe curious ever-greens, in a ſhrubbery, or any where in pleaſure-grounds for ornament, they being of proper growth when two to three feet high, the ſpring, about March and April, is a good ſeaſon, otherwiſe in autumn, about the middle or end of September, or in October or November; and where any can be removed, or tranſplanted, with balls to their roots, either from the full ground, or pots, it will be an advantage.

They ſhould have a warm ſituation, in the front of ſome principal ſhrubbery clump, or in a border, &c. where they may be conſpicuous to ſight, as they make a good appearance at all ſeaſons; and very ornamental when in flower, in large, corymbus bunches.

LAVANDULA, LAVENDER, of the

Claſs and Order

Didynamia Gymnoſpermia,
Two Powers, Seeds naked;

Or Plants with Flowers (Herm.) having four Stamina, two being ſuperior, or longer than the others; and Seeds naked, or without any Veſſel or Cover.

THE LAVANDULA compriſe two hardy, under-ſhrubby, aromatic ever-greens, eligible to plant in gardens and ſhrubberies, for uſe and ornament; are of upright, buſhy growth, two or three feet high, garniſhed with ſmall, narrow, and linear ſpear-ſhape leaves; of a hoary, whitiſh hue, and long, erect ſpikes, of ſmall, tubulous, ringent or grinning flowers, blue, purple, &c. having one-leaved cups, a ſmall, monopetalous corolla, tubulous below, and divided and ringent above; four ſtamina, two ſuperior in length to the other two; a four-parted germen, ſupporting a ſingle ſtyle; and the germen grows four naked ſeeds, which are ſeldom uſed for ſowing, as the plants propagate freely by planting ſlips and cuttings of the young ſhoots, in ſpring and ſummer.

The hardy Species of LAVANDULA are,

1. LAVANDULA *Spica*—(Spica) Spike-flowering Lavandula, or Common Lavender.

A ſmall, ſhrubby, buſhy plant, growing two or three feet high—the leaves *(ſmall, narrow, whitiſh-green)* ſpear-ſhape, and intire; and long, erect ſpikes of flowers, naked, or without leaves; June, July and Auguſt.—Native of the ſouthern parts of Europe. *(Any common ſoil and ſituation.)*

Varieties.—Narrow-leaved Common Lavender.
Broad-leaved Common Lavender.
Dwarf Lavender.
Blue-ſpiked Common Lavender.
Purple-ſpiked Lavender.
White-ſpiked Lavender.

2. LAVANDULA *Stoechas*—(Stoechas) or French Lavender.

A ſmall, ſhrubby plant, of two feet growth—the leaves (*ſmall, narrower*) ſpear-ſhape, linear; and tufted ſpikes of purple flowers; July and Auguſt.—Native of the ſouthern parts of Europe. (*Any common ſoil and ſituation.*)

Both theſe ſpecies of *Lavandula* are fine, aromatic under-ſhrubs, of upright, ſlender growth; produce numerous ſpikes of flowers of great fragrance, and for which the Common Lavender is cultivated in kitchen-gardens, and producing its flowers in perfection in July and Auguſt; are gathered for domeſtic occaſions, ſuch as to put in ſmall paper bags to lay among cloaths to perfume them with their aromatic odour; alſo in larger quantities to diſtil for Lavender water, &c. and both the ſpecies are eligible to plant in ſhrubberies, as flowering-ſhrubs, diſpoſed towards the front parts, according to their degrees of growth, in aſſemblage with other ſmall ſhrubs; likewiſe to plant in borders; and, in all of which, trained in buſhy heads, will make an agreeable variety at all ſeaſons, and flower ornamentally in ſummer.

They may be procured at the nurſeries for planting, in autumn or ſpring, and are eaſily raiſed plentifully by ſlips and cuttings.

To propagate theſe plants, take off a quantity of the ſide young ſhoots, in March, April, or May, either ſlipped off by hand, or cuttings with a knife, five, ſix, eight or ten inches long; trim away the under leaves, and plant them in a ſhady border, watered in dry weather: they will root freely and ſoon, the ſame year, ſhoot at top, and form little buſhy plants, by the end of the ſummer, for tranſplanting, where they are to remain in autumn or ſpring following.

When required for kitchen-garden culture, for the flowers, ſhould cultivate principally the Common Blue-ſpiked Lavender, and planted either in beds or borders, eighteen inches or two feet diſtance, to grow in ſingle, buſhy plants, or occaſionally planted as an edging along the front of a border, either in ſlips or cuttings, planted at once to remain ſix inches aſunder in the row, or in rooted young plants, raiſed as above, and kept regular by clipping every ſummer; or where conſiderable ſupplies of flowers are required, they may be planted in continued rows, three feet aſunder, to have room to advance in full growth, to produce large crops of flowers accordingly: in ſome of the extenſive kitchen grounds, in the neighbourhood of London, as about Batterſea, and places adjacent, they plant vaſt quantities in ſingle rows, between the large breaks of ground, to furniſh large productions of flowers for the ſupply of the markets.

In the above different methods, the plants ſhould be permitted to grow in full heads, and they will produce plenty of flowers every ſummer, which attaining perfection in July and early part of Auguſt, ſhould be gathered in dry weather, for the particular or different œconomical purpoſes for which they are required and adapted; the plants will continue many years, and when they grow naked, ſtubby, or of a decaying nature, raiſe freſh ſupplies in due time to ſucceed them in proper growth.

For ſhrubberies, borders, &c. in the pleaſure-ground, both the ſpecies of Lavender are eligible, as before intimated; and may be planted in any common ſoil, and ſuffered to grow up in full heads.

LAVATERA—(Lavatera) or TREE MALLOW.

Claſs and Order.

Monadelphia Polyandria,
One Brotherhood, Many Males;

Or Plants with Flowers (Herm.) having all the Stamina joined in one Set, or Brotherhood; and numerous Males, or Stamina, in each Flower.

THIS Genus furniſhes ſeveral ſhrubby-ſtalked, malvaceous plants, growing with an upright, ſingle ſtem, four or five, to eight or ten feet high, terminated by buſhy heads; and garniſhed with large, roundiſh, three, five, and ſeven-lobed, ſoft, downy leaves, and terminating the top in a tuft; and largiſh, purple flowers, ſingly and in cluſters, compoſed of five heart-ſhaped petals; including many ſtamina, monadelphous, or united below in one ſet; an orbicular germen, ſupporting a ſhort ſtyle, and ſucceeded by many ſeed-capſules collected into a head, having each one kidney-ſhape ſeed, and by which the plants are raiſed; and ſome alſo by cuttings of the ſtems and ſhoots.

The hardy, ſhrubby LAVATERAS are,

1. LAVATERA *arborea*, Tree-like Lavatera, or Tree Mallow.

A tall, upright plant, with a ſingle, herbaceous-like ſtalk, growing eight or ten feet high—the ſtem tree-like ſingle; leaves (*large, ſoft*) ſeven-angled, plaited and downy; and peduncles or flower-ſtalks at the axillas of the leaves and ſtem, crouded, having each one purple flower.—Native of Italy. (*Dry, or any common light ſoil.*)

2. LAVATERA *triloba*, Three-lobed leaved ſhrubby Lavatera.

An upright, ſhrubby-ſtalked plant, growing four or five feet high—the ſtem ſhrubby; leaves (*large*) ſomewhat hearted,

hearted, almoſt three-lobed roundiſh crenated, and heart-ſhape ſtipula; and peduncles or flower-ſtalks aggregated, producing each one large, pale-purple flower.—Native of Spain. (*Dry, warm, or ſandy ſoil.*)

3. LAVATERA *micans*, glittering Tree Mallow.

An upright, ſhrubby-ſtalked plant, growing five, to ſix or ſeven feet high—the ſtem tree-like, ſhrubby; leaves (*large, ſoft*) ſeven-angled, acute, crenated, plaited and hoary; and terminal racems of purple flowers.—Native of Spain and Portugal. (*Dry, or ſandy ſoil.*)

4. LAVATERA *olbia*, Olbian ſhrubby Lavatera.

An upright, ſhrubby-ſtalked plant, growing four or five feet high—the ſtem ſhrubby; leaves (*large, ſoft*) five-lobed, halbert-form; and large purple flowers, ſingly.—Native of France, &c. (*Moſtly dry, warm ſoil.*)

5. LAVATERA *luſitanica*, Luſitanian, or Portugal, ſhrubby Lavatera.

An upright, ſhrubby-ſtalked plant, four or five feet high—the ſtem ſhrubby; leaves (*larger, ſoft*) ſeven-angled, plaited, and hoary; and terminal racems of purple flowers.—Native of Portugal. (*Dry, warm ſoil.*)

Of the above five ſhrubby ſpecies of *Lavatera*, the firſt is the hardieſt and the moſt commonly cultivated in the full ground, the ſtem tall and ſingle; is ſomewhat between a ſhrubby and herbaceous nature; ſometimes decays in a year or two in winter, or if planted in a dry, lean, or rubbiſhy ſoil, it will ſometimes ſtand ſeveral years: may be planted in any dry ſituation in the ſhrubbery, or where required; the other four are more tender, ſhould have a warm, dry ſituation, or ſandy ſoil; and will continue of ſeveral years duration, in root and ſtem; though it is alſo proper to have a plant or two of each of thoſe four ſorts in pots, to remove to ſhelter of a green-houſe in winter, as ſometimes thoſe in the open ground are killed, or much cut, by the effects of rigorous froſts in ſevere ſeaſons.

They being all propagated by ſeed, and the ſhrubby kinds alſo by cuttings, ſhould generally be tranſplanted, young, where they are to remain; or the ſeed ſowed in the places where they are to continue.

To propagate theſe plants from ſeed, ſow it in March or April, in a bed of light earth, for tranſplanting in ſummer or next autumn, or following ſpring, into the ſhrubbery, &c. to remain, eſpecially the firſt ſpecies; or may be ſowed in patches, in the places where the plants are to ſtand, and thinned, while young, to one of the ſtrongeſt in each patch; and thus continuing, not having any check by removal, they grow more ſtrong, hardy, and durable; or the four tenderer ſhrubby ſorts, being ſowed in beds, may both tranſplant ſome young into the ſhrubbery, or borders, and ſome ſingly, in pots, to have protection in winter the firſt year or two, then turned into the full ground in the ſpring; others continued in the pots for moving under ſhelter conſtantly in winter, in froſty weather.

Or to propagate the four ſhrubby ſorts by cuttings of the ſhoots, ſtem, or branches, is performed in the ſpring, March, or April; when, taking off ſome cuttings, ſix or eight, to ten or twelve inches long, plant them either in a border of light earth, or in pots of a ſimilar ſoil, giving moderate watering when the earth dries, they will root the ſame year; or in a hot-bed, or covered down with hand-glaſſes, will root ſooner, and ſhoot at top; and when fully rooted, and formed ſome top growth, they may be tranſplanted finally, ſome into the ſhrubbery, borders, &c. others into pots, ſingly.

LAURUS, BAY TREE, of the Claſs and Order

Enneandria Monogynia,
Nine Males, One Females;

Or Plants with Flowers (Hermaphrodite) having nine Stamina, or Males, and one Piſtillum, or Female.

THIS Genus, LAURUS, furniſhes four hardy ſpecies of moderate tree kinds, compriſing one fine aromatic ever-green, and three deciduous; all principally for ornamental plantations, ſhrubberies, &c. grow fifteen, to twenty or thirty feet high in the different ſpecies; adorned with ſpear-ſhape, oblong, and three-lobed leaves, all of moderate ſize; and ſmall hexapetalous yelloviſh and whitiſh flowers, without any calyx, or cups; a corolla, compoſed of ſix oval petals, containing nine ſtamina; an oval germen, ſupporting one ſtyle; and the germen grows an oval, unilocular red berry, having one oval hard ſeed, or nut; and the berries ripen plentifully in autumn and winter, in the Common Bay particularly, for ſowing; the others not ſo abundant; but generally procured from America, by the ſeedſmen; and by which the different ſpecies are propagated, alſo by layers and cuttings of the young ſhoots.

The hardy Species of LAURUS are,

1. LAURUS *nobilis*, Noble, or Common Bay Tree.

A moderate ever-green tree, branchy from the bottom, growing twenty to thirty feet high—the leaves (*middling ſize, dark-green*) ovate-ſpear-ſhape, veined, and perennial, or remaining all the year; and quadriſid yelloviſh

yellowiſh flowers, that are dioicous or ſometimes male and female, on two different trees.—Native of Italy and Greece. (*Dry, light, or any common ſoil.*)

Varieties.—Broad-leaved Common Bay.
Narrow-leaved Common Bay.
Waved-leaved Common Bay.
Striped-leaved Common Bay.
Double-flowered Common Bay.

2. LAURUS *æſtivalis*, Summer-leaved, or Deciduous Bay Tree.

A ſmall, deciduous tree, growing ten or twelve to fifteen feet high—the leaves (*middling*) oblong-ovate, acuminate or pointed, veined, and annual or deciduous; and white flowers. Native of Virginia, near rivers. (*Moiſt or any ſoil, and warm ſituation.*)

3. LAURUS *Benzein*—(Benzoin) or Benjamin Tree.

A ſmall, deciduous tree, growing twelve or fifteen feet high—the leaves (*middling, light-green*) ovate, enervate, or without veins, both ends pointed, deciduous.—Native of Virginia. (*Warm, dry ſituation.*)

4. LAURUS *Saſſafras*—(Saſſafras) or Saſſafras Tree.

A ſmall, deciduous tree, twelve or fifteen feet high—the leaves (*middling, light-green*) three-lobed and intire.—Native of Virginia, Carolina, and Florida. (*Warm ſituation, moiſt or any common ſoil.*)

Varieties.—Three-lobed and intire-leaved Saſſafras Tree.
Undivided, bay-leaved Saſſafras Tree.

All theſe ſpecies of *Laurus* are deſirable, ornamental trees, to aſſemble in principal plantations and ſhrubberies; the firſt of which, in the different varieties, as fine ever-greens, trained either in taller ſtandards with a ſingle ſtem, in which they will grow fifteen to twenty feet high, or more; but as the Bays often riſe with ſeveral ſtems, branchy to the bottom, in a ſhrub-like growth, ſome may alſo be cultivated accordingly; and the other three, being deciduous, are proper to introduce in the moſt conſpicuous plantations of deciduous trees and ſhrubs; and all of which, both of the ever-green and deciduous kinds, may be trained, ſome in the tree way, with a ſingle ſtem below, and full heads above, and others to grow ſhrub-like, in a buſhy order; and the Common Bay, in its branchy growth, is likewiſe proper to train for handſome ever-green hedges, either kept regular by an annual clipping in ſummer, or permitted to run up rough, nearly in a natural growth, and the long-projecting and rambling ſhoots cut in with a knife: this tree alſo admits of training in ſtandards, for introducing in ever-green tree plantations, having the lower and under boughs pruned up by degrees, and it will ſhoot up faſt above, form a beautiful head, and make a fine appearance at all ſeaſons.

Moſt of theſe trees are of an aromatic and odoriferous quality; and for which property, the leaves of the Common Bay are often uſed in culinary occaſions; and this, and ſome of the others, are alſo eſteemed very ſalutiferous in a medical way; but, particularly, the Saſſafras is much recommended for Saſſafras tea, being a ſtrong, aromatic, and efficacious purifier; the wood of which, cut into ſmall ſlips, is the part uſed, and of which great quantities is imported in this country, for the druggiſts; and being prepared into chips, aforeſaid, is ready for uſe, as above, in which it is both palatable and wholeſome, well ſweetened with ſugar, and mollified with plenty of milk, or cream.

Theſe four ſpecies of *Laurus* are cultivated, for ſale, at moſt of the public nurſeries, where they may be procured of proper growth, two, three, or four, to five or ſix feet high, for planting; though, if only two or three to four feet, will generally be more ſucceſsful than if tranſplanted of larger ſizes, eſpecially the Common Bay; and which, where convenient to remove them with balls of earth, will be of greater advantage, particularly for large full plants.

The general ſeaſon for removing and planting theſe trees, of all the ſorts, is either in October or November, or in the ſpring months.

The propagation, or method of raiſing the different ſpecies, is by ſeed, layers, and ſuckers.

The ſeed, or berries, for ſowing, are obtained of the ſeedſmen, and at many of the principal nurſeries: they may be ſowed in autumn or ſpring; though as thoſe of the deciduous kinds are commonly received from America, they ſeldom arrive before the ſpring ſeaſon: ſow all the ſorts in beds of light earth, either in drills, or broad-caſt, and covered in evenly an inch deep; or ſome might be ſowed in pots, in the ſpring, eſpecially the American kinds, and plunged in a moderate hot-bed to forward them; and in all of which give gentle waterings, kept clean from weeds all ſummer, protected from froſt in winter; and when the plants are of one or two ſummers growth, ſhould be tranſplanted in nurſery-beds, where, advancing in ſtrength, one or two years, may be tranſplanted in wider nurſery-rows, or ſome where they are to remain; or when thoſe continued longer in the nurſery are from two or three, to four or five feet, are proper for the plantations in which they are intended.

Or

Or the *Laurus æſtivalis*, being tenderer, it, and ſome of the other American ſorts, may alſo be planted, while of young growth, from the ſeed-bed into pots, ſingly, to place under ſhelter from froſt the firſt year or two, or till they obtain ſtrength, then turned out, with balls, into the full-ground, in a warm ſituation; eſpecially the former mentioned.

Layers of the lower young ſhoots, in ſpring or autumn, will root in one year; generally performing it by ſlit-laying, gaſhing or ſlitting the ſhoots a little on the under ſide, that part layed in the earth, three inches deep, keeping the ſli open, and the top upright above ground, pegged down, and earthed in the above depth; and when rooted, cut them from the ſtools, and plant them in the nurſery, to acquire proper growth for the ſhrubbery, &c.

Suckers often ariſe abundantly from the roots of the Common Bay, which may be digged up with roots to each, in autumn or ſpring, and planted either where they are to remain, or in a nurſery, for one, two, or three years, to obtain larger growth for the intended purpoſes.

When the young trees, raiſed by any of the above methods of propagation, are advanced two or three, to four or five feet in growth as before intimated, they are of proper ſizes for final tranſplanting in ſhrubberies, and other places, where they are to remain.

In the final planting of theſe trees, in ſhrubberies and other plantations, generally diſpoſe the Common Bay with ever-greens of ſimilar growth, either to grow up tall in ſtandards, or to advance in buſhy heads, branchy almoſt from the bottom; and the other three ſpecies introduce principally with other deciduous kinds, in ſomewhat ſheltered, warm ſituations, eſpecially the *Laurus æſtivalis*, or planted againſt a ſouth wall, as this is rather tenderer than moſt of the other ſpecies; or may alſo plant ſome in pots, to remove under ſhelter in winter, as being liable to ſuffer by rigorous froſts, and is therefore alſo generally kept among the green-houſe exotics, though, when planted in a ſheltered place, as above, in the full ground, will ſtand our ordinary winters tolerably well, and harden by degrees.

When deſigned to plant the Common Bay, for a garden hedge, it ſhould generally be planted in young growth, of one or two to three feet, ſet a foot aſunder; or if ſpreading plants, may be planted eighteen inches diſtance: permit them to run up at top, and the projecting ſide-ſhoots cut regular in ſummer, never cut in winter; or may occaſionally plant ſome hedge-ways, to cover any naked, unſightly walls, palings, &c. and the branches nailed thereto in a ſpreading manner.

LEDUM, MARSH CISTUS, or Wild Roſemary.

Claſs and Order.

Decandria Monogynia,
Ten Males, *One Female*;

Or Plants with Flowers (Herm.) having ten Stamina and one Piſtillum.

THIS Genus is compoſed of low, under-ſhrubby ever-greens, of ſmall, buſhy growth, ornamented with ſmall, linear, and ovate leaves, and ſmall, corymbus bunches of reddiſh flowers, conſiſting of five ſmall petals, ten ſtamina, and one piſtillum; ſucceeded by roundiſh capſules, furniſhed with many ſeeds, by which, ſowed in a moiſt border, the plants are raiſed; likewiſe by off-ſet root-ſuckers, layers and ſlips.

The Species are,

1. LEDUM *palúſtre*, Marſh Ciſtus Ledon, or Wild Roſemary.

A ſmall, low, under-ſhrubby ever-green, two feet growth—the leaves *(ſmall, narrow)* linear, hairy on the under-ſide, and ſmall flowers in a corymbus.—Native of the northern parts of Europe, in marſhy ground. *(Moiſt, or marſhy ſituation.)*

Varieties.—Larger, Upright, Wild Roſemary.
Smaller, Procumbent, Wild Roſemary.

2. LEDUM *latifolium*, Broad-leaved Marſh Ciſtus.

3. LEDUM *longifolium*, Long-leaved Marſh Ciſtus.

4. LEDUM *thymifolium*, Thyme-leaved Marſh Ciſtus.

Theſe are all ſmall, under-ſhrubs, moſtly inhabitants of marſhy and boggy ſituations: they may be planted in ſomewhat ſimilar ſoils, or any moiſt ſhrubbery clumps, borders, or where convenient, for variety; and are propagated by parting the roots, or detaching, or ſlipping the off-ſet ſuckers, alſo by layers of the branches; and by ſeed, ſowed in autumn or ſpring, in a ſhady, moiſt ſituation; and planted out where they are to remain.

LIGUSTRUM, PRIVET.

Claſs and Order.

Diandria Monogynia,
Two Males, *One Female*;

Or Plants with Hermaphrodite Flowers, having two Stamina, or Males, and one Piſtillum, or Female.

THE LIGUSTRUM conſiſts of moſt hardy, large, buſhy ſhrubs, deciduous and ever-green, eligible for the

the ſhrubbery, and valuable for forming very neat and expeditious hedges; are of upright, full growth, branching thick and erectly from the very bottom; cloſely garniſhed with ſmalliſh, ovate-oblong leaves, oppoſite; and many erect, oval ſpikes, of ſmall, whitiſh flowers in ſummer; having one-leaved cups, four-parted above, a ſmall, monopetalous, funnel-ſhape corolla, quadrifid or four-parted; two ſhort ſtamina and one piſtillum, and the ſpikes of flowers ſucceeded by cluſters of roundiſh, black berries, containing four ſeeds, ripe in autumn and winter; proper for ſowing to propagate the plants; which are alſo raiſed plentifully by ſuckers, layers, and cuttings.

The Species and Varieties of LIGUSTRUM are,

1. LIGUSTRUM *vulgare*, Common. Deciduous Privet.

A large, upright, buſhy, deciduous ſhrub, growing eight or ten feet high—the leaves (*ſmalliſh, dark-green*) ovate-oblong, and oppoſite; and erect, oval ſpikes of whitiſh flowers; June or July.—Native of England, and other parts of Europe. (*Any ſoil and ſituation.*)

Varieties.—Gold-ſtriped-leaved Deciduous Privet.
Silver-ſtriped-leaved Deciduous Privet.

2. LIGUSTRUM *ſemper-virens*, Ever-green Italian Privet.

A large, ever-green ſhrub, growing eight or ten feet high—the leaves (*ſmalliſh, dark-green*) ovate-oblong, oppoſite, and continue all the year; and erect, oval ſpikes, of whitiſh flowers; July and Auguſt.—Native of Italy. (*Any ſoil and ſituation.*)

3. LIGUSTRUM *latifolium*, Broad-leaved Carolina Privet.

A large, ever-green ſhrub, eight or ten feet high—the leaves (*larger, dark-green*) ovate-oblong, oppoſite; and erect ſpikes of whitiſh flowers; July.—Native of Carolina. (*Any common ſoil.*)

Theſe ſhrubs, being of large, erect, buſhy growth, are adapted for ſhrubberies, and other plantation diſtricts in pleaſure-grounds, in aſſemblage with other hardy ſhrubs and trees; and are remarkably well adapted for forming neat, cloſe garden hedges, proper both for internal diviſions and occaſionally for outward fences, as they grow very cloſe and expeditiouſly; and are likewiſe proper to plant in a ſpreading growth againſt naked or unſightly walls, or palings, &c. where required to have them covered, and for which the ever-green ſorts are moſt eligible, on account of their continuing leaves in conſtant verdure at all ſeaſons; but for that occaſion, and hedges, any of the ſorts are eligible.

They are propagated by ſeeds, layers, ſuckers, and cuttings.

Sow the ſeed in autumn or ſpring, in a bed of common earth, in drills an inch or two deep, or broad-caſt, on the ſurface, and earthed over that depth; they will come up freely in ſpring, or beginning of ſummer; and when the plants are of one ſummer's growth, tranſplant them into nurſery-rows; and in which they may either be permitted to grow up rough or buſhy from the bottom, both for hedges and ſtandard ſhrubs; or, for the latter, ſome trained with a ſingle ſtem, pruning up the lateral ſhoots and branches below, and encouraged to branch out full above in buſhy heads; and when two or three, to four or five feet high, are proper for final tranſplanting in ſhrubberies, or where they may be required; or for hedges, they being trained in a buſhy, ſpreading growth, feathered quite to the bottom; and of one, two, to three or four feet, are of eligible ſizes to plant for that purpoſe.

Or to propagate them by layers, cuttings and ſuckers, it may be performed in the autumn or ſpring: layers of the pliant young branches and ſhoots will be abundantly well rooted in one ſummer, for planting off in autumn or ſpring following; likewiſe cuttings of the year-old ſhoots planted, will emit roots, and grow freely; and ſuckers ariſing from the bottom of old plants, may be taken off with roots, and planted, forming at once proper rooted plants.

All the Privets, being moſt hardy ſhrubs, admit of planting any where in open or cloſe ſituations, or to plant in cloſe places in towns and cities, where many other ſhrubs would not grow; and admit of removal for planting any time in open weather, from September or October, till March or April; or, on particular occaſions, might be tranſplanted ſucceſsfully in May or June, as they have abundant roots, very fibrous, ſo as they may readily be tranſplanted with balls, which, particularly in late planting as above, in the latter part of ſpring, or in ſummer, would be of greater advantage, by having them continued in growth, without ſtint, or much check by removal.

They are proper to plant in ſtandard, buſhy ſhrubs, for variety in ſhrubberies, or any general plantations of ſhrubs and trees; and in which, as they often run into long, rambling ſhoots, they ſhould be pruned to ſome regular order, in ſummer or winter, as may be required.

For Privet hedges, they may be formed, both by planting young plants of one, two, or three feet, planted a foot aſunder in the row; or to form at once a full

full hedge, plants of three to four, or five feet, might be ſucceſsfully planted; or by ſeed, ſowed in a drill where the hedge is intended, and the plants to remain; and in either methods train them regular in their advancing growth, by clipping the ſides once or twice every ſummer, and may either be kept of a moderate height, of three or four feet, by clipping them at top to the height required, or permitted to run five, ſix, or ſeven feet high, cutting them in gradually narrowing or tapering, on each ſide to the top, which, when of the deſired height, may alſo be clipped even.

LIQUIDAMBAR, STORAX, or SWEET GUM TREE.

Claſs and Order.

Monoecia Polyandria,
One Habitation, Many Males;

Or Flowers, Male and Female, ſeparate, on one or the ſame Tree, and the Males having many Stamina.

THE LIQUIDAMBAR compriſes two ſpecies of elegant, deciduous trees, for ornamental plantations, being of ſtraight, handſome growth, riſing twenty to thirty feet high; adorned in ſummer with largiſh, palmated-angular, and oblong foliage, imparting a ſweet, gummy, fragrant ſubſtance, and male and female flowers apart on the ſame tree; the males in conic amentums, and females globoſe perianthums; have four-leaved and double involucrums, and with a bell-ſhape cup to each floret, but no petals; numerous ſtamina in the males, and in the females two piſtillums or ſtyles, ſucceeded by a globular body of many roundiſh capſules, filled with oblong ſeeds; not ripening plentifully in this country, but procured in abundance from America by the ſeedſmen, and by which, ſowed in the ſpring, the trees are raiſed; and are alſo propagated by layers.

Two Species, viz.

1. LIQUIDAMBAR, Styraciflua—(Styraciflua) or Styrax-flowing Liquidambar.

A middling, deciduous tree, growing twenty or thirty feet high—the leaves (*moderately-large, lobated*) palmated-angular.—Native of Virginia and Mexico. (*Light or moiſt ſoil.*)

2. LIQUIDAMBAR *aſplenifolium*, Spleen-wort-leaved Liquidambar.

A moderate, deciduous tree, growing twenty feet high—the leaves (*ſmaller, cut-divided*) oblong, alternate, ſinuated.—Native of North America. (*Light or any common ſoil.*)

Both theſe are fine ornamental trees, to aſſiſt in compoſing principal decorative plantations in pleaſure-grounds, and in forming curious ſhrubberies, clumps, &c. in aſſemblage principally with other deciduous trees, and large ſhrubs of the more curious, deſirable kinds; or in any general or particular diſtricts, as may be required, or thought eligible; and for which occaſions, young trees, of proper growth, may be procured at moſt of the nurſeries, and planted in the general ſeaſons of autumn or ſpring.

The propagation of theſe trees is by ſeed and layers, in the ſpring and autumn: ſow the ſeed in March or April, in a bed of light earth, or in pots of the ſame ſoil; and covered in with earth an inch deep, they will come up the ſame year: give the plants occaſional protection in winter from ſevere froſt, and when of one or two years growth in the ſeed-bed, tranſplant them in the ſpring into nurſery-rows; where train each with a ſingle ſtem, run them, with the top-ſhoot entire, to aſpire in height, pruning off lateral growths below, and permitted to branch out above in regular heads; and when about four or five, to ſix or eight feet, are proper for the plantations in which they are deſigned.

Layers of the young wood, in the lower, pliant branches and ſhoots, in the autumn, or early ſpring months, will root in one year, and ſhould then be planted off in the above-mentioned ſeaſons into the nurſery, and ordered as adviſed for the ſeedling-trees.

The trees, raiſed by either of the methods, as above, when of ſome advanced growth in the nurſery, three, four, or five, to ſix or ſeven feet, may have their final tranſplanting, as required, in the plantations where they are deſigned to remain, for ornamenting the pleaſure-ground: may be performed in autumn, in October or November, or any of the ſpring months, from February to April.

LIRIODENDRON (Lily Tree) commonly called TULIP TREE.

Claſs and Order.

Polyandria Polygynia,
Many Males, Many Females;

Or Plants with Flowers (Hermaphrodite) having many Stamina, or Male generative Organs, and many Piſtillums, or Females.

THIS Genus furniſhes but one hardy ſpecies; a fine, lofty-growing, deciduous tree, of handſome, ſtraight

growth, and beautiful in its foliage and flowers, for adorning any ornamental plantations; is garnished, in summer, with large, lobated leaves, singularly truncated at the ends, and many campanulate, or bell-shape, liliaceous, or lily-form flowers, somewhat resembling the form of a tulip; composed of six petals in two series, containing numerous stamina, and many germina, which grow a conic body of numerous, angular seeds, placed imbricatim, or lying over one another: ripening in autumn, though not abundantly in England, but procured plentifully from America, and by which the trees are generally propagated.

One hardy Species, viz.

LIRIODENDRON *Tulipifera*—(Tulipifera Arbor) or TULIP TREE.

A lofty-growing, deciduous tree, advancing with a straight stem, and branchy head, forty or fifty feet high—the leaves (*large, light-green*) lobated, three-parted, with the middle lobe truncated, as if cut off at the end; and bunches of small tulip-shape flowers.—Native of North America. (*Loamy or any common light soil.*)

Variety.—Carolina Tulip Tree, with the leaves producted, more angled.

This curious, deciduous tree, merits attention to plant for ornament and variety, in principal plantations, in pleasure-grounds, parks, &c. associated with other ornamental trees of the deciduous tribe; in which it will display a distinguishable diversity in its growth, and large, lobated, singular, truncated leaves; and, when advanced to some considerable size, produces flowers conspicuously in summer, towards the ends of the branches: the tree is raised in all the nurseries for public supply, and may be obtained for planting at the usual seasons; and is propagated by seed sowed in the spring.

The seed of this tree, for sowing, is commonly procured from America, by the seedsmen, in the spring; when, in March or April, it should be sowed in a bed of light earth, and covered in an inch deep; and when the plants are of one summer's growth in the seed-bed, transplant them in autumn or spring, in nursery-rows; and trained with single, clean stems, of four, five, or six feet, for standard trees, and to run up with full heads.

When they are advanced about four to five, or six feet high, they are of proper growth for any intended plantations.

LONICERA, HONEY-SUCKLE.

Class and Order.

Pentandria Monogynia,
Five Males, One Female;

Or Flowers (Herm.) having five Stamina, or Male Parts, and one Pistillum, or Female.

THE LONICERA, or Honey-suckle, consists of many species and varieties of ornamental, flowering-shrubs, volubilate climbers, and of upright, shrubby growth, of great merit for adorning shrubberies, flower-borders, &c. in their numerous, beautiful, fragrant flowers, in summer and autumn; are mostly deciduous, and some ever-green; some growing with long, slender, twining-climbing shoots, ten to fifteen, or twenty feet extent; others more upright growers, advancing three, four, five, to six or eight feet; decorated with oblong-oval, spear and heart-shape, middling and small leaves; in the different species mostly in pairs, opposite, and some singly, others connected at the base, and perforated by the stalks, or branches; and numerous, long, tubulous, five-parted flowers, red, white, yellow, &c. in bunches and in pairs; having small cups divided into five parts; a corolla monopetalous, or of one petal, tubulous below, cut above into five reflexed segments, and furnished with five stamina, a roundish germen, supporting one style; and the germen grows a roundish, umbilicated, bilocular berry, red, blue, black, some joining two or several together, and some distinct or single; containing roundish and compressed seeds, by which, sowed in the spring or autumn, the plants are occasionally raised, or more generally by cuttings of the shoots and layers thereof.

The Species of LONICERA are, consisting of volubilate Climbers, and upright Plants, viz.

VOLUBILATE KINDS—*or with long, slender, twining-climbing stems and shoots; either twining round any adjacent support of trees, stakes, bushes, &c. or trail on the ground; so should generally have support, or trained to walls, &c.*

1. LONICERA *Periclimenum*—(Periclimenum) or Common Climbing Honey-suckle.

A twining-climbing, deciduous shrub, extending ten to fifteen or twenty feet length—the leaves (*middling*) oblong-ovate, opposite, all standing distinct; and oval, imbricated, terminal heads of flowers, white, red, &c. June, July, and August.—Native of England, Germany, &c. (*Any soil and situation.*)

Varieties.—

Varieties.—(*Lonicera vulgare*) or Common, Wild, White Honey-ſuckle, or Woodbine of the Woods and Hedges.
Large, White, Common Honey-ſuckle.
Late White Common Honey-ſuckle.
Red-flowered Common Honey-ſuckle.
Oak-leaved Common Honey-ſuckle.
Striped-leaved Common Honey-ſuckle.
Variegated, Oak-leaved Common Honey-ſuckle.
(*Lonicera germanica*) German, or Large Dutch Red Honey-ſuckle.
Long-blowing, Dutch Honey-ſuckle.
Late-blowing German Honey-ſuckle.
Ever-green German Honey-ſuckle.

2. LONICERA *Caprifolium*—(Caprifolium) or Early Italian Honey-ſuckle.

A twining-climbing, deciduous ſhrub, extending ten or fifteen feet—the leaves (*middling*) ovate-oblong, the top ones connate, or joining at the baſe, and perforated by the branch; and flowers verticillate, or in whirls terminal, and ſitting cloſe; May and June.—Native of the ſouthern parts of Europe. (*Any common ſoil.*)

Varieties.—White-flowered Italian Honey-ſuckle.
Red-flowered Italian Honey-ſuckle.
Later Red-flowered.
Yellow-flowered Italian Honey-ſuckle.
Ever-green, late Red Italian Honey-ſuckle.

3. LONICERA *ſemper-virens*, Ever-green, Scarlet, Trumpet Honey-ſuckle.

A twining-climbing, ever-green ſhrub, extending eight to ten, or fifteen feet—the leaves (*middling*) oblong-ovate, top ones connated at the baſe, and perforated by the branch; and naked ſpikes of flowers, in verticils, or whirls terminal; the flowers long, trumpet-ſhape, ſcarlet, (moſt beautiful).—Native of Virginia and Mexico. (*Any common ſoil, &c.*)

Varieties.—Greater Trumpet Honey-ſuckle.
Minor, or Leſs Trumpet Honey-ſuckle.

4. LONICERA *americana*, American Ever-green Honey-ſuckle.
(*Balearica*) Balearican, or Minorca Ever-green Honey-ſuckle.

MORE UPRIGHT KINDS—*Of more moderate growth, with flowers, by pairs, on each peduncle.*

5. LONICERA *Xyloſteum*—Xyloſteum—or Fly Honey-ſuckle.

A more upright, deciduous ſhrub, of ſix or ſeven feet growth—the leaves (*middling, whitiſh-green*) ovate-oblong, obtuſe, entire and downy; and peduncles or flower-ſtalks, having each two flowers, ſucceeded by red berries, in pairs, diſtinct.—Native of the cold parts of Europe, in hedges. (*Any ſoil.*)

6. LONICERA *alpigena*, Alpine, Fly Honey-ſuckle.

A moderate, deciduous ſhrub, three to four, or five feet—the leaves (*ſmalliſh*) ovate, acute, and entire; peduncles having each two flowers; and red berries, in pairs, joined.—Native of the Alps of Switzerland, Pyrenees, &c. (*Any common ſoil.*)

7. LONICERA *pyrenaica*, Pyrenean Fly Honey-ſuckle.

A moderate, deciduous ſhrub, three to four, or five feet—the branches divaricated aſunder; leaves (*ſmalliſh*) oblong, ſmooth; peduncles having each two flowers, funnel-ſhape, regular; and red berries, in pairs, diſtinct, or not joined.—Native of the Pyrenean mountains. (*Any common ſoil.*)

8. LONICERA *nigra*, Black-berried Alpine Honey-ſuckle.

A moderate, deciduous ſhrub, four or five feet growth—the leaves (*ſmall*) elliptic, ovate, and entire; peduncles, or flower-ſtalks, having each two flowers; and black berries, in pairs, diſtinct.—Native of the Alps, Switzerland, and France. (*Any ſoil and ſituation.*)

9. LONICERA *cærulea*, Blue-berried Honey-ſuckle.

A moderate, deciduous ſhrub, of four or five feet—the leaves (*ſmalliſh, or middling*) ovate-oblong and entire, by pairs and threes; peduncles, or flower-ſtalks, having each two flowers; the ſtyles undivided; and blue berries, in pairs, joined-globoſe.—Native of Switzerland. (*Any ſoil, &c.*)

10. LONICERA *tatarica*, Tartarian Red-berried Honey-ſuckle.

A ſmalliſh, deciduous ſhrub, three or four feet growth—the leaves (*middling*) heart-ſhape, obtuſe, ſmooth; peduncles having each two flowers, pale-bluſh-coloured; and red berries, paired, diſtinct.—Native of Tartary. (*Any ſoil, &c.*)

UPRIGHT GROWERS—*or with ſtems erect, and peduncles ſuſtaining many flowers.*

11. LONICERA *Symphoricarpos*—(Symphoricarpos) or Shrubby St. Peter's Wort.

An upright, deciduous ſhrub, three or four, to five or ſix feet high—the leaves (*middling, or ſmalliſh*) roundiſh-ovate, petiolated, or with foot-ſtalks; and lateral heads of greeniſh flowers pedunculated, ariſing at the ſides of the branches.—Native of Virginia and Carolina. (*Any common ſoil.*)

12. LONICERA *Diervilla*—(Diervilla) or Dwarf Yellow Honey-ſuckle.

A ſmall, upright, deciduous ſhrub, three or four feet high—the leaves (*ſmalliſh*) oblong-hearted, ſawed, and racems of yellow flowers terminating the branches.—Native of Acadia and North America. (*Any common ſoil.*)

The Honey-ſuckles are principal, ornamental, flowering-ſhrubs, in the climbing, trailing, and upright ſpecies, for adorning ſhrubberies, pleaſure-grounds, flower-gardens, borders, and other compartments, and to plant in pots; as in all of which they make a beautiful appearance in their numerous, fine, odoriferous flowers, ſeveral months in ſummer, from May or June, till September or October, in the different ſpecies and varieties; which, in the trailing, or climbing ſorts, particularly, are largeſt, moſt elegant and fragrant, and the ſhrubs thereof are deſirable ornaments in every garden, either to plant againſt walls, palings, buildings, &c. to have ſupport thereof, and on which, to train their long-extending, ſlender ſtems, branches, and ſhoots, or to have ſupport of ſtakes, or ſtems of trees and arbours, whereby to train them in their volubilate growth; and in which different methods they are peculiarly adapted, as they all require ſupport, otherwiſe the ſtems and ſhoots would trail on the ground: all the other ſpecies have alſo great merit, as flowering-ſhrubs, to plant in ſhrubberies, borders, &c. and will effect a conſpicuous diverſity in their different modes of flowering, and colours of the flowers, &c. as likewiſe, in the different ſorts, the berries ſucceeding the flowers make an agreeable variety in autumn.

All the ſorts, both climbers and upright kinds, are hardy ſhrubs, that will grow and proſper in any common ſoil of a garden, &c. and in moſt ſituations; but generally flower ſtrongeſt, in the greateſt perfection and beauty, in open expoſures.

They are obtained of proper growth for planting, at moſt of the nurſery-gardens, in collection, or of any particular ſpecies or varieties as required; and may be planted in autumn or ſpring, or any time in mild weather, from October, to March or April; and are all readily propagated plentifully by cuttings and layers of the young wood, which will be well rooted in one ſummer, for tranſplanting in autumn or ſpring following, and may be trained either with a ſingle ſtem a foot or two high, or more, then permitted to advance in branchy heads; or the climbing kinds deſigned for training to walls, &c. may train them with only a ſhort ſtem below, and to puſh out above in ſeveral branches; and the more firm or upright growers may be trained with a ſingle ſtem, from one to two or three feet, and full heads above, to plant for ſtandards; or likewiſe, for the ſame purpoſe, the climbing ſorts, may occaſionally be run with a ſingle ſtem, ſupported each with a ſtake, and permitted to branch full at top, to form buſhy heads, pruning the long ſhoots accordingly.

Theſe ſhrubs, for planting, are moſt proper, while they are of moderately-young growth, advanced, in the main ſtem and principal head, one to two, or three feet, excluſive of the long-extending ſhoots.

The climbing, or trailing kinds, ſhould generally be planted either to have the ſupport of walls and palings, or to train againſt the wall of an houſe, or other building, or to aſcend over arbours; and in all or any of which to have the principal ſhoots trained in regular order; cutting out the weak ſtragglers, and prune the upper weak parts of the others, and nail them to the wall, either upright, or more or leſs horizontally, as the allotted ſpace admits, five or ſix inches aſunder; or others planted to twine round ſtakes, poles, or the ſtems of trees; and ſome to run over ſhrubs, buſhes, hedges, &c. in their natural order of growth; and likewiſe ſome may be planted detached in ſhrubberies, and formed into low, buſhy, ſtandard ſhrubs, aſſiſted by the ſupport of a ſtake to each, as formerly intimated, and trained with a ſingle ſtem, by cutting away the lateral ſhoots, and forming a full head above: prune the very long, rambling ſhoots, to preſerve the head within ſome moderate compaſs and regularity.

But the more firm, or upright growers, may be planted for detached ſtandards, in ſhrubberies, borders, &c. trained principally with a ſingle, upright ſtem, one, two, or three feet; or any as ſeem to need ſupport, have a ſtake placed to each, the ſtem tied thereto; and, in all of which, pruning away the other lateral ſhoots, and ſuffered to branch out above to form the head; and of which prune ſtraggling and rambling twigs, to keep the head in ſome regular order.

Or any of theſe ſorts of Honey-ſuckles may alſo be trained againſt walls, &c. as adviſed for the common climbing kinds; eſpecially ſuch as produce long, running ſhoots, or of a trailing nature; or any others, as may

may be required for variety or ornament to particular compartments.

The propagation, or ways of raiſing Honey-ſuckles, is principally by cuttings and layers of the young ſhoots, in ſpring or autumn; ſome alſo by ſuckers from the root, eſpecially the *Lonicera Diervilla*, or moſt of the ſorts by ſeed.

By cuttings and layers, is performed in autumn or ſpring, chuſing, for cuttings, ſome ſtrong ſhoots of laſt ſummer; cut them into lengths of ſix or eight, to ten or twelve inches; plant them by dibble, in a ſhady border, or where convenient, in rows a foot aſunder, by ſix inches in the row, inſerted half way into the ground, they will be well rooted by the following autumn; and for layers, the young ſhoots, as above, are alſo proper, which ſhorten to moderate lengths; or prune down the weak tops, lay the ſtems in the earth, three or four inches deep, the top part ſeveral inches above ground, they will be well rooted by the end of ſummer, for planting off in autumn or ſpring, into the nurſery, or where they are to remain; and, in either method of propagation, train the young plant with a ſingle ſtem below, ſhorter or longer, ſix or eight, to twelve, fifteen, or eighteen inches, or two feet, or more, as required, for particular occaſions, agreeable to the foregoing intimations; and permitted to ſhoot out above into branches for the head, which may have the long ſtragglers pruned more or leſs, as may ſeem neceſſary, according to their nature of growth, or order of training intended, as before explained.

Suckers ariſing from the roots of any particular ſorts, as the *Diervilla*, &c. before hinted, may be ſlipped off with roots, in autumn or ſpring, and planted in a nurſery; or ſtrong ones, where they are to continue as may be thought convenient.

Or alſo by ſeed of the berries, ſowed in the autumn or ſpring ſeaſon, in a bed of common earth, many young plants will come up, which, in autumn or ſpring following, may be pricked into nurſery-beds, in rows a foot aſunder, and managed as adviſed for the cuttings and layer-raiſed plants.

The plants, raiſed by either of the above methods, when advanced one, two, or three feet in the principal ſtem and head, are of proper ſizes for planting in the different, or any particular compartment intended.

Thoſe of the principal climbing kinds, deſigned to plant againſt walls, one, two, or more plants, as thought expedient, ſhould have them run with ſeveral ſhoots or branches from near the bottom, and trained in moſtly at their full length, in ſummer; or only prune very diſorderly ſtragglers; and in winter, reſerving the ſtrongeſt, cut out the weak, and prune the weakly upper parts of the remaining, and then nailed up regular; and thus forming a proper ſpread of branches, by degrees, to furniſh the allotted ſpace, they will produce plenty of young wood, annually, in ſummer, for flowering, which manage as above; and when any principal branches fail, have young ſhoots trained in below to ſupply the place thereof.

Or where any are planted to twine round ſtakes, trees, or to run over arbours, buſhes, &c. their ſhoots at firſt, being conducted to their reſpective ſupports, will moſtly attach themſelves thereto; giving occaſional aſſiſtance of tying, and extending where neceſſary; and to prune diſorderly, rambling ſhoots.

And thoſe planted detached in ſtandard ſhrubs, trained with ſingle ſtems, more or leſs, and full heads, will require to have the long, ſtraggling ſhoots, pruned in, to continue the head ſomewhat regular, as before obſerved.

LOTUS, BIRD'S-FOOT TREFOIL.

Claſs and Order.

Diadelphia Decandria,
Two Brotherhoods, Ten Males;

Or Plants with Flowers (*Herm.*) *having two Sets of Stamina, or Males, and ten Stamina in each Flower.*

THE LOTUS furniſhes two hardy ſpecies of low, under-ſhrubby flowering-plants, proper to admit in ſhrubberies; are of upright growth, garniſhed with trifoliate, or three-lobed leaves, or compoſed each of three diſtinct lobes; and heads of papilionaceous, or butterfly-ſhape flowers, of four irregular petals; conſiſting of a roundiſh, reflexed vexillum, or ſtandard, two broad, roundiſh wings, a ſhort carina or keel below; with ten ſtamina in two ſets, or nine joined, one ſeparate, and oblong, taper germen, ſupporting a ſingle ſtyle, ſucceeded by ſmall, cylindric, and ovate, bivalve pods, having many internal partitions, containing each one ſeed, by which the plants are propagated; likewiſe by ſlips, cuttings, and off-ſets.

The Species are,

1. LOTUS *hirſutus*, Hirſuted, or Hairy Bird's-Foot Trefoil.

A ſmall, deciduous under-ſhrub, of low, upright growth—the ſtem erect, hairy; leaves (*ſmall*) trifoliate; with hirſuted or ſhaggy heads of flowers; and ſhort, ovate, or egg-form ſeed-pods.—Native of France, Italy, and the Eaſt. (*Dry, warm ſituation.*)

2. LOTUS *rectus*, Straight-podded Bird's-Foot Trefoil.

A ſmall, deciduous under-ſhrub, of low, upright growth—the ſtem erect; leaves (*ſmall*) trifoliate; ſub-

ſub-globoſe heads of flowers, and ſtraight, ſmooth ſeed-pods. Native of France, Sicily, and Calabria. (*Dry, warm ſituation.*)

Theſe two ſpecies are a ſort of under-ſhrubby, herbaceous-like, perennial plants, eligible to introduce in ſmall ſhrubbery compartments, borders, &c. for ornamental flowering and variety: they are propagated by ſeed, ſowed in the ſpring, in a warm border, and the plants pricked in nurſery-beds for a year or two, to gain ſtrength, then tranſplanted where they are to remain; alſo by ſlips or cuttings of the ſhoots in ſpring or ſummer, planted in a ſhady border; and by off-ſets of the roots, parted in the ſpring or autumn.

LYCIUM, BOX-THORN.

Claſs and Order.

Pentandria Monogynia,
Five Males, One Female;

Or Flowers (Hermaphrodite) having five Stamina, or Males, and one Piſtillum, or Female.

THIS Genus, LYCIUM, furniſhes ſeveral ſhrubby ever-greens, of upright and trailing growth, admitted in ſhrubberies for variety, ſome of which being rather tender, require a warm, ſheltered ſituation, others are of a more hardy nature; moſtly armed with thorns, and garniſhed with ſmall and middling ſpear-ſhape and ovate, oblong leaves; and funnel-ſhape, purple and white flowers; having five-parted, permanent cups; a monopetalous corolla, funnel-ſhape, tubular below, divided above in five parts; five ſtamina, and a roundiſh germen, ſupporting a ſingle ſtyle; and the germen grows a roundiſh, bilocular berry, containing many kidney-ſhape ſeeds; by which the ſhrubs are ſometimes propagated, or more generally by layers and cuttings of the young wood.

The Species and Varieties are,

1. LYCIUM *barbarum*, Barbary Box-Thorn, or Roſemary-leaved *Lycium*.

A middling ſhrub, with whitiſh branches, and of five or ſix feet growth, armed with thorns—the leaves (*ſmall, whitiſh*) ſpear-ſhape, narrow, and of thickiſh ſubſtance; and the calyx of the flowers bifid or two-parted.—Native of Aſia, Africa, and ſouthern parts of Europe. (*Warm, ſheltered ſituation, and dry ſoil.*)

Varieties.—Upright, Barbary Box-Thorn.
Trailing Barbary Box-Thorn.

2. LYCIUM *chineſe*, Chineſe, Trailing Box-Thorn; (ſuppoſed a variety of the *Lycium barbarum*.)

A trailing, climbing, ſhrubby plant, extending ten or twelve feet, or more, armed with thorns—the leaves (*middling*) ovate ſpear-ſhape. Native of Aſia, &c. (*Any common ſoil and warm ſituation.*)

Varieties.—Broad-leaved Chineſe Box-Thorn.
Narrow-leaved Chineſe Box-Thorn.

Theſe ſhrubs are proper to aſſemble in curious ſhrubberies; but being moſtly ſomewhat tender, more particularly the *Lycium barbarum*, ſhould have a warm, dry ſituation, or ſome alſo kept in pots to remove under ſhelter of a frame, or green-houſe, in winter: the Chineſe ſort is more hardy, to ſucceed in any common expoſures, or may be planted againſt a warm wall, &c. both for the advantage of training their trailing branches thereto, and to afford them ſhelter more beneficially from froſt; or if planted detached in the ſhrubbery, ſhould have ſupport of ſtakes.

They may be procured at moſt of the principal nurſeries, for planting, which ſhould be performed either in autumn, about October or November, or in the ſpring.

The propagation of all the ſorts is principally by cuttings and layers of the young ſhoots; plant the cuttings principally in the ſpring, and may perform the laying alſo in that ſeaſon, or in the autumn; they will be rooted in one year; or cuttings of ſmall ſhoots might be planted in pots, and plunged in a hot-bed in the ſpring months, to forward them in rooting ſooner; and, in either method of propagation, forward the plants in a ſheltered part of the nurſery; or ſome protected in winter, from froſt, till they obtain ſtrength; then may be tranſplanted into ſhrubberies, or where they are to remain.

They are alſo raiſed from ſeed, occaſionally, where attainable; ſowing it in the ſpring, in a warm ſituation, or in pots, and placed in a moderate hot-bed, in which the plants will come up ſooner, and be forwarded in growth, giving them plenty of air, and occaſional waterings, and have the full air all ſummer; and, in either method, the young plants ſhould be pricked in ſmall pots, ſingly, to place under ſhelter a year or two, or till they acquire ſome tolerable ſtrength, and gradually hardened, then tranſplanted into the full ground; or ſome continued in pots, of proper ſizes, according to the advanced growth of the plants.

MAGNOLIA—(MAGNOLIA) or LAUREL-LEAVED TULIP TREE, of the

Claſs and Order

Polyandria Polygynia,
Many Males, Many Females;

Or Plants with Hermaphrodite Flowers, having many Stamina, or Male Fructifications, and many Piſtillums, or Females.

THE MAGNOLIA compriſes ſuperbly-beautiful ever-green trees, and deciduous kinds, all flowering very ornamentally, growing fifteen to twenty or thirty feet high, or more, in the different ſpecies, decorated with moſt elegantly large, and middling, oblong-ſpear-ſhape, and ovate-ſimple leaves; and large, ornamental, ennepetalous, or nine-petalled, white flowers, imparting an agreeable fragrance; having three-leaved cups, a corolla of nine large, oblong, concave petals, numerous ſtamina, and many germens and ſtyles; ſucceeded by large, conic heads, of roundiſh-cluſtered capſules, furniſhed with roundiſh, baccated, or berried ſeeds, which, being diſcharged from the capſules, are ſuſpended by ſlender threads; ſeldom ripening in perfection in England, but are obtained plentifully from North America, the place of their native growth, by the ſeedſmen; and by which the trees are propagated; alſo by layers and cuttings of the young ſhoots; all principally in the ſpring.

The Species of MAGNOLIA are,

1. MAGNOLIA *grandiflora*, Grand-flowered Ever-green Magnolia, or Laurel-leaved Tulip Tree.

A ſuperb, ever-green tree, with an upright ſtem, and large, branchy head, growing twenty to thirty, or forty feet high, or more—the leaves (*moſt large, light-green, ſhining*) oblong, ſpear-ſhape, perennial, or ever-green; and large, white flowers, terminating the ends of the branches: June and July.—Native of Florida, Carolina, and other parts of America, (*Loamy, or any tolerable ſoil, and warm, dry ſituation.*)

Varieties.—Broad-leaved Ever-green Magnolia.
Narrow-leaved Ever-green Magnolia.
Ferruginous, Ever-green Magnolia; with leaves irony, coloured underneath.

2. MAGNOLIA *acuminata*, Acuminated-leaved, Deciduous Magnolia.

A middling, deciduous tree, growing twenty feet high, or more—the leaves (*moderately large, light-green*) ovate-oblong, acuminated, or ſharp-pointed, and deciduous; and large, blueiſh, or white flowers.—Native of Pennſylvania, in North America. (*Light, loamy, or any tolerable ſoil, and ſheltered ſituation.*)

3. MAGNOLIA *tripetala*, Tri-dependent petalled Magnolia, or Umbrella Tree.

A middling, deciduous tree, growing twenty feet high, or more—the leaves (*moſt large, light-green*) ſpear-ſhape, diſpoſed in rays, expanding like an umbrella; and large white flowers, having the three exterior petals dependent.—Native of Carolina, and ſome parts of Virginia. (*Any tolerable ſoil and ſheltered ſituation.*)

4. MAGNOLIA *glauca*, Glaucous-leaved, ſmaller Deciduous Magnolia.

A ſmall, deciduous tree, growing ten or twelve feet high—the leaves (*middling*) ovate-oblong, glaucous, or ſea-green, whitiſh on the under ſide.—Native of Virginia and Pennſylvania. (*Any common ſoil and warm ſituation.*)

Variety.—Double-flowered, Glaucous Magnolia.

All theſe ſpecies of *Magnolia* are moſt deſirable, ornamental trees, for adorning the pleaſure-ground; and have particular merit to aſſemble in curious collections of trees and ſhrubs, in principal ſhrubberies, in the moſt conſpicuous ſituations; the *Magnolia grandiflora*, in particular, being a magnificent, ever-green tree of ſingular grandeur, and one of the moſt beautiful of the ever-green tribe; claims univerſal attention, to plant for ornament, appearing delightful in its very large, ſhining foliage, in conſtant verdure the year round: the other three ſpecies being deciduous, are in foliage only in ſummer; but effect a conſpicuous variety in that ſeaſon; and in all the ſorts, when advanced of ſome conſiderable growth, they produce their beautiful, large flowers, at the ends of the branches; ſo that, in the whole, theſe trees are of great eſtimation for ornamental planting, in the moſt conſpicuous ſhrubbery clumps, &c. or the Ever-green Magnolia, to plant ſingly on plats, lawns, and principal borders; generally diſpoſing all the ſorts in ſome warm, defended compartments; and the ever-green kind, in particular, ſhould be defended from froſt with mats.

They are all raiſed from ſeed, layers, and cuttings, as hereafter explained; and when the plants are two or three feet high, are of proper ſize for tranſplanting into ſhrubberies, or other parts of the pleaſure-ground, &c.

But

But the Ever-green Magnolias, particularly, being rather tender, and liable to ſuffer by the effects of ſevere froſt, ſhould generally, in their minor growth, be kept in pots, one plant in each, ready for moving under ſhelter of a frame, or green-houſe, in winter, to protect them in rigorous weather, in that ſeaſon, till they have acquired ſome tolerable degree of ſtrength; then tranſplanted, with the balls of earth to the roots, into the full ground, in a warm part of the pleaſure-ground, or ſhrubbery; and in which, to have alſo occaſional ſhelter in ſevere winters, by an awning of mats, ſupported upon a framing of poles and rods, arched over each plant; or ſome planted againſt or near a ſouth wall, &c. for the greater advantage of protection.

Or likewiſe, in the deciduous kinds, although of a hardier nature, it is proper to have ſome in pots, as above, while young, for placing under ſhelter from ſevere froſt, the firſt two or three winters, till increaſed in ſome tolerable ſize and ſtrength, then turned out into the full ground; or others may be cultivated wholly in the open air, in a warm ſituation.

The different ſpecies of *Magnolias* are cultivated for ſale at all the principal nurſeries, where they may be obtained of proper ſizes for planting, about two, to three or four feet high; either occaſionally, ſome growing in pots, convenient to tranſplant with balls, or ſuch as admit of removing therewith from the full ground, or with as full roots as poſſible.

The ſeaſon for planting them is either in autumn, about the middle or latter end of September, or any time in October and early part of November, for the Ever-green Magnolia; the others in October or November aforeſaid; or all the ſorts in the ſpring months, when mild weather, in February, March, or April; and where convenient to remove, or tranſplant any with a ball of earth, either from pots, or the full ground, eſpecially the *Magnolia grandiflora*, or any of the others, it will be of greater advantage in their preſent growth; though they will alſo ſucceed without balls, where not convenient to remove them therewith, if taken up with a full ſpread of roots.

In planting them in ſhrubberies, and other parts of the pleaſure-ground, generally allot them a ſheltered ſituation in ſome principal compartments; and if in a ſhrubbery, in aſſemblage with other ornamental trees and ſhrubs, place them ſomewhat forward, where they may be conſpicuous to ſight; or the ever-green kind, in order to have it appear more diſtinguiſhable in its ſingular beauty, is ſometimes ſtationed ſingly upon graſs-plats, &c. in ſome defended, warm part, either forming a ſmall clump of ground therein, for each plant, or the graſs continued cloſe up round the ſtem, to effect a more rural appearance: and, in any of the methods or orders of planting the different ſorts, they ſhould be trained with a ſingle ſtem below, pruning away the lateral ſhoots, &c by degrees, and permitted to branch out above in full heads; and in winter, it is adviſeable, in the Ever-green Magnolia particularly, as before obſerved, to give protection from ſevere froſt, by erecting ſome thin, pliant poles, rods, or hoops, arch-ways over each plant, at the appearance of ſevere weather, and when the froſt is rigorous, cover with large Ruſſia garden mats.

The propagation, or methods of raiſing the different ſorts of *Magnolias*, is by ſeed, and layers and cuttings of the young ſhoots; each according to the following intimations.

The ſeed is commonly obtained in principal ſupplies from America, by the ſeedſmen, in the ſpring; and in which ſeaſon, in March or April, they are generally ſowed, either in a bed of light, good earth, in a warm ſituation, or in middling pots, filled with ſimilar ſoil, and covered in with fine mold half an inch to an inch deep; and thoſe ſowed in pots may either be plunged in a moderate hot-bed, to forward them a little, or placed in a frame defended occaſionally with glaſſes, or ſet under ſome warm fence; but generally removed to a ſhady ſituation in the heat of ſummer, and watered, and placed under ſhelter of a frame, &c. in winter; and in the ſpring, when the plants are a year old, ſhould be tranſplanted, ſome ſingly, in ſmall or moderate pots, others in a nurſery-bed, in a warm compartment; and if thoſe in pots are plunged in a gentle hot-bed, or bark-bed, for three or four weeks, or more, having plenty of air admitted, and watered occaſionally, it will promote their freſh rooting ſooner, and run them off more effectually in a free growth; though, they will alſo ſucceed without that aſſiſtance; and in either method, give water in ſummer, and protection from froſt in winter; training each with a ſingle ſtem below, and branches above; and when increaſed in ſtrength, the whole may be planted in the full ground; or having attained two or three feet growth, are of eligible ſize for the ſhrubbery, &c.

Or by layers and cuttings, the young ſhoots are the proper parts; chuſing, for layers, the pliant, lower branches, in autumn or ſpring, bowing them down, and lay the young ſhoots into earth, in the uſual method; and for cuttings, take off ſome young ſhoots, ſix or eight, to ten or twelve inches long, and planted in a bed or border; they will root the ſame year, both layers and cuttings; or cuttings planted in pots, in March or April, and plunged in a bark-bed, will promote their rooting ſooner; and the plants raiſed by theſe different methods, may be managed as adviſed for the ſeedling-raiſed plants, till of proper growth for final tranſplanting.

Continue the whole in a ſheltered ſituation during their young growth, in the nurſery, &c. to have ſome protection from ſevere froſt; or ſuch as are contained in

in pots, may be moved under ſhelter of a frame, or awning in winter, and, when the weather is ſevere, defended with glaſſes, mats, &c.

MENISPERMUM, MOON-SEED, of the

Claſs and Order

Dioecia	Dodecandria,
Two Habitations,	*Twelve Males;*

Or Male and Female Flowers, ſeparate, on two diſtinct Plants; and the Males having twelve Stamina.

THE MENISPERMUM furniſhes two hardy, ſhrubby, deciduous climbers, of volubilate, or twining growth, proper to introduce in ſhrubberies, &c. for variety; grow with long, ſlender, twining ſtems, aſcending upon trees, poles, &c. many feet high; garniſhed with large, ſhield-ſhape, hearted, and lobated leaves, and looſe bunches of greeniſh flowers, male and female, on two ſeparate plants, compoſed each of twelve oval petals; containing, in the males, twelve ſtamina, and in the females, two germens and ſtyles; ſucceeded by roundiſh, kidney-form berries, furniſhed with kidney-ſhape ſeeds, by which the plants may be raiſed, but are more generally propagated by layers, or ſlips of the off-ſet ſhoots, or bottom-ſuckers, and by parting the roots.

The Species are,

1. MENISPERMUM *canadenſe*, Canada round-leaved Moon-Seed.

A volubilate-climbing, ſhrubby plant, with long, ſlender ſtalks, aſcending twelve or fifteen feet high—the leaves (*large*) peltate, or ſhield-ſhape, hearted, roundiſh-angular; and nodding racems of flowers.—Native of Virginia and Canada. (*Light or any common ſoil.*)

2. MENISPERMUM *virginicum*, Virginia lobated-leaved Moon-Seed.

A volubilate-climbing, ſhrubby plant, aſcending ten or twelve feet high—the leaves (*large*) peltate, or ſhield-ſhape, hearted, lobated; and looſe racems of flowers.—Native of Virginia and Carolina, near the ſea. (*Light or any common ſoil.*)

Theſe two ſhrubby climbers may be admitted for variety in ſhrubberies, and other plantations in pleaſure-grounds, to twine round the ſtems of large trees, or tall poles; and planted to run over arbours, rural ſeats, or where they may be required, to advance in a climbing growth, they will twine round any ſupport; or may be trained againſt walls, or other fences; and for which occaſions, plants of both the ſpecies may be had at the nurſeries, for planting in autumn or ſpring; and may be propagated by layers of the ſhoots, and off-ſet bottom-ſuckers, and by ſlips of or parting the roots; all performed in the ſpring or autumn; alſo by ſeed ſowed in a bed of light earth; and when the plants, raiſed by any of theſe methods, have attained one, two, or three years growth, they may be tranſplanted in the places where intended.

Generally, in planting theſe climbers, either allot them a place where they may have ſupport of trees, arbours, &c. to aſcend upon, or to have tall ſtakes or poles placed whereon, to climb in their volubilate manner; in which they may be permitted to run nearly in their natural order, except pruning caſual, ſtraggling, or very diſorderly ſhoots, and to cut out decayed parts; or if any are planted againſt walls, or other fences, the ſtems may be nailed thereto, as practiſed for honey-ſuckles, &c. and to prune out the ſuperabundant ſhoots, produced annually.

MESPILUS, (MEDLAR) or MEDLAR TREE.

Claſs and Order.

Icoſandria,	Pentandria,
Twenty, or more Males,	*Five Females;*

Or Plants with Flowers (Hermaphrodite) having twenty or more Stamina, or Male Parts, and five Piſtils, or Females.

THE MESPILUS, or Medlar, compriſe fruit-trees, ſeveral ſpecies of deciduous, flowering-ſhrubs, and one curious, ſhrubby ever-green; the fruit-tree kinds valuable to cultivate for their fruit, of ſingular property; and likewiſe, together with the other different ſpecies, are in eſtimation to introduce in ſhrubberies, and other decorative plantations, for ornament and variety: are of different degrees of growth, fifteen or twenty feet in the tree kinds, the ſhrubs three or four, to five, ſix, or eight feet or more; garniſhed with middling, large and ſmall, ſpear-ſhape, oblong and oval leaves; and pentapetalous, roſaceous, large and ſmall flowers, ſingly, and in cluſters, at the ſides and ends of the branches; having monophyllous, or one-leaved cups, divided into five parts; five roundiſh petals; twenty or more ſtamina, round germen with five ſtyles; and the germen grows a globular, hard, umbilicated, baccated, or berried fruit, large, middling, and ſmall in the different ſpecies; and which, in ſome, acquires the ſize of middling, or ſmall apples and pears, as in the Common Medlar, (the principal eatable ſort) others much ſmaller, and ſome like ſmall berries; but eatable principally only in the Common Medlar, aforeſaid; and in all of which, contain five hard, gibbous ſeeds, by which the trees, &c. may be raiſed, alſo by layers, grafting, and inoculation.

The Species of MESPILUS, conſiſting of one Fruit-tree kind, and ſeveral ſhrubs, are

(Fruit-tree kinds, with large, eatable fruit)

1. MESPILUS *germanica*, German, or Dutch Medlar —(*Eatable fruited.*)

A moderate, deciduous tree, growing fifteen or twenty feet, branching irregularly—the leaves (*middling-large*) ovate-ſpear-ſhape, hoary on the underſide, and large flowers ſingly, and ſitting cloſe; ſucceeded by largiſh, rough, brown, eatable fruit, ripe in autumn and winter.—Native of Germany and the ſouthern parts of Europe. (*Any common ſoil and ſituation.*)

Varieties.—Common Apple-ſhaped, Greater Dutch Medlar.
Smaller Apple-ſhaped, or Nottingham Medlar.
Pear-ſhape Italian Medlar.

Theſe being the common, eatable Medlars, the two former varieties are the principal ſorts: they acquire full growth in October, having a large, umbilicated opening, or cavity, at top; are very hard and auſtere, when firſt gathered, requiring to lie ſome time in the fruitery, &c. to mellow; and when become ſoft and tender, are then eatable, and prove an agreeable deſert, winter fruit.

(Shrub kinds, for variety and ornament, producing ſmall, berry-like, red, and purple fruit.)

2. MESPILUS *arbutifolia*, Arbutus-leaved Medlar.

A middling, deciduous ſhrub, growing ſix or eight feet high—the leaves (*middling*) ovate-ſpear-ſhape, crenated, or notched, hoary underneath.—Native of Virginia. (*Any common ſoil and ſituation.*)

3. MESPILUS *Amelanchier*—(Amelanchier) or Alpine Medlar.

A middling, deciduous ſhrub, growing five or ſix, to eight feet high—the ſtem hairy; leaves (*ſmalliſh*) oval, and ſawed, villoſe-hoary underneath, and blackiſh fruit.—Native of Switzerland, Auſtria, France, &c. (*Any ſoil*, &c.)

4. MESPILUS *canadenſe*, Canada Snowy Meſpilus.

A largiſh, deciduous ſhrub, growing ſeven or eight, to ten feet high—the leaves (*ſmalliſh*) ovate-oblong, ſmooth, ſawed on the edges.—Native of Canada and Virginia. (*Any common ſoil*, &c.)

5. MESPILUS *Chamæ-Meſpilus*—(Chamæ-Meſpilus) Dwarf Alpine Medlar, or Dwarf Quince.

A moderate, deciduous ſhrub, growing three to four, or five feet high—the leaves (*ſmall*) oval, and ſawed, ſtipula deciduous; and flowers growing in corymbus heads.—Native of the Alps of Auſtria, &c. (*Any common ſoil*, &c.)

6. MESPILUS *Cotoneaſter*—(Cotoneaſter) or Baſtard Quince.

A moderate, deciduous ſhrub, three to four, or five feet high—the leaves (*ſmall*) ovate-roundiſh, entire. —Native of the cold parts of Europe, on hills, the Pyrenees, and Mount Ararat. (*Any common ſoil*, &c.)

7. MESPILUS *Pyracantha*—(Pyracantha) or Evergreen Thorn, commonly called Pyracantha.

A largiſh, ever-green ſhrub, of flexuoſe growth, with long, flexible branches, riſing, by ſupport, ten or twelve feet high, armed with thorns—the leaves (*ſmall*) ſpear-ſhape, ovate, crenated or notched; and numerous cluſters of ſmall, white flowers in ſummer, ſucceeded by bunches of red berries, very ornamental in autumn and winter.—Native of France and Italy, in hedges. (*Any ſoil and ſituation.*)

All theſe ſpecies of *Meſpilus* are eligible for garden plantations, ſome for uſe, and the greater part for ornament and variety; the Common Medlar both as a fruit-tree, and alſo, together with all the other ſpecies, is proper to aſſiſt in compoſing ſhrubberies, and other plantation diſtricts in pleaſure-grounds; wherein they will increaſe the variety very diſtinguiſhably, and effect an agreeable diverſity in their different growths, foliage, flowers, &c. the *Pyracantha* has likewiſe particular merit for training conſpicuouſly againſt walls, the fronts of buildings, &c. appearing always green, and its numerous bunches of red berries, continuing in autumn and winter, are ſingularly curious and ornamental in theſe ſeaſons; or this, and all the ſorts planted in ſhrubberies, &c. flower abundantly in ſummer; and the flowers ſucceeded by plenteous fruits, in autumn; ſome large, of the apple and pear form, others ſmaller, as before obſerved, and ſome like hawberries; but thoſe of the firſt ſpecies only, the *Meſpilus germanica*, are conſidered of the eatable kind, acquiring full growth in October, but not proper for eating till after being gathered, and laid in ſome dry apartment, to ſoften; or may be forwarded, a few at a time, in moiſt bran, till ſoft and mellow.

The

The ſeaſon for planting all the ſorts, is any time in open weather, from October or November, to March or April.

They are all very hardy, and may be planted in any common ſoil and ſituation, and do not require any particular expoſure.

With regard to their reſpective uſes in gardening, the Common Medlar, as a fruit-tree, demands culture in gardens and orchards, a few trees trained principally in full and half ſtandards, or ſome in eſpaliers; all the other ſpecies have merit principally to join or aſſemble in any general ſhrubbery, and ornamental plantations, in pleaſure-grounds, parks, and other premiſes; diſpoſed in a diverſified order, with other hardy ſhrubs and ornamental trees; and in which may alſo introduce the different varieties of the Common Medlar; all generally trained with a ſingle ſtem below, and to branch out above in full heads; and which, permitted to advance in their natural order, or only to give occaſional pruning, to reduce any diſorderly ſhoots and branches, that may caſually occur in the advancing growth of the different ſpecies.

In reſpect to the propagation, or methods of raiſing the different ſorts, it is effected by ſeed and layers; alſo by grafting and inoculation, in any particular ſpecies, or to continue the varieties of the Common Medlar in their reſpective properties, and likewiſe to have the trees ſooner attain a fruitful ſtate.

The ſeed for ſowing is obtained from the ripe fruit and berries, and which may be ſowed in autumn, about October or November, or in the ſpring, all in a bed or beds of light earth, each ſort ſeparate, either in drills, or broad-caſt, and earthed in an inch, or an inch and half deep; they will come up ſome the firſt ſpring, others probably not till the ſecond: keep the beds clear from weeds all ſummer, both before and after the plants are come up; and when they are of one year's growth in the ſeed-beds, tranſplant them in the autumn or ſpring into nurſery-beds, in rows a foot aſunder, and having increaſed in growth, ſhould be tranſplanted in wider nurſery-lines; and in which generally train each with a ſingle ſtem, pruning off lateral ſhoots below, and let them advance in full growth above; and when, according to their different ſizes, they are three or four, to five or ſix feet high, are proper for final tranſplanting in the intended plantations.

By layers of the young wood, they are alſo occaſionally propagated; chuſing the young ſhoots, either thoſe riſing naturally near the bottom, or branches furniſhed therewith, bowed down to the ground; and, previous to laying, may ſlit or gaſh the ſhoots with a knife, a little on the under ſide, in an upward cut, to promote their emitting roots ſooner; lay them with the cut-part into earth three inches deep, keeping the tops uprightiſh above ground: they will moſtly be rooted in one year, then ſhould be cut from the ſtools, and planted in a nurſery, &c.

And by grafting or budding, any of the ſpecies may likewiſe be propagated; and by either of which it is eligible to raiſe the Common Medlar, when deſigned to have them principally as fruit-trees for their production of fruit for eating; performing the grafting in the ſpring, by inſerting grafts of the intended kinds into ſeedling Medlar ſtocks, and the budding or inoculation, in ſummer, in July, or beginning of Auguſt, by inoculating buds into the ſides of the ſame kind of ſtocks; one graft or bud inſerted in each, at three, four, to five, or ſix feet height, for half and full ſtandards, or low in the ſtock for trees intended for lower growth; the grafts will ſhoot the ſame year, and the buds not till the ſpring following; and when they have ſhot, and formed heads of one, two, or ſeveral years growth, they are proper for tranſplanting where they are deſigned to remain.

The Common Medlars, when deſigned for fruit-trees, being generally raiſed by grafting or budding the approved kinds into ſeedling-ſtocks of any of the varieties, principally trained for half and full ſtandards, with ſtems, three, or four, to five or ſix feet; they, when advanced with heads, two or three, to ſeveral years growth, with ſome tolerable ſpread of branches, are proper for planting in gardens and orchards, twenty or thirty feet diſtance, their heads permitted to branch out full in their natural growth.

Or ſome grafted or budded low in the ſtock, within ſix or eight inches of the ground, to plant in eſpaliers, at fifteen feet aſunder, and the branches arranged to the trellis horizontally, five or ſix inches diſtance, and extended moſtly at their full length, as far as their allotted ſpace admits, as directed for apples and pears, trained in eſpaliers; as, like theſe ſorts, they bear principally upon ſmall ſpurs, along the ſides, and at the ends of branches, and the ſame branches continuing many years fruitful, do not admit of ſhortening; and in this mode of planting, will require an annual pruning and training, according to the directions given for eſpalier apples and pears aforeſaid; for which, ſee the Genus *Pyrus*.

The Medlar fruit, acquiring full growth in October, ſhould be gathered in dry weather, and depoſited in the fruitery, &c. upon ſhelves, till they become ſoft and mellow; or to promote which, more effectually and ſooner, ſome may be laid in moiſt bran every week; they will thus acquire maturity, in ſucceſſive order, in their peculiar manner, ſoft, tender, and buttery, in which they will be in perfection, for eating, all winter, delicious, and agreeably flavoured.

MORUS, (MULBERRY) or MULBERRY TREE.

Class and Order.

Monoecia Tetrandria,
One Habitation, Four Males;

Or Flowers, Male and Female, separate on one or the same Tree, and the Male Flowers having four Stamina.

THE Family of MORUS furnishes four species of hardy, deciduous trees, of the bacciferous, or berry-bearing kind; one generally cultivated as a desirable fruit-tree, the others principally for variety and ornament, as some also occasionally for their fruit; are of middling, or large growth, mostly with full branching, regular-spreading heads; adorned, in summer, with largish, cordate, or hearted, and palmated, rough, and smooth leaves; and small, greenish, male and female flowers, apart, and distinct on the same tree; the males collected into long, loose amentums, and females in round heads, with small, four-parted, succulent calyxes, no petals; four short stamina in the males; in the females two styles; and each head of female calyxes grows a largish, oval, succulent, tubercled, eatable berry, ripe in autumn, continuing small seeds in each tubercle; by which the trees are sometimes raised, or principally by layers and cuttings of the young shoots.

The hardy Species of MORUS are,

1. MORUS *nigra*, Black-fruited, or Common Mulberry Tree.

A middling, or largish, deciduous tree, with a widely-branching head, growing twenty to thirty feet high—the leaves (*moderately large, dark-green*) cordate or hearted, roundish, and rough; and large, oval, black berries, ripe for eating in August and September; being the principal sort ripening in perfection and abundance in this country.—Native of Italy, near the sea. (*Light, loamy, rich, or any tolerably good soil.*)

Variety.—Jagged-leaved Black Mulberry Tree.

2. MORUS *alba*, White Mulberry.

A middling, deciduous tree, growing twenty or thirty feet high—the leaves (*larger, light-green*) oblique heart-shape, polished or smooth; and white berries; not ripening in great perfection and abundance in this country.—Native of China. (*Any light, tolerably good soil.*)

3. MORUS *rubra*, Red Mulberry.

A middling, deciduous tree, twenty feet high, or more—the leaves (*large, dark-green*) cordate, or hearted, villose-hairy on the under side; long, cylindric amentums of flowers, and red berries.—Native of Virginia. (*Any lightish, good soil.*)

4. MORUS *papyrifera*, Papyriferous, or Paper-barked Mulberry Tree of Japan.

A moderate, deciduous tree, growing twenty-feet high—the leaves (*large, light-green*) palmated or hand-form; and hispid-fruit.—Native of Japan, where is made paper of its bark. (*Any lightish, common soil.*)

Of the above four species of *Morus*, the Black, or Common Mulberry, is the principal sort to cultivate as a fruit-tree, for its production of fruit, which is produced the most abundant, largest, and ripens in the greatest perfection, very juicy, and refreshing to eat, as desert fruit, and to use occasionally for pies and tarts; or some of the white and red kinds may also be introduced in the fruit-tree collection, for the variety of their fruit; though is neither produced so plentiful, nor in equal goodness, as the Black: but these two sorts, and the *Morus papyrifera*, are cultivated principally for observation and curiosity, in pleasurable plantations, and in which the Common Black Mulberry may also assemble; and all of which will effect a desirable variety and conspicuous appearance in their growth, foliage, and fruiting; however, where required to have Mulberry trees, principally for the sake of the fruit, chuse chiefly the Black-berried sort, for the general supply; and of which a few trees may be sufficient for the service of a private family, especially as, after being advanced to some considerable growth, they bear great quantities of berries; I have known a single tree produce a sufficiency for the supply of a large family, every day, during the season of their maturity.

The leaves of the Mulberry tree are of singular value, as the principal food for silk-worms; that in the counties where these curious insects are bred in great quantities for their production of silk, which they spin from their bowels, large plantations of the trees are cultivated for the leaves, with which to supply them daily, in their feeding season.

The different sorts of Mulberry trees are cultivated in the nurseries for public supply, and where they may be had in collection for planting, or any particular species, especially the Common Black Mulberry, to plant as a fruit-tree; and which may be obtained of some advanced growth, furnished with a tolerable head of branches, and that will soon commence bearers, or sometimes, trees that are arrived to a bearing state, which

which will be of particular advantage; as Mulberry trees are ſlow growers, long before they acquire a proper ſize for bearing in any conſiderable quantity.

Theſe trees, being generally propagated by layers, cuttings, ſometimes by grafting, and occaſionally by ſeed, are moſtly trained in ſtandards, with a ſingle, clean ſtem, of four, five, or ſix feet, branching at top into full heads; and ſometimes the Black and White Mulberry are trained in dwarf-trees for walls and eſpaliers, with ſhort ſtems of ſix or eight inches, branching out low near the ground, and the branches trained in a ſpreading order, to the wall and eſpalier, horizontally, whereby they produce fruit a little earlier, and larger, than on ſtandards; though, for the general part, they are principally raiſed in ſtandard trees, on which the Black produces abundantly, ripening in good perfection and flavour.

The ſeaſon for planting Mulberries, is either in autumn, about October or November, or in the ſpring, February, March, or April; or may be planted in any of the winter months, in open, mild weather.

To plant Mulberries as fruit-trees, generally allot them a warm, dry ſituation, and ſunny expoſure, to have all poſſible benefit of the ſun, that they may ripen the berries in the utmoſt perfection; having for ſtandards, ſuch as are trained each with a ſingle, clean ſtem, five or ſix feet, and formed ſome tolerable head of branches, more or leſs; and may be planted either in a kitchen garden, orchard, or pleaſure-ground, as may be convenient, or thought eligible, at thirty or forty feet diſtance, or more; or it is alſo proper to plant one or more ſtandard trees, upon open graſs plats, or lawns, or a circular plat of graſs, formed under the tree to the full extent of the branches, or wider, both for the greater convenience of gathering the fruit, and that, when the berries, fully ripe, fall from the trees, they may admit of being gathered up off the graſs clean and ſound, for uſe, if occaſionally required.

The trees, planted as above, in ſtandards, permit to branch out freely every way, in a regular, ſpreading head; and in regard to pruning, very little will be required, only juſt to reform any caſual, low, ſtraggling branch, or ſhoot; or to reduce any diſorderly rambler, and to cut out croſs-placed, or thin, very crowding branches; and, except in theſe caſes, let the general head advance in full growth.

A few trees may alſo be trained for walls and eſpaliers, as before obſerved, for variety, and to have them produce larger and earlier fruit; they being trained, for this purpoſe, with ſhort ſtems, of ſix or eight inches, to branch out low, ſhould be planted againſt a ſouth wall, fifteen or eighteen feet aſunder, and the branches nailed to the wall horizontally, four to five, or ſix inches diſtance; if any are deſigned for eſpaliers, allot them a ſouth expoſure to the full ſun, planted the diſtances as above, and the branches trained in the ſame manner; and in both of which orders of planting them, the trees requiring to have a regular training, will need an annual pruning in ſummer and winter.

Give the ſummer-pruning in June or July, to regulate the ſhoots of the year, ſelecting plenty of the beſt-placed ſide and terminal ſhoots to nail in; cut out the ſuperabundant, with ſore-right and other ill-placed ſhoots, and then train in all the others cloſe to the wall and eſpalier, moſtly at their whole length, without ſhortening, where there is room to extend them entire; continuing them cloſe to the wall and eſpalier all ſummer, in the ſame order.

A winter-pruning is neceſſary, both in the young and older branches, more or leſs; retaining a ſupply of the beſt young ſhoots in all vacant parts, and a leader, or terminal ſhoot, to every main branch; cut out the ſuperfluous and ill-placed, and part of the moſt unſerviceable, or very irregular, and unfruitful old branches, not properly furniſhed with eligible, young wood for bearing, as they generally bear towards the extreme part of the year-old ſhoots; ſo that the improper old wood may either be pruned down to the origin, or to any convenient, lateral young ſhoot, or branch, eligible to retain, to ſupply the place of the old, cutting out alſo caſual, decayed wood; the general branches and ſhoots retained for training, continue principally intire, as far as room admits of extending them at full length; nail or train the whole regular to the wall or eſpalier, in the order above mentioned.

Thus, in regard to training the Mulberry, in wall and eſpalier trees, as above, they will generally produce fruit in the fineſt perfection in ſize, and ſooner ripe than on ſtandards, as formerly obſerved.

Though theſe methods are not generally practiſed, being principally trained in half or full ſtandards, but chiefly the latter.

The Mulberry trees being generally of ſlow growth in the beginning, it is many years before they acquire a tolerable ſize in the head of branches to bear in any conſiderable abundance; but when arrived to ſome advanced growth, they ſhoot more freely, extend into large, full heads, and produce abundant, annual crops of berries; they generally bear on the young wood, either towards the extreme part of the laſt year's ſhoots, and upon ſmall ſide-ſpurs, of one or two years growth; and the trees being late, or the weather ſettled in warm, before they foliate and flower, moſtly produce plentiful crops: they ſeldom begin to bud, or expand their leaves, till after the middle or towards the

the latter part of May, and flower nearly about the ſame time, or ſoon after, ſucceeded by the fruit in June, increaſing in growth till Auguſt, then ripens; continuing advancing to maturity in daily ſucceſſion till September, which, in the *Morus nigra*, or Common Black Mulberry, becomes of a deep, black-red colour, when in full perfection, and ſhould be gathered accordingly.

The propagation, or way of raiſing the Mulberry trees, is principally by layers and cuttings of the young ſhoots, and occaſionally by grafting, and ſometimes by ſeed.

But by layers and cuttings, is the moſt general methods; the laying may be performed in autumn or ſpring, either from young trees that have been headed down to the bottom, to form ſtools to furniſh lower ſhoots near the ground, convenient for laying down in the earth, or the lower branches of grown-up trees, having pots of earth placed upon ſtands, elevated near enough to admit of laying the branches therein; and, in either method, laying the young ſhoots in the earth, they will be rooted in one ſummer, for planting off in autumn following: cuttings of the young ſhoots, planted in the ſpring, in a ſhady border, will grow, or may be planted ſeveral together in pots, and plunged in a hot-bed, it will forward their rooting ſooner; alſo ſtrong ſhoots of the year, planted in ſummer, in a north border, will emit roots the ſame ſeaſon; and when the layers and cuttings are properly rooted, tranſplant them into nurſery-rows, and trained up each with a clean, ſingle ſtem, three or four, to five or ſix feet, for ſtandards; or any of the Common Mulberry, deſigned for walls and eſpaliers, train them with ſhort ſtems, and low-branching heads accordingly, as directed for peaches, &c.

Or by grafting, &c. may propagate particular ſpecies, upon ſtocks of the Common Black Mulberry.

Or likewiſe, to raiſe Mulberry trees from ſeed, it ſhould be ſaved from the ripe fruit in autumn, and preſerved dry till the ſpring, then ſowed in March or April, in a bed of light earth, half an inch deep; and when the ſeedlings are a year old, prick them into nurſery-beds, in the ſpring, in rows a foot aſunder, and after having advanced to two years growth, tranſplant them in wider nurſery-rows, and trained to proper ſizes for final tranſplanting.

When the young Mulberry trees, raiſed by the above methods, are advanced four or five, to ſix or eight feet growth, they are proper for tranſplanting, either the common ſorts as fruit-trees, or this, and the others, in pleaſurable plantations, for variety, each agreeable to the foregoing intimations.

MELIA, BEAD TREE, of the Claſs and Order

Decandria Monogynia,
Ten Males, One Female;

Or Plants with Hermaphrodite Flowers, having ten Stamina, or Male Genitals, and one Piſtillum, or Female.

IN the Family of MELIA is one tolerably-hardy, deciduous, curious, ornamental tree, of moderate ſtature, with a ſpreading, branchy head, adorned with large, doubly-pinnated, winged leaves, elegantly beautiful, and long bunches of quinquepetalous, blue flowers; having ſmall, five-pointed cups; a corolla of five long, ſpear-ſhape, ſpreading petals, and a monopetalous nectarium, as long as the corolla; ten ſtamina, a conical germen, ſupporting a cylindric ſtyle; and the germen grows a globular, drupaceous, ſoft fruit, including a roundiſh, five-furrowed nut, of five cells, furniſhed with five ſeeds, by which the tree is commonly propagated.

One Species, viz.

MELIA *Azedarach*—(Azedarach) or Bi-pinnated-leaved Bead Tree.

A ſmall, or moderate, deciduous tree, growing twelve or fifteen feet high—the leaves (*large, dark-green*) bi-pinnated, or doubly-winged; and long bunches of blue flowers.—Native of Syria. (*Warm, dry ſituation.*)

Varieties.—Common, Deciduous, Bi-pinnated Bead Tree.

Ever-green, Ever-flowering Bead Tree, of Ceylon. (*Tender, requiring conſtant protection in winter.*)

This curious, ornamental tree, highly merits a place in principal ſhrubberies, but muſt have a ſheltered, warm, dry ſituation, or planted againſt a ſouth wall; and ſome kept in pots, to move under ſhelter of a frame, or green-houſe, in winter; and is alſo retained in the green-houſe collections, to have conſtant ſhelter in winter, along with other exotics in that conſervatory; but admits of planting in the full ground, in a ſheltered compartment, as before obſerved; in which it will make a fine, ornamental appearance in ſummer; the ever-green variety requires the conſtant protection of a green-houſe, or ſtove, in winter.

They flower ornamentally in ſummer, but do not always produce ripe fruit, or ſeed, in this country.

For

For planting, young plants may be obtained at moſt of the principal nurſeries; the proper ſeaſon for which is March and April; and being generally in pots, they may readily be turned out, the ball of earth intire, to plant in the full ground, if required; or continued in pots, to move under ſhelter in winter; or any planted in the natural ground, being allotted a warm ſituation, may alſo have occaſional covering of mats in ſevere, froſty weather.

The trees are propagated by ſeeds, or occaſionally by layers and cuttings; ſow the ſeed in the ſpring, in pots of light, rich earth, and plunged in a bark or dung hot-bed; and layers and cuttings of the young ſhoots in pots, may be aſſiſted by the ſame means, eſpecially the cuttings; and in either method of propagation, the raiſed plants ſhould be ſet ſingly in pots, and ſhelter in winter, till they obtain ſome degree of ſtrength, then ſome may be tranſplanted into the full ground, in ſituations before-mentioned.

MEDICAGO (Medic) MOON TREFOIL.

Claſs and Order.

Diadelphia	Decandria,
Two Brotherhoods,	*Ten Males;*

Or Flowers (Hermaphrodite) having two Sets of united Stamina, or Males, and ten Stamina in each Flower.

THE MEDICAGO affords one beautiful, ſhrubby ever-green, very commonly retained as a green-houſe plant, as being a native of the warm parts of Europe, is rather tenderiſh; but is alſo cultivated in curious ſhrubberies, in a ſheltered, warm ſituation; is of moderate or middling growth, upright and buſhy, cloſely garniſhed with fine, trifoliate leaves, and papilionaceous, yellow flowers, in long cluſters; having to each flower a bell-ſhape calyx five-lobed; a corolla papilionaceous, of four unequal petals, conſiſting of an oval-reflexed ſtandard, two oblong wings, and a biſid, reflexed carina, or keel; ten ſtamina, diadelphous, or united below, in two ſets or brotherhoods, an oblong, incurved, compreſſed germen, and ſhort ſtyle, ſucceeded by a long, compreſſed, inflexed, or bowed, moonated pod, with kidney-ſhape ſeeds, by which the plant is propagated, and by layers and cuttings.

One Species, viz.

MEDICAGO *arborea*, Tree Medicago, or Shrubby Neapolitan Moon Trefoil.

A moderate, ever-green ſhrub, of upright, branchy growth, ſix or ſeven feet high, with hoary, young branches—the ſtem tree-like; leaves (*ſmall, hoary*) trifoliate, whitiſh, yellow flowers; and ſeed-pods lunated or mooned, with the margin entire.—Native of Naples and Rhodes. (*Warm, dry ſituation.*)

This beautiful ever-green, flowering-ſhrub, merits particular attention, and may be planted in a warm, ſheltered part of the ſhrubbery, in which it will effect a fine variety, and ornamental appearance, in its perpetual verdure, and in its flowers in ſummer; it is alſo proper to have ſome in pots, to place in ſhelter from froſt; and is likewiſe cultivated among the green-houſe exotics, to have protection of that apartment all winter, as being of a tender nature; though will ſucceed in the full ground all the year, when ſtationed in warm compartments, and occaſionally defended with mats, in ſevere weather.

It is propagated by ſeeds, layers, and cuttings.

Sow the ſeed in the ſpring, either in a bed or border of light earth, or in pots, plunged in a hot-bed, to facilitate and expedite their vegetation; give occaſional watering; and the plants, when of one ſummer's growth, planted ſingly in ſmall pots, and ſheltered in winter till they acquire ſome tolerable ſtrength; and when two or three feet high, ſome may be planted in the ſhrubbery, &c. others continued in pots, to move under protection in winter.

By layers and cuttings of the young ſhoots; perform the laying in autumn or ſpring, and the cuttings generally planted in the ſpring months, or beginning of ſummer; they will be rooted in one year, managing them as directed for the ſeedlings.

MYRICA, CANDLE-BERRY MYRTLE, GALE, &c.

Claſs and Order.

Dioecia	Tetrandria.
Two Habitations,	*Four Males;*

Or Flowers, Male and Female, ſeparate on two diſtinct Trees, and the Males have four Stamina.

THE MYRICA furniſhes two hardy ſpecies of curious, deciduous, ornamental ſhrubs, of aromatic fragrance, for adorning principal ſhrubberies; plants of moderate, upright-ſhrubby, and under-ſhrubby growth, garniſhed with longiſh, narrow, ſpear-ſhape leaves, and ſmall male and female flowers diſtinct, on two ſeparate plants, in oblong and oval ſcaly amentums; the ſcales forming cups to ſmall florets, without petals; having, in the males, four ſtamina, and in the females an oval germen, ſupporting two ſtyles, ſucceeded, in the female flowers, by bunches of ſmall, unilocular, ſingle-ſeeded berries, of a waxy nature, of which, in one ſpecies particularly, candles are made in America, the place of its native growth; and by the ſeed of the

berries

berries the plants are raiſed; and likewiſe by ſuckers, layers, and cuttings.

The hardy Species of MYRICA are,

1. MYRICA *cerifera*, Wax-bearing Myrica, or Common Candle-Berry Myrtle.

A moderate, deciduous ſhrub, growing four or five feet high—the ſtem tree-like, upright; leaves (*longiſh, narrow*) ſpear-ſhape, ſlightly ſawed; and cluſters of waxy berries.—Native of Virginia, Pennſylvania, Carolina, &c. (*Any common ſoil, ſomewhat ſheltered.*)

Varieties.—Narrow-leaved Candle-berry Myrtle.
Broad-leaved Carolina Candle-berry Myrtle.
Ever-green, Carolina Candle-berry Myrtle.

2. MYRICA *Gale*—(Gale) Sweet Gale, or Dutch Myrtle, or Sweet Willow.

A moderate, deciduous under-ſhrub, three or four feet growth—the ſtem under-ſhrubby; leaves (*ſmaller, ſhorter*) ſpear-ſhape, ſlightly ſawed, and dry berries.—Native of Europe and North America, in marſhy places. (*Moiſt ſoil.*)

Theſe two ſpecies of Myrica deſerve admittance in principal ſhrubberies, as delicate, curious ſhrubs, and the leaves imparting an agreeable fragrance, more particularly the *Gale*; allot them a front ſituation: the *Myrica cerifera*, or Common Candle-berry Myrtle, ſhould generally have a ſomewhat ſheltered compartment, and the *Gale*, or Dutch Myrtle, delights in a moiſt ſoil; both the ſpecies, and the different varieties, may be had at the nurſeries for planting, which perform in autumn or ſpring, and may be placed, in aſſemblage with other ſhrubs of ſimilar growth, in ſhrubbery-clumps, in ſituations as above.

They are propagated by ſuckers from the root, by layers, cuttings, and ſeed.

To propagate them by the three former methods, the ſuckers may be taken up in autumn or ſpring, with roots, and planted either in a nurſery, or at once where they are to remain; and layers and cuttings of the young ſhoots, in the ſame ſeaſon, will be rooted by autumn following; and being planted in the nurſery, train them a ſhort ſtem below, and branchy above; and when of a foot and a half, to two or three feet growth, are proper for the ſhrubbery.

And by ſeed, ſow it in the ſpring in a bed or pots of light moiſt earth, covered in with earth, half an inch to an inch deep; the plants will come up the ſame year: give occaſional watering, and next ſpring, tranſplant them into nurſery-beds; or ſome of the Candle-berry Myrtles may be planted in ſmall pots, ſingly, to place under ſhelter from ſevere froſt, till they have obtained ſome tolerable ſtrength; and when the plants of both the ſpecies are advanced in growth, as before obſerved, half a yard to two or three feet, they are proper for the ſhrubbery plantations.

NYSSA, TUPELO TREE.

Claſs and Order.

Polygamia Dioecia,
Many Marriages, Two Habitations;

Or Flowers of ſeveral different Sexes, as Males, Hermaphrodites, and Females, ſeparate, on two diſtinct Plants, or Habitations.

THIS Genus, NYSSA, furniſhes but one ſpecies; a curious, deciduous, aquatic tree, compriſing two or three varieties, and of utility principally for ornamental planting in ſhrubberies and other pleaſurable plantations; is a tree of moderate or middling growth, adorned in ſummer with oblong, broad leaves, on long foot-ſtalks; and flowers of different ſexes, as males, hermaphrodite, &c. on two ſeparate trees, without petals, growing in cluſters, and ſingly, in the different varieties, ſucceeded by oval, drupaceous fruit, containing an ovate, pointed nut, by which the trees are propagated, alſo by layers, cuttings, and ſuckers.

One Species, and ſome Varieties, viz.

NYSSA *aquatica*, Aquatic, or Water Tupelo Tree.

A moderate, deciduous tree, of upright growth, twenty to thirty feet high—the leaves (*middling, light-green*) oblong, broad, acuminated, or ſharp-pointed, indented, and intire, in the different varieties; and peduncles many-flowered, and one-flowered.—Native of North America, in watery, and upland ſituations. (*Moiſt ſoils.*)

Varieties.—Indented-leaved, Water Tupelo Tree.
Intire-leaved, Upland Tupelo Tree.
Round-leaved Tupelo Tree.
Multiflorous Tupelo Tree; the peduncles ſuſtaining many flowers.
Uniflorous, or One-flowered Tupelo Tree; the peduncles having but one flower on each.

This curious tree demands admittance in ornamental plantations of ſhrubberies, and other diſtricts, in aſſemblage principally with other trees and ſhrubs of the

the deciduous tribe; and delights in moiſt ſituations, or will grow in any common ſoil: is raiſed in moſt of the nurſeries, for ſale, where it may be obtained in the different varieties, for planting in autumn or ſpring, or any time in open weather, from October or November, till March or beginning of April.

The trees are propagated by ſeed, layers, cuttings, and ſuckers.

The ſeed, for ſowing, is commonly obtained from America, by the ſeedſmen, in the ſpring, and in which ſeaſon it may be ſowed in a ſhady, or eaſt border; and when the plants are a year old, tranſplant them in a nurſery; train each with a ſingle ſtem, pruning up the lateral ſhoots by degrees, the top permitted to advance in full growth, and when grown three or four, to five, ſix, or eight feet high, are of proper ſize for final tranſplanting in the reſpective diſtricts in which they may be required, for ornament and variety.

By layers and cuttings of the young wood, or ſhoots, of one year's growth, layed and planted in the autumn or ſpring, will be rooted by the following autumn; and then managed as adviſed for the ſeedling-plants.

Or ſuckers ſometimes riſe from the roots of the trees that are of advanced growth, and may be dug up in autumn or ſpring, and planted.

OLEA OLIVE TREE, of the

Claſs and Order

Diandria Monogynia,
Two Males, One Female;

Or Plants with Hermaphrodite Flowers, having two Stamina, or Males, and one Piſtillum, or Female.

THE OLEA, or Olive, compriſe curious ever-greens, of moderate tree or ſhrub-like growth, for adorning the pleaſure-ground, but being natives of warm countries, require a ſheltered ſituation; are upright growers, ten to fifteen, or twenty feet; very branchy, almoſt to the bottom, with full heads, decorated with ſmall, or moderate ſpear-ſhape, and oval ſtiff leaves, oppoſite, in pairs, continuing in verdure at all ſeaſons; and ſmall, funnel-ſhape, white flowers, at the axillas, in cluſters; having ſmall, monophyllous, or one-leaved, tubulous, quadridented cups, a monopetalous, funnel-ſhape corolla, four-parted, and ſpreading above; two ſtamina in each flower, a roundiſh germen with a ſingle ſtyle, and the germens become oval, green, eatable fruit, called Olives; good for pickling, though ſeldom produced in plenty and perfection in this country for uſe, nor furniſh ripe ſeed thereof for ſowing; but the trees propagate freely by layers.

One Species, furniſhing ſeveral Varieties, viz.

OLEA *europæa*, European Common Olive Tree.

A ſmall, or moderate, ever-green tree, of ſhrub-like growth, ten to fifteen, or twenty feet high—the leaves *(ſmall)* ſpear-ſhape, ſtiff, oppoſite; and cluſters of ſmall, white flowers, ſucceeded by oval fruit.—Native of the ſouthern parts of Europe. *(Warm, dry ſituation, and ſome kept in pots, to place under ſhelter in winter.)*

Varieties.—Round-branched, Common Olive Tree.
Tetragonated, or four-angled branched, Common Olive Tree.
Narrow-leaved, Common Olive Tree.
Broad-leaved, Spaniſh, Common Olive Tree, with larger oval fruit.
Short, hard-leaved, Wild, Common Olive Tree.
Box-leaved, Common Olive Tree.
Shining-leaved, African, Common Olive Tree.

This ſpecies, and different varieties, of Olive Tree, being exotics from the ſouthern, warm parts of Europe, &c. require a defended, warm ſituation, in this country, where they may have ſome protection in winter from ſevere froſt, and ſome kept in pots, to place under ſhelter of a frame, or green-houſe, in the winter ſeaſon; though, on account of their tender nature, liable to ſuffer in rigorous weather, they are likewiſe generally introduced in the green-houſe collection, to have protection of that conſervatory all winter; however, they will alſo ſucceed tolerably well in the full ground, planted againſt a ſouth wall, a plant or two of each, for variety; and when rigorous froſts, cover them with large garden mats, and litter the ground with ſtraw, over the roots.

They are propagated principally by layers of the young branches, in the ſpring or autumn; will be rooted in one ſummer; then cut from the parent tree, and plant ſome under a warm wall, others ſingly in pots, to place under ſhelter in winter, till they gain ſtrength; and ſome may then be tranſplanted, with balls, into the full ground, in a warm ſituation, as above intimated.

ONONIS, REST-HARROW, of the

Claſs and Order

Diadelphia Decandria,
Two Brotherhoods, Ten Males;

Or Plants with Flowers (Herm.) having two Sets of united Stamina, or Males, and with ten Stamina in each Flower.

THE ONONIS furniſhes two or three ſpecies of ſmall, very ornamental flowering-ſhrubs, of low, under-

der-ſhrubby growth, garniſhed, in ſummer, with trifoliate leaves, formed of ſpear-ſhape, and linear and roundiſh lobes; and large, papilionaceous, or butterfly-ſhape, red and purple flowers, in panicled cluſters, at the ſides and ends of the branches, in May and June; having, in each flower, a five-lobed, arched cup; a corolla papilionaceous, of four irregular petals, conſiſting of a heart-ſhape vexillum or ſtandard, two oval wings, and a pointed carina below; ten diadelphous ſtamina, an oblong germen, with one ſtyle, ſucceeded by a turgid, rhomboide, bivalve pod, furniſhed with kidney-ſhape ſeeds, by which the plants are generally propagated.

Three Species, two of them hardy, the other ſomewhat tender.

1. ONONIS *fruticoſa*, Shrubby, Alpine Reſt Harrow.

A low, deciduous, under-ſhrub, growing two or three feet high—the leaves (*middling*) ternate, or trifoliate, ſpear-ſhape, ſawed; with ſheathed ſtipula; and lagre, red flowers, in panicle bunches, each peduncle moſtly three-flowered; May or June, &c.—Native of the Alps. (*Any common ſoil and ſituation.*)

Variety.—White-flowered, Shrubby Reſt Harrow.

2. ONONIS *tridentata*, Tridented Fleſhy-leaved Reſt Harrow.

A low, deciduous, under-ſhrub, of two or three feet growth—the leaves (*ſmall, narrow*) ternate, or trifoliate, ſub-linear, fleſhy, tridented; and terminal cluſters of ſmall, purple flowers, the peduncles moſtly two-flowered.—Native of Spain. (*Warm, dry ſituation, or ſome kept in pots, to have ſhelter from froſt.*)

3. ONONIS *rotundifolia*, Round-leaved, Alpine Reſt Harrow.

A low, ſhrubby plant—the leaves (*middling*) trifoliate, roundiſh; peduncles moſtly three-flowered, with the calyx having three bracteal leaves.—Native of the Alps of Switzerland. (*Any common ſoil.*)

Of the above three ſpecies, the firſt and third ſorts are hardy to grow in any common ſoil and ſituation; the other, ſomewhat tender, ſhould have a warm ſituation, or ſome alſo kept in pots, to have ſhelter from froſt; but of which three ſorts, the *Ononis fruticoſa* is that which is the moſt generally known and cultivated in ſhrubberies, as a hardy, ornamental, flowering-ſhrub; and may be obtained at moſt of the nurſeries, for planting, in autumn or ſpring: allot them principal compartments, in aſſemblage with other ſhrubby kinds, generally placed ſomewhat forward, conſpicuous to view, and they will make a very pleaſing variety in ſummer.

They are propagated by ſeed, ſowed in the ſpring, in a warm border, or bed of light earth; they will come up the ſame year; and in ſpring following may be tranſplanted into the nurſery, and ſome in pots, ſingly; and when advanced about twelve, to fifteen or eighteen inches, or two feet growth, are proper for the ſhrubbery.

PASSIFLORA, PASSION-FLOWER, of the Claſs and Order

Gynandria — *Females and Males joined,* Pentandria, — *Five Males, or Staminæ.*

Or Plants with Hermaphrodite Flowers, having both the Male and Female Parts growing upon a Column, or Style, together; and have five Stamina, or Males.

THE PASSIFLORA comprehends moſt curious, ornamental, flowering-climbers; one of which is a hardy, climbing-ſhrub, renowned for the beauty and curioſity of its elegant flowers, of ſingular ſtructure; is of trailing-climbing growth, with long-extending ſhoots, advancing ſeveral feet in length in one ſummer; adorned with large, palmate-fingered leaves; and large, ſpreading, many-parted, radiated flowers, blue and white, in the ſame, of admirable form and ſingularity; produced on long foot-ſtalks, ſingly; having each a three-lobed involucrum, five-leaved calyx, five oblong, plane, ſpreading petals, containing a fringed, triply-radiated, many-parted nectarium, formed of thready, circular, ſpreading rays, and a triple coronet around a centrical, gynandrious piſtil, or column, ſupporting the male and female parts of generation, conſiſting of five ſpreading ſtamina, and crowned by a roundiſh germen, elevating three ſtyles; and the germen grows a large, oval, fleſhy, baccated fruit, with many oval ſeeds; the fruit not eatable, nor the ſeeds often uſed for ſowing; the plants propagating freely by layers and cuttings.

One hardy Species, viz.

PASSIFLORA *cærulea*, Blue-radiated, or Common Paſſion-Flower.

A deciduous, ſhrubby climber, with long, ſlender, trailing-climbing ſtalks, aſcending, by ſupport, twenty or thirty feet high, or more—the leaves (*large, dark-green*) palmated-fingered, of five long, ſpear-ſhape, intire lobes, attended by twining cirrhi or claſpers; and large, ſpreading flowers, with a blue and purple, radiate nectarium; July and Auguſt.—Native of the Braſils. (*Dry ſoil and warm ſituation.*)

This

This deſirable, ſhrubby plant, deſerves a place in every garden, as an elegant climber, and for the beauty of its ſingularly curious flowers, produced on the young ſhoots of the ſame year, in daily ſucceſſion; each flower being only of one day's duration, expanding about ten, eleven, or twelve o'clock, according to the power of the ſun; often burſts open elaſtically, all at once, continuing fully expanded till the ſame time next day, then gradually ſhuts and decays; but ſucceeded by a conſtant ſupply of freſh flowers every day for ſix weeks, eſpecially in plants arrived to ſome tolerable extent of growth, and make a fine ornamental appearance in July, Auguſt, and September.

Proper plants, for planting, may be purchaſed at the nurſeries, and planted in autumn or ſpring; and may be propagated plentifully by layers and cuttings of the young ſhoots, in the ſame ſeaſons.

As this plant grows with very long, feeble ſtems and ſhoots, requiring ſupport to elevate them from the ground, it ſhould generally be planted againſt a wall, building, &c. in a warm ſituation, in the full ſun, both that it may have greater protection from rigorous froſt, which ſometimes damage the young ſhoots; and that, by being in a warm, ſunny expoſure, it flowers in the beſt perfection and abundance; and ſome may alſo be planted detached in warm ſhrubberies and borders, and to have ſupport of ſtakes; or ſome planted in pots, for moving therein, to adorn any particular compartment occaſionally in ſummer, while in flower; though, in the general part, it commonly flowers in the greateſt perfection againſt a warm wall.

A plant or two, planted againſt a wall, or other fence, will ſoon ſpread over a large ſpace, and run up many feet high, if required; and to which the ſtems and branches ſhould be trained in regular order, four to five, or ſix inches aſunder, either upright, or more or leſs horizontally, as the allotted ſpace admits.

In its advancing growth againſt walls, &c. it ſhould generally be continued in ſome tolerable regularity, by occaſional pruning, and nailing annually; that as it conſtantly produces many, or numerous ſhoots, every ſummer, extending to conſiderable length, and on which the flowers are principally produced the ſame year, it is proper to train in a plentiful ſupply of theſe annually, for flowering, continued moſtly at their full length during the ſummers growth; or only prune the ſuperabundant, or ſuch as are very diſorderly, or extend out of bounds, either ſide-ways, or above; and in winter, about November, &c. or towards the ſpring, cut out the weak and ſuperabundant ſhoots of the laſt ſummer, and any decayed, or improper old wood, retaining a ſupply of the ſtrongeſt young ſhoots, cutting away a proportionable part of the old, and the young ſhortened to a yard or more in length, according to their ſtrength and ſituation on the plant; and nailed up to the wall regularly, the diſtances before mentioned.

Or likewiſe, as before intimated, ſome might be planted in a warm, ſunny part of a principal ſhrubbery, or border, and the ſtems trained up to ſtakes; and alſo planted to run over arbours, or ſome planted in pots, having ſupport of ſtakes aforeſaid; and in all of which, being in warm ſituations, they will flower in tolerable perfection.

The propagation, or methods of raiſing this ſpecies of *Paſſiflora*, is effected plentifully by layers and cuttings, which freely emit roots and grow; the laying may be performed in autumn or ſpring, chuſing ſome of the ſtrongeſt young ſhoots, and lay them down in the earth, pruning off the weak, top part; and for cuttings, take off, with a knife, ſome ſtrong ſhoots in the ſpring, cut into lengths of ten or twelve inches, and planted in a ſhady border; they will be rooted by next October, both layers and cuttings, to tranſplant either in a nurſery, for a year or two, to gain ſtrength, or ſome of the ſtrongeſt, to plant at once where they are deſigned to remain.

It is alſo ſometimes raiſed from ſeed, ſowed in a bed or pots of light earth, in March; the plants will come up the ſame year; ſhelter them in winter from froſt, and in March following tranſplant them in a warm ſituation.

But the propagation, by layers and cuttings, is the more general and effectual method, whereby to obtain ſtrong plants, the moſt expeditiouſly for flowering.

PERIPLOCA, VIRGIN SILK, or CLIMBING DOG'S BANE.

Claſs and Order.

Pentandria Digynia,
Five Males, Two Females;

Or Flowers (Herm.) having five Stamina, or Males, and two Piſtillums, or Female Parts.

OF the Genus PERIPLOCA, is one hardy, underſhrubby, volubilate climber, to admit as ſuch in ſhrubberies, and as a flowering-plant; is of extenſive growth in its long, ſlender, twining ſtalks, running, by ſupport, many feet high; garniſhed with oblong leaves, and monopetalous, rotated, purple flowers, in cluſters; having to each flower a five-parted cup; a corolla rotated, or wheel-ſhape plane, divided into five ſegments; contains five ſtamina, and two ſtyles; ſucceeded by two oblong, ventricoſe or bellied, foliculate pods, furniſhed with many pappous, or downy ſeeds, ſeldom uſed for ſowing, as the plant is eaſily propagated by layers and cuttings.

One hardy Species, viz.

PERIPLOCA *græca*, Greek Periploca, or Virgin Silk, &c.

A volubilate-climbing, under-ſhrubby plant, extending with ſlender, twining ſtalks, twenty to thirty, or forty feet high, upon ſupport—the leaves (*middling, bright-green*) lanceolate-ovate, oppoſite; and purple flowers, hairy internally.—Native of Syria. (*Any ightiſh ſoil.*)

This volubilate climber, is admitted for variety in pleaſure-grounds, ſhrubberies, and other ornamental plantations, to climb upon poles, or round the ſtems of trees, and to run over arbours, buſhes, and hedges, in all of which it will aſcend naturally, in its twining-climbing growth, and flower annually in ſummer; or may likewiſe be trained againſt high walls, nailing the ſtems thereto; and is propagated by layers and cuttings of the ſhoots, in autumn or ſpring, which will root freely in one year for tranſplanting.

PHILADELPHUS, SYRINGA, or Mock-Orange.

Claſs and Order.

Icoſandria Monogynia,
Twenty or more Males, One Female;

Or Plants with Flowers (Herm.) having twenty or more Stamina, and one Piſtillum, or Female.

THIS Genus, *Philadelphus*, compriſes two or three ſpecies, and ſome varieties, of upright, buſhy, deciduous, ornamental flowering-ſhrubs, of four or five, to eight or ten feet growth, or more, with very full heads, garniſhed with ovate ſpear-ſhape, indented, and intire leaves; and numerous, ſmall bunches of tetrapetalous, or four-leaved, white flowers, odoriferous, and ſcentleſs in different ſpecies, very conſpicuous and ornamental in May and June; having each a permanent cup divided into four parts; a corolla of four large, roundiſh petals; twenty or more ſtamina, and a four-parted ſtyle; ſucceeded by oval, quadrivalve, capſular nuts, containing many ſmall, oblong ſeeds; which are ſeldom uſed for ſowing, the different ſpecies being propagated principally by layers, cuttings, and ſuckers.

The Species of PHILADELPHUS are,

1. PHILADELPHUS *coronarius*, Coronous-flowered, or Common White Fragrant Syringa.

A largiſh, deciduous ſhrub, of buſhy growth, four or five, to ſix or eight feet high—the leaves (*moderately-large*) oval-ſpear-ſhape, ſlightly indented; and many white fragrant flowers in May and June.—Native of Verona. (*Any common ſoil and ſituation.*)

Varieties.—Large, Common White Syringa.
Dwarf Common Syringa.
Double-flowered Common Syringa.
Striped-leaved Common Syringa.

2. PHILADELPHUS *inodorus*, Scentleſs Carolina Syringa.

A large, deciduous ſhrub, growing ſix to eight or ten feet high—the leaves (*middling*) oval, intire; and large, white, inodorous, or ſcentleſs flowers; May and June.—Native of Carolina. (*Any common ſoil and ſituation.*)

Theſe two ſpecies of *Philadelphus* are principal ornamental flowering-ſhrubs, to aſſiſt in furniſhing ſhrubberies, or any decorative plantations, and to plant in ſpacious borders, &c. in the pleaſure-ground; they growing with full, buſhy heads, make a fine appearance when in flower, producing the flowers in bunches, in great profuſion, for three or four weeks, in May and June; very odorous in the firſt ſpecies, ſomewhat reſembling the ſmell of Orange flowers; and which, in both theſe ſpecies, being alſo ſomewhat ſimilar in appearance, are hence ſometimes called Mock-Orange.

They are very hardy ſhrubs, will grow any where, and are eligible for all parts of ſhrubberies: may be had at all the nurſeries, for planting, which may be done any time in open weather, from October or November, to March or April.

Sometimes the Common Odorous Syringa, planted in pots, are placed in a forcing-ſtove, or hot-houſe, in January or February, to forward them to early flowering.

They are propagated by ſuckers from the bottom, and by layers and cuttings; the ſuckers may be dug up with roots in autumn, and planted in a nurſery, to acquire a proper growth for the ſhrubbery, or ſtrong ones may be planted therein, at once to remain; layers and cuttings of the young ſhoots in autumn or ſpring, will root in one year; and in all of which methods train them up in the nurſery, &c. moſtly with a ſingle ſtem below, and to branch out above in full heads; and when two or three feet high, are of proper ſizes for the ſhrubbery diſtricts, &c.

PHIL-

PHILLYREA—(PHILLYREA) or MOCK PRIVET.

Class and Order.

Diandria Monogynia,
Two Males, One Female;

Or Plants with Hermaphrodite Flowers, having two Stamina, or Males, and one Piſtillum, or Female.

THE PHILLYREAS are very noted, ornamental, ever-green ſhrubs, for beautifying ſhrubberies and other decorative plantations, and for variety, &c. conſiſting of three ſpecies, and ſeveral curious varieties; all of largiſh, upright, very branchy, buſhy growth; adorned with ſmall, ovate-lanceolate, linear-narrow, and broad cordate-ovate leaves, moſtly all in pairs oppoſite; and ſmall, greeniſh flowers, of but little appearance, growing in cluſters; each flower is formed of a funnel-ſhaped petal, cut into five parts; contains two ſtamina, a roundiſh germen, with one ſtyle, and the germens grow a globular berry, having each one round ſeed, ripe in autumn, and by which, ſowed in that ſeaſon or ſpring, the ſhrubs are propagated; likewiſe by layers of the young branches or ſhoots.

The Species and Varieties of PHILLYREA are,

1. PHILLYREA *media*, Middle, or Oval-leaved Phillyrea.

A large, ever-green ſhrub, of upright, buſhy growth, ſix or eight, to ten or twelve feet high—the leaves (*ſmalliſh, dark-green, ſhining*) ovate-lanceolate, moſtly intire, and oppoſite, by pairs.—Native of the ſouthern parts of Europe. (*Any common ſoil and ſituation.*)

Varieties.—Common Oval-leaved Middle Phillyrea.
Privet-leaved Phillyrea.
Olive-leaved Phillyrea.

2. PHILLYREA *latifolia*, Broad-leaved Phillyrea.

A large, ever-green ſhrub, of upright, buſhy growth, eight or ten feet high—the leaves (*larger, broad, dark-green, ſhining*) cordate, or hearted-ovate, ſawed, and in pairs, oppoſite.—Native of the ſouthern parts of Europe. (*Any common ſoil and ſituation.*)

Varieties.—Common Serrated, Broad-leaved Phillyrea.
Unſerrated, Broad-leaved Phillyrea.
Prickly, Ilex-leaved Phillyrea.

3. PHILLYREA *anguſtifolia*, Narrow-leaved Phillyrea.

A middling, ever-green ſhrub, growing ſix or eight feet high—leaves (*narrow, dark-green*) linear, ſpear-ſhape, very intire, and by pairs, oppoſite.—Native of Italy and Spain. (*Any common ſoil and ſituation.*)

Varieties.—Roſemary-leaved Phillyrea.
Lavender-leaved Phillyrea.
Variegated, Narrow-leaved Phillyrea.

All theſe ſpecies and varieties of *Phillyrea* are very hardy, will grow in almoſt any ſituation and common ſoil; are fine, ſhowy ever-greens, branching numerouſly from the bottom upwards, in a buſhy growth, cloſely garniſhed with leaves, continuing all the year in conſtant verdure; and are deſirable, principal, ever-green ſhrubs, to plant in ſhrubberies, and other compartments of pleaſure-grounds, for ornament and variety; trained generally in buſhy ſtandards, and introduced principally in aſſemblage with others of the ever-green tribe, and occaſionally to diverſify deciduous clumps, or to dot ſingly in borders, plats, lawns, &c. they likewiſe admit of training for ornamental garden-hedges, and are particularly well adapted to train in a fanned, ſpreading manner, againſt walls or palings, in fore-courts, or any place where required to have naked or unſightly walls, &c. covered; as they branch out quite from the bottom, and admit of training to the wall in a ſpreading expanſion, to cover it completely, and appear always green.

The *Phillyreas* and *Alaternus*, are very ſimilar in their growth and leaves, only the former having the leaves placed oppoſite, by pairs, and the latter are alternate, or one above another, ſingly.

The different ſpecies and varieties of *Phillyrea* are cultivated in all the general nurſeries, where any ſorts required may be had, of proper growth for planting; and for which, all or any of the ſpecies are eligible; but where room to admit the different ſpecies and varieties, they will make a conſpicuous diverſity.

The general ſeaſon for planting theſe ever-greens is either in autumn, commencing towards the middle or latter end of September, or any time in October or early part of November, or principally in the ſpring months; or, in mild open ſeaſons, might be performed occaſionally any time in winter, eſpecially where the ſhrubs can be removed with balls of earth to the roots; otherwiſe, autumn or ſpring is moſt adviſeable for any general planting of theſe and other ever-greens.

They are propagated by ſeeds and layers, in the autumn or ſpring.

Sow

Sow the ſeed in autumn or ſpring, in a bed of light earth, and covered in half an inch to an inch deep; they will come up, ſome probably the firſt year, but will ſometimes moſtly remain dormant till the ſecond ſpring: keep the beds clean from weeds; and when the ſeedling-plants are a year old, tranſplant them into nurſery-beds, in March or April, in which remaining one or two years more, to acquire a little ſtrength; then tranſplanted in wider nurſery-rows, to advance in full growth, either buſhy from the bottom, or ſome pruned up below to a ſingle ſtem, of a foot length, and to branch out full above; and having advanced in buſhy heads, half a yard to two or three feet high, are proper for the ſhrubbery.

By layers, chuſe ſome pliant branches, well furniſhed with young wood; peg them down into the ground, then lay all the young ſhoots thereof; they will moſtly be rooted in one year, and ſhould then be tranſplanted into a nurſery, to obtain proper growth.

When the plants, raiſed by either of the above methods, are grown with branchy heads, half a yard to three feet high, or more, they are proper for planting in ſhrubberies, and other ornamental plantations; in which diſpoſe them in the different compartments, and generally permitted to advance in full growth; or may occaſionally prune diſorderly, rambling branches, or low ſtragglers, to continue the heads ſomewhat regular and diſtinct; and in giving any requiſite pruning, perform it principally with a knife, either in ſpring, ſummer, or autumn.

Or where deſigned to plant any of theſe ever-greens to cover walls, &c. as before intimated, the oval and broad-leaved kinds are the moſt proper; or, for variety, may have ſome of each ſort, ſuch as are branchy to the bottom; plant them cloſe to the wall, two or three feet aſunder; prune or cut away the fore-right, projecting branches, if any; nail the others to the wall in a ſpreading manner, three or four inches aſunder, at their full length, and permitted to run in full growth, continued trained to the wall, to cover it effectually, in a regular expanſion; and as many projecting ſhoots will advance annually, they ſhould be cut in, cloſe and regular, in ſummer, either with a knife or garden-ſhears, to form the front even, like an hedge.

PHLOMIS, JERUSALEM SAGE.

Claſs and Order.

Didynamia Gymnoſpermia,
Two Powers, Seeds naked;

Or Plants with Flowers (Herm.) having two of four Stamina ſuperior in length to the others; and Seeds uncovered, or lodging naked in the Calyx.

THIS Genus furniſhes two hardy ſpecies, and ſome varieties, of curious, upright, hoary, ever-green, flowering-ſhrubs, for adorning the ſhrubbery; plants of moderate growth, with hoary branches, garniſhed with roundiſh-oblong, and hearted downy-whitiſh leaves, and large, verticillate bunches of tubulous, gaping, yellow, and purple flowers, diſpoſed in whirls around the branches; having five and ten-angled, perſiſtent cups; a monopetalous corolla, of one oblong, tubular petal, ringent, or grinning above; four ſtamina, two of them ſuperior in length to the other two; a quadrifid, or four-parted germen, ſupporting a ſingle ſtyle; and the germen becomes four oblong, naked ſeeds, reſting in the permanent calyx; the ſeeds ſeldom uſed for ſowing, as the plants propagate freely by layers, cuttings, and ſlips.

The hardy Species of PHLOMIS are,

1. PHLOMIS *fruticoſa*, Shrubby, or Tree-like Phlomis, or Common Jeruſalem Sage.

A moderate, hoary, ever-green ſhrub, of ſtrong, upright, buſhy growth, four to five, or ſix feet high—the ſtem ſhrubby; leaves (*middling*) roundiſh-oblong, crenated, hoary-white; and whirled bunches of yellow flowers, having ſpear-ſhape involucrums.—Native of Sicily and Spain. (*Dry, light, or any common ſoil.*)

Varieties.—Broad-leaved Shrubby Phlomis.
Narrow-leaved Shrubby Phlomis.
Dwarf, Cretan Shrubby Phlomis.

2. PHLOMIS *purpurea*, Purple, Under-Shrubby Phlomis.

A ſmaller, under-ſhrubby, hoary plant, of ſlender, buſhy growth, three or four feet—the ſtem under-ſhrubby; leaves (*middling*) hearted-oblong, hoary-white; and with purple flowers, having linear involucrums, ſhorter than the calyx.—Native of Portugal and Spain. (*Dry or any common ſoil.*)

Theſe plants merit culture in all principal ſhrubberies, both as curious, hoary ever-greens, and ornamental flowering-ſhrubs; will effect a diſtinguiſhable and ſingular variety at all ſeaſons of the year, in the hoary aſpect of their branches and leaves; and flower very conſpicuouſly in ſummer and autumn, produced in whirls around the upper parts of the branches and ſhoots; they are tolerably hardy, but are generally the moſt proſperous and durable in a dry, light ſoil, and ſomewhat ſheltered compartment; though they will alſo ſucceed in any common, moderately-dry ground, and may be planted in aſſemblage with other hardy ſhrubs.

Both

Both theſe ſpecies, &c. may be procured at the nurſeries, of proper growth for planting, which perform principally in autumn or ſpring; or are eaſily raiſed to an eligible ſize, by the following methods of propagation.

They are propagated by layers, and cuttings or ſlips of the young ſhoots: layers of the young branches, in autumn or ſpring, will be well rooted by the autumn following, when, or in ſpring, cut them from the parent plant, and planted in nurſery-rows, to acquire proper growth for the ſhrubbery; and cuttings or ſlips of the young ſhoots, in the ſpring and ſummer, planted in a ſhady border, and watered in dry weather, they will root freely the ſame year, and ſhoot at top: the plants raiſed by the different methods, may either be pruned up below, forming a ſhort, ſingle ſtem, to grow branchy above, or permitted to advance wholly in a buſhy growth; and when half a yard, to two or three feet high, or more, they are of proper ſize for the ſhrubbery plantations.

PINUS, PINE TREE, and FIR, CEDAR TREE, and LARCH, &c.

Claſs and Order.

Monoecia Monadelphia,
Two Habitations, One Brotherhood;

Or Flowers Male and Female, ſeparate on one or the ſame Tree; and the Stamina of the Males united in one Set, or Brotherhood.

THE PINUS compriſes many ſpecies and varieties of conſiderable ever-green trees, and one deciduous kind; all of remarkable value for timber and ornamental plantations, being trees of the firſt order, ſwift and ſtupendous growers, advancing with a ſtraight, ſingle, erect ſtem, thirty or forty, to ſixty, eighty, or an hundred feet high, branching, in circular rays, regularly from the bottom, upward; the branches, diminiſhing gradually to the top, form beautiful, conical, or pyramidal heads; cloſely garniſhed with very narrow, ſetoſe or briſtle, and awl-ſhape leaves, ſome by two, three, and five together, others ſingly, and ſome in bundles, or many together from one point, pencil form; and ſmall male and female flowers, ſeparate on the ſame tree; the males in ſcaly racems, or ſpikes, and females collected in oval cones, of many rigid, ſcaly calyxes; no petals; many united ſtamina in the male rets, in the females, a ſmall germen, and ſingle ſtyle; and becomes a hard, ſcaly, imbricated, conical ſeed-veſſel, or cone, from one inch, to three, four, five, to ten or twelve inches long, involving many ſmall, nut-like, winged ſeeds, one generally under each ſcale; ripening in winter and ſpring, and by which, ſowed in the laſt-mentioned ſeaſon, the trees are propagated.

Many Species of the PINUS.

Compriſing the Pine Trees, Firs, Cedars, and Larch; the former is diſtinguiſhed by the leaves growing two, three, and five together, in the different ſpecies; the Firs have all the leaves placed ſingly; and the Cedar kinds, conſiſting of the Cedar of Lebanus, and Larch Trees, have the leaves in bunches, or many produced from the ſame point, ſpreading out above; and in all the ſorts, the leaves ſmall, narrow, briſtle, and awl-ſhape, two or three, to five or ſix inches long, in the different ſpecies and varieties.

1. Pine Kinds (PINEA.)

Diſtinguiſhed by having the leaves placed by pairs, threes, and fives, together from the ſame ſheath, moſtly of a dark and greyiſh-green hue; and the trees produce ſeed-cones, from one or two, to eight or ten inches long, or more.

With leaves in pairs, or two together.

1. PINUS *ſylveſtris*, Wild Pine, Pinaſter, or Scotch Pine, commonly called Scotch Fir.

A large, ever-green tree, growing fifty to ſixty feet high, or more—the leaves *(ſmall, dark-greyiſh green)* growing by pairs; the primordial or firſt leaves, ſingly and ſmooth; and acute cones, one or two, to ſeveral inches long, in different varieties.—Native of the northern parts of Europe, &c. *(Dry or any common ſoil.)*

Varieties.—*(Pinaſter latifolius)* Broad-leaved Pinaſter—the leaves broader, longer; and long, acute cones.

(Pinaſter tenuifolius) Slender-leaved Pinaſter—the leaves ſmaller and ſhorter; purple flower racems, and ſmall cones.

(Pinaſter maritima altera) Talleſt Sea Pinaſter—leaves broader, longer; and longiſh cones.

(Pinaſter pumila) Dwarf Pinaſter—the leaves ſhorter, ſmaller.

(Pinus virginiana) Virginia, Two-leaved Prickly-coned Pine, growing ſixty or ſeventy feet high—the leaves ſmall, lighter-green; and ſmall cones.—Native of Virginia, &c. *(Moiſt or any common ſoil.)*

(Pinus

(*Pinus halepenſis*) Aleppo-Pine, growing thirty or forty feet high—the leaves longer, narrow, darker-green; and very ſmall cones.—Native of Aſia. (*Dry ſoil.*)

(*Pinus tatarica*) Tartarian Pine, growing fifty feet high—the leaves ſhort, broader, lighter-green; and ſmall cones.—Native of Tartary. (*Dry or any common ſoil.*)

(*Pinus rubra*) Red or Common Scotch Pine, growing ſixty feet high, or more—the leaves ſhorter, greyiſh-green; and ſmalliſh cones.—Native of Scotland, &c. (*Dry or any common ſoil, and rocky, gravelly, or any dry, barren grounds.*)

2. PINUS *Pinea*—(Pinea ſativa) Cultivated, or Italian Stone Pine.

A middling, ever-green tree, growing thirty or forty feet high—the leaves (*long, bright-green*) placed by pairs; the primordial, or firſt leaves, ſingly, and ciliated on the edges; and large, turbinate or top-ſhape, cloſe, hard cones, containing large, eatable ſeeds.—Native of Italy, Spain, and ſouth of France. (*Any common ſoil.*)

With leaves by threes.

3. PINUS *Tæda*—(Tæda) Torch, or Frankincenſe Pine of America.

A large, ever-green tree, growing ſixty or ſeventy feet high—the leaves (*long, narrow, light-green*) placed by three together from the ſame ſheath; and large, looſe cones.—Native of Virginia and Canada, in ſwampy places. (*Moiſt or any common ſoil.*)

Varieties.—(*Pinus rigida*) Rigid-coned Virginia Pine growing ſixty or ſeventy feet high—the leaves long, ſlender, placed by threes; and ſtiff, hard cones.—Native of Virginia, &c. (*Moiſt or any common ſoil.*)

(*Pinus echinata*) Echinated, or Prickly-coned American Pine, growing forty or fifty feet high—the leaves long, ſlender, placed by twos and threes together; and prickly ſeed-cones.—Native of North America. (*Any common ſoil, &c.*)

(*Pinus paluſtris*) Marſh, or Swamp American Pine, growing fifty feet high—the leaves long, deeper-green, placed by threes.—Native of North America. (*Moiſt ſituation, or any common ſoil.*)

With leaves by fives.

4. PINUS *Strobus*—(Strobus) New England, or Weymouth Pine.

A moſt lofty, ever-green tree, growing ſeventy or eighty, to an hundred feet high—the ſtem having a ſmooth bark; leaves (*longeſt, ſlender, light-green*) placed by fives from the ſame point or ſheath, the margins rough; and long, ſlender, looſe, pendulous cones.—Native of Virginia and Canada; firſt cultivated in England, by Lord Weymouth, hence commonly called the Weymouth Pine, a moſt beautiful tree. (*Any common ſoil and ſituation.*)

5. PINUS *Cembra*—(Cembra) or Mountain Siberian Stone Pine.

A large, ever-green tree, growing thirty, to forty or fifty feet high—the leaves (*ſmall, ſetoſe or briſtly, deeper-green*) placed by fives, very ſmooth; and with largiſh, erect cones, the ſeeds or nuts thereof eatable and ſalutary.—Native of the mountains of Siberia, Switzerland, Valeſia, Baldi, &c. (*Dry, or any common ſoil, &c.*)

2. Fir Kinds (ABIES.)

Diſtinguiſhable from the Pine Trees, by the leaves growing ſingly, and thickly placed, but all diſtinct at the baſe; and with ſeed-cones, from an inch or two, to ſix or eight inches long.

Leaves placed ſingly.

6. PINUS *Abies*—(Abies) Common Spruce or Norway Fir.

A large, ever-green tree, growing ſixty or ſeventy feet high, or more—the leaves (*ſmall, dark-green*) awl-ſhape, pointed, ranged two ways, ſmooth, and placed ſingly; and long, pendulous cones.—Native of Norway, other northern parts of Europe, and of Aſia. (*Any common ſoil.*)

Varieties.—Red Norway Fir.
White Norway Fir.
Long-coned Corniſh Fir.

7. PINUS

The laſt ſpecies, Pinus Abies, and the firſt two varieties thereof, are the common Pitch Trees, from which the pitch is obtained.

7. PINUS *canadenſis*, Canada Spruce Fir.

A large, ever-green tree, growing ſixty feet high, or more—the leaves *(ſmall, ſhort, dark-green)* linear, ſomewhat obtuſe ſub-membranous, and placed ſingly; and ſmall, looſe cones.—Native of North America. *(Any common ſoil, &c.)*

Variety.—White Canada Spruce Fir.
Red Canada Spruce Fir.
Black Canada Spruce Fir.
American Hemlock Spruce Fir.

8. PINUS *Picea*—(Picea, Turpentine Tree) or Silver Fir.

A ſtraight, lofty-growing, ever-green tree, ſeventy or eighty feet high—the leaves *(ſhort, flat, dark-green)* emarginated or end-notched, ſilvery underneath, and placed ſingly; and very long, erect cones.—Native of the Mountains of Switzerland, Swedland, Bavaria, and the Highlands of Scotland. *(Any common ſoil.)*

9. PINUS *Balſamea*—(Balſamea) or Balm of Gilead Fir.

A middling, ever-green tree, very branchy to the bottom, growing thirty or forty feet high—the leaves *(ſmall, ſhortiſh, light-green)* obtuſe, a little emarginated, or end-nicked, doubly lineated, or with two white lines on the under-ſide, punctured, and placed ſingly; diſpoſed in a pectinated order, like the teeth of a comb; and ſhort, round cones.—Native of Virginia, Canada, &c. *(Any common ſoil.)*

3. Cedar and Larch Kinds (LARIX.)

Diſtinguiſhed from the Common Pine and Fir Trees, by the leaves being bundled, or growing many together, from one point, in pencil-form bunches, ſpreading out each way; and large, oblong-roundiſh, and ſmall, acute cones.

Leaves, in bunches.

10. PINUS *Cedrus*—(Cedrus *libani*) or Cedar of Lebanon.

A large, ever-green tree, of beautiful, ſpreading growth, thirty, to forty or fifty feet high, or more—the leaves *(ſmall, ſtiff, dark-green)* acute-pointed, faſciculate, or in bunches; and large, oblong-roundiſh, cloſe, hard cones.—Native of Syria, on Mount Libanus, Taurus, &c. *(Dry or any common ſoil, &c.)*

11. PINUS *Larix*—(Larix) Larch Tree, or Deciduous Cedar.

A large, deciduous tree, growing forty or fifty feet high—the leaves (ſmall, briſtly, light-green) obtuſe, faſciculate, or in bundles; many growing from the ſame point, deciduous; and ſmall, acute cones.—Native of the Alps of Switzerland, Stiria, Corinthia, Siberia, &c. *(Any common ſoil.)*

Varieties.—Red Larch Tree.
White Larch Tree.
Black American Larch Tree.
Horizontal-ſpreading Larch Tree.
Dwarf Siberian Larch Tree.

All, or moſt of the foregoing ſpecies and varieties of *Pinus*, are of the firſt-rate tree kinds, aſpiring each with a ſingle, erect ſtem, to the different heights mentioned in the deſcriptions of the reſpective ſpecies, generally in a tapering growth, and branch out all around, in circular rays, as already intimated, moſtly in regular, pyramidal heads, of beautiful grandeur: all of the ever-green tribe, except the *Pinus Larix*, which is deciduous; and in all the ſorts the leaves are ſmall, ſlender, awl-ſhape, and briſtle-like; the flowers are alſo ſmall, in male racems, and female, conic heads; appearing in ſpring and autumn; ſucceeded by the cones: ripening in autumn, winter, and ſpring following; and which, in moſt of the ſpecies, furniſh plenty of ſeed for ſowing, whereby to propagate the different ſorts, as they are raiſed only by that method.

Theſe trees are of conſiderable value for uſeful and ornamental planting, beautiful in their growth, and their timber is of great worth for all kinds of building; and being moſtly of a reſinous nature, more or leſs, but more particularly the Pine and Fir kinds, which abounding in a ſtrong, reſinous ſubſtance, the uſeful articles, pitch, turpentine, roſin, &c. is obtained, being extracted from the trees, in the places where they grow, in conſiderable woods, both in ſeveral parts of Europe and North America, in which there are natural forets of vaſt extent, of the ſorts peculiar to the different countries.

The different ſpecies of *Pinus* form a grand collection of fine trees of great merit, to arrange in all pleaſureable and profitable plantations, for beautifying pleaſure-grounds, parks, and other premiſes, and for the great improvement and embelliſhment of eſtates; they being all beautiful in their general growth, ſwift and ſtraight growers, arriving to a vaſt height and magnitude; and their timber is of the utmoſt value, as the principal wood employed in all kinds of building, and of ſuperior excellence in ſhip-building, eſpecially for furniſhing the fineſt maſts in the world; more par-

ticularly the Pine and Fir kinds, such as the Pinaster, Scotch, and Weymouth Pines, being all most lofty growing trees; but the latter generally surpasses all the others in attaining the greatest altitude, though most of the other species acquire a considerable height and bulk for the above useful purposes; and are all exceedingly deserving of principal culture in considerable plantations, or, according to the extent of grounds and estates, to plant for ornament and profit; or to introduce in smaller portions, either in the whole, or any principal sorts, to adorn shrubberies and other decorative plantations, both in assemblage with other trees, and to form groves, walks, clumps, &c. wholly of the Pinus kind.

All the species are very hardy, will grow freely in almost any common soil and situation, and in any exposure, in gardens, pleasure-grounds, parks, fields, or any out premises, low or high grounds, plains, sides, tops of hills, &c. but the Pinaster and Scotch Pines particularly, are so hardy that they will grow and prosper almost any where, both in rich and poor land, dry and moist situations, in swamps and dry, barren wastes; and on mountains and rocks, where there is hardly any soil, will penetrate their roots into the crevices, to a considerable depth and distance, in quest of nourishment; so that in any waste, barren, or uncultivated lands, these trees might be cultivated to profitable advantage.

They may be obtained, for planting, at the nurseries, either in full collection, or of any approved or desirable species, &c. of proper growth, two or three, to five or six feet high, or more; or may be raised plentifully from seed, in a home nursery, to proper sizes, as above, in three or four years, for the plantation intended; though it is generally advisable to plant them finally, while in young growth, of one, two, to three or four feet, while the roots are of but moderate extent, and fibrosy; as when more considerably advanced, the roots of most of the sorts become woody and naked of fibres, especially the Pine kinds, do not transplant successfully, so as to proceed in a prosperous growth.

Or where any considerable supplies of the trees are required for large plantations, they may be raised plentifully from seed, in beds of common earth, and at a year old, planted in nursery-rows, to grow to a proper size of two, to three or four feet, for final transplanting in the places where intended, at the proper seasons.

The principal seasons for planting these trees, is autumn or spring; or might be effected, occasionally, any time from October or November, to March or April, in open, mild weather; but, for fear of being attacked with severe frost, it would be advisable to plant principally, or as much as possible, either in autumn aforesaid, where convenient, or in the spring months, February, March, and beginning of April; though in tolerably mild winters, the planting may also be forwarded in that season, especially in the more hardy kinds, as the Scotch Pine, Pinaster, Spruce Firs, &c. or most of the other sorts occasionally; or the whole principally in autumn or spring, or mostly in the latter, which is generally a successful season for planting these kinds of ever-greens.

Any general planting or transplanting of these trees, is advisable to be performed while they are young, as before intimated, when two, three, or four, to five or six feet high at most, especially as they will take root more kindly and sooner than large, or older plants, and advance in a more free growth; or for timber plantations particularly, it is of importance to plant them finally, when of but half a yard, to two, three, or four feet, that they may root freely, and proceed in a free, clean growth from the beginning, and thereby run up straight and swiftly, to a tall or lofty stature, in which consists the principal merit of these trees, both in appearance and utility.

For ornamental planting in pleasure-grounds, parks, &c. all the sorts of *Pinus* are proper; or any principal or desirous species, for particular districts, as the Weymouth Pine, Italian Pine, and the *Pinus Cembra*, Silver, and Balm of Gilead Firs, Cedar of Lebanon, and Larch Trees; though all the sorts make a good appearance; and may be disposed both in continued plantations, in groves, thickets, &c. wholly of the Pinus kind, of different species intermixed, to display the greater diversity; or, in some places, different species in distinct compartments; and likewise are proper to assemble in general plantations, shrubberies, clumps, &c. in concert with other trees and large shrubs, principally of the ever-green kind, except the *Pinus Larix*, which being deciduous, may also be associated with trees of that tribe; or likewise any of the other sorts may be dotted thinly in deciduous plantations, for variety; though they should principally arrange with ever-greens, in the general planting, and in plantations wholly of the Pinus tribe, as above observed; and are proper trees to plant in single or double rows, to form grand walks and avenues, as also to dispose in clumps, and singly in detached standards; observing generally, for single planting or dotting on lawns, and other capacious spaces of grass ground, allot principally some of the handsomest-growing trees of the sorts before specified, or of different species and varieties, in which should never omit that celebrated tree of solemn note, the Cedar of Lebanon, which, when of some considerable advanced growth, will spread its branches in admirable grandeur;

deur; likewiſe, the *Larix* or Larch, being a tree of a ſwift and beautiful growth, makes a fine appearance in ornamental planting.

In planting the different ſorts of *Pinus* for the above ornamental occaſions, that where intended for continued plantations, ſome may be planted in open groves, in rows fifteen to twenty feet aſunder, to give room for them to branch and ſpread freely around in full heads; others may be planted in cloſe groves, thickets, clumps, walks, &c. ſix or eight, to ten feet diſtance, and will draw one another up more expeditiouſly in a tall, ſtraight growth.

To plant theſe trees for timber plantations, all the ſorts may be admitted, or principally, only the hardieſt and largeſt-growing kinds, ſuch as the Pinaſter and Scotch Pine, abundantly, for its ſingular hardineſs to grow any where, in a quick growth, and for the great uſefulneſs of its wood; likewiſe plenty of the Weymouth Pine, as a moſt lofty-growing tree; alſo the Italian Stone Pine, Swamp Pine, Spruce Firs, Silver Fir, and the Cedar of Lebanon and Larches; all of which may be planted in ſoils and ſituations before mentioned; and which, for foreſt or timber-trees, deſerve culture in conſiderable plantations, in all places where they afford proper extent of ſpare ground to allot for that purpoſe, which not only give an air of importance and ornament, but greatly improve the value of eſtates; and in forming which plantations, they may, in ſome places, be planted in cloſe rows at firſt, five or ſix feet aſunder, to draw one another up ſtraight, and more expeditiouſly in height; and when of advanced growth, in eight, ten, or twelve years, ſome might be thinned out for poles, &c. and may repeat thinning out the underling trees, by degrees, leaving the beſt ſtanding at fifteen to twenty feet diſtance, or more, to acquire full growth for timber; or ſome may be planted at once at the above diſtance of fifteen or twenty feet, to remain wholly to grow to large ſtandards, before any are cut down.

For the above plantations, the ground is ſometimes prepared by ploughing, &c. where the ſituation admits, eſpecially for cloſe planting; otherwiſe, or ſometimes in general, no other preparation is given, than only to dig holes in which to plant the trees.

Or ſometimes plantations of the Scotch Pine, &c. are formed by ſowing the ſeeds in drills in the places where the trees are always to remain, having the drills five or ſix feet aſunder; the ground being previouſly ploughed, either wholly, or otherwiſe ploughed or digged along the places for the drills, for ſowing the ſeed therein; and when the plants are come up in the firſt and ſecond year, thin them to eligible diſtances, by drawing them out in autumn or ſpring, leaving the moſt thriving plants ſtanding two or three feet aſunder; and when of more advanced growth, in two or three years, thin them more effectually, by removing the weakeſt, and leaving the ſtrongeſt five or ſix feet aſunder, to remain till advanced to ſome conſiderable ſize, then ſome may be cut down in a thinning order, gradually, as intimated above.

With regard to the propagation, or method of raiſing the different ſpecies of Pinus, it is effected wholly by ſeed ſowed in the ſpring ſeaſon, in beds of light earth.

The ſeed for ſowing is obtained from the cones, which ripen in autumn and winter; and the ſeed is cleared therefrom either by expoſing them in the ſun, or towards a gentle fire, to make them open to diſlodge the ſeed, which are cloſely involved in the ſcales; or ſome of the large, cloſe, hard cones, as in the Italian Stone Pine, Cedar of Lebanon, &c. muſt be ſplit open, by boring a hole through the middle, longitudinally, and driving a peg or ſpike therein to divide them aſunder, whereby to come at the ſeeds, which, in all the ſorts, clear out from the ſcales, keeping thoſe of each ſort ſeparate, for ſowing diſtinct accordingly; they ſhould be ſowed principally in the ſpring, any time in open weather, in February, March, or beginning of April; and for which, prepare beds of light earth, three or four feet wide; rake ſome earth off the top evenly, an inch deep, into the alleys; ſow the ſeed tolerably thick, broad-caſt on the ſurface, each ſort ſeparate, and covered with the earth which was raked off the beds; or may ſow any particular ſorts in large pots, ſuch as the Cedar of Lebanon, &c. in order for moving the pots of ſeedlings to a ſhady place in ſummer, and to a ſheltered, warm, ſituation in winter; more ſecure from rigorous froſt the firſt year or two, in their tender growth.

All the ſorts will come up the ſame year, in ſix or eight weeks; give moderate watering in their firſt riſing, in dry weather: the plants riſe very ſlender the firſt year, generally only with a few leaves, and a ſmall bud of the advancing ſhoot in the centre; or ſome will probably make a ſhort ſhoot by autumn: keep them clear from weeds all ſummer, and in winter, if ſevere froſt, occaſional ſhelter to the Cedar of Lebanon in particular, would be of advantage; the others will not require any protection.

In the ſpring following, they ſhould be planted out from the ſeed-beds; draw them up with good roots, and plant them in other beds, in rows ſix or eight inches aſunder; and having advanced two years growth in the planted-out beds, tranſplant them in nurſery-rows two feet and a half diſtance, and in which to remain to acquire proper ſize for final tranſplanting, permitting them to run with the top or leading ſhoot intire, to aſpire in height with a ſtraight ſtem, as faſt

as poſſible; and do not prune any of the lateral branches, except occaſional, low ſtragglers, or only, however, the under growths, near the ground; for theſe reſinous ever-greens do not admit of any conſiderable application of the knife; beſides, theſe trees having their branches proceeding from near the bottoms, in their peculiar, natural order, adds exceedingly both to their beauty and proſperity of growth.

The young trees having advanced in their nurſery growth, as above, from about one, two, or three, to four, five, or ſix feet in height, as has been already hinted, may be tranſplanted finally, as required, in the places where they are to remain, either wholly, to form, or to aſſiſt in forming, the different or particular plantations in which they are deſigned; for generally in moſt of theſe kind of trees, when having their final tranſplantation while in young growth, they ſooner, and more effectually take good root and grow proſperouſly.

In removing or tranſplanting theſe trees, have them dug up with their full roots, as intire as poſſible, preſerving their extreme fibres as much as can be, and ſtill continue the top-ſhoot intire, as alſo the general branches; or may only prune off very low, under ſtragglers, and plant them at the proper diſtances in the intended plantations; which, where for ornament, may be from ten, to fifteen or twenty feet, or more; and where deſigned for foreſt or timber-trees, they are planted five or ſix, to ten or fifteen feet aſunder, agreeable to the foregoing intimations.

As to future culture, after planting, thoſe planted young, in places where weeds or graſs ſhoot up in rank growth, in ſummer, ſhould have theſe kept under till the trees are grown ſeveral feet in height, out of the reach of being over-topped therewith; they will afterwards, in their ſpreading branches, keep down and prevent all injury from weeds, &c. or where they are planted in the ſhrubbery order, or in any continued or extending plantation, either diſtinct, or aſſembled with other trees and ſhrubs, in compartments, in which the ground between them is annually dug, in winter or ſpring; it is proper, where their ſpreading branches do not cover the ſurface, to hoe down the weeds in ſummer; and in the different plantations, &c. the trees in general, of theſe ſorts, ſhould, in their advancing growth, be permitted to run up in their top-ſhoot, and to branch out fully in their natural manner; or only, as they increaſe in height, may prune up low, under branches, by degrees.

In theſe, in timber plantations, where cloſe planted at firſt, they, when advanced twenty feet high, or more, of five or ſix inches to a foot thick in the ſtem, may have ſome cut or felled in a gradual, thinning order, for poles and other occaſions, leaving a regular ſupply of the fineſt trees, at moderate diſtances, to acquire large growth for timber.

As the Cedar of Lebanon, while young, is apt to grow bending at top, it ſhould be trained to a ſtraight ſtake, in an upright growth.

PISTACIA, PISTACHIA-NUT, or TURPENTINE TREE.

Claſs and Order.

Dioecia Pentandria,
Two Habitations, Five Males;

Or Flowers Male and Female, diſtinct on two ſeparate Trees; and the Males having five Stamina.

THE *Piſtacia* furniſhes three or four hardy ſpecies of deciduous and ever-green ornamental trees, of moderate growth, garniſhed, in ſummer, with pinnated and trifoliate leaves; and ſmall, apetalous, greeniſh flowers, in amentums and cluſters, male and female, diſtinct on two ſeparate trees; the males collected into looſe, ſcaly amentums, without petals, having five ſtamina, crowned by large, four-cornered anthera; and females alſo without petals, growing in cluſters, and furniſhed with trifid cups; an oval germen, ſupporting three ſtyles; and the germen grows an oval, berry-like, drupaceous fruit, in cluſters, containing a ſmooth, oval nut, with an eatable kernel; and by the nuts, ſowed in the ſpring, the trees are propagated, likewiſe by layers of the young wood.

The hardy PISTACIAS are,

1. PISTACIA *vera*, True Piſtachia Tree.

A ſmall or moderate deciduous tree, growing eighteen or twenty feet high—the leaves *(large)* compleat pinnated, with ſub-ovate, recurved folioles, in two, three, or four pairs, terminated by an odd or end lobe. —Native of Perſia, Arabia, Syria, and India. (*Dry, warm ſituation.*)

2. PISTACIA *Terebinthus*—(Terebinthus vulgaris) or Common Turpentine Tree.

A moderate deciduous tree, growing twenty feet high or more—the leaves (*large, dark-green*) compleat pinnated, with ovate ſpear-ſhape folioles, in three or four pairs, terminated by an end lobe.—Native of the ſouthern parts of Europe, northern parts of Africa, and of India. (*Warm, dry ſituation.*)

3. PISTACIA *trifolia*, Trifoliate or Three-leaved Piſtachia Tree.

A moderate deciduous tree, growing eighteen or twenty feet high—the leaves (*middling, dark-green*) moſtly

moſtly ternate or three-lobed, and ſome pinnated; the lobes ovate-roundiſh.—Native of Sicily. (*Dry, warm ſituation.*)

4. PISTACIA *narbonenſe*, Narbonne Turpentine Tree.

A moderate deciduous tree, twenty feet high or more—the leaves (*large, light-green*) pinnated and trifoliate, of three and five lobes, ſub-orbiculate roundiſh; and large, round fruit.—Native of Montpelier, Perſia, Meſopotamia, and Armenia. (*Warm, dry ſituation.*)

5. PISTACIA *Lentiſcus*—(Lentiſcus *vulgaris*) Common Lentiſcus, or Maſtick Tree.

A middling ever-green tree, growing twenty feet high or more—the leaves (*large*) abrupt pinnated; the lobes ſpear-ſhape, in three or four pairs, not terminated by an end foliole.—Native of Spain, Portugal, Italy, and Palæſtine. (*Dry, warm ſituation.*)

All theſe ſpecies of *Piſtacia* are admitted in collections of curious trees and ſhrubs, for variety and ornament; but being natives of warm climates, are moſtly of a tender nature, and are generally retained as green-houſe plants, in this country; though they are alſo ſometimes planted in the full ground, in principal ſhrubberies, in warm, dry ſoil, and ſheltered ſituations, full to the ſun in winter, and defended from cutting blaſts in that ſeaſon; or planted againſt a ſouth wall, and have occaſional covering of mats in ſevere weather: the different ſpecies may be had at moſt of the principal nurſeries, generally in pots, to tranſplant with balls of earth, which ſhould be performed in ſpring, when ſettled, warm, weather, in March or April, in ſituations as above; or may be raiſed by ſeed and layers, to a proper ſize for planting.

Theſe trees are moſtly deciduous when planted in the full ground; but when defended in a green-houſe, they often retain their leaves in winter; they flower in ſummer, but are ſeldom ſucceeded by ripe nuts in this country; theſe, however, are obtained plentifully from abroad, proper for ſowing, &c.

They are propagated by the ſeed or nuts, ſowed in the ſpring, and by layers of the young ſhoots.

The ſeed or nuts for ſowing, may be procured at moſt of the principal ſeed ſhops and nurſeries, in the ſpring: ſow them in March or April, ſome in pots, an inch deep, and placed in a hot-bed to forward the germination of the ſeed, and the young plants in growth; and ſome may be ſowed in a bed of natural earth, in a warm ſituation; and the young plants in autumn, tranſplanted ſingly in ſmall pots: keep the whole in pots for two or three years, in order for placing under ſhelter of a frame, &c. in winter, when froſty weather; or if ſome are continued in the full ground, give occaſional protection as above; and when increaſed in ſtrength, of two or three feet height, they may be tranſplanted into the full ground, in the ſpring, turning them out of the pots with balls of earth to the roots, or removed from the full ground in the ſame manner, and planted in warm, dry ſituations, before-mentioned.

But it is alſo proper, generally to keep ſome conſtantly in pots, to move under ſhelter in winter, in preſervation, in caſe theſe in the full ground are killed by rigorous froſts.

PLATANUS, PLANE TREE.

Claſs and Order.

Monoecia, *One Habitation,* Polyandria, *Many Males*;

Or Flowers Male and Female, diſtinct, or ſeparate on one or the ſame Tree; and the Male Flowers having many Stamina.

THE PLATANUS compriſe noble, deciduous trees, of ſtraight and lofty ſtature, for ornamental and foreſt-tree plantations, riſing with an upright ſtem, to a conſiderable height and ſubſtance, and large, branchy, ſpreading heads; adorned, in ſummer, with moſt ample, palmated, lobated foliage, divided into three and five lobes, expanding ſix or eight, to twelve inches broad, or more, meaſured from the extremity of the ſide lobes; and ſmall male and female flowers, ſeparate on the ſame tree; the males collected into globular amentums, of many ſmall florets, with ſcarcely viſible petals, containing numerous ſmall ſtamina; and female flowers of many ſmall petals, collected into large, roundiſh balls, ſuſpended in long, pendulous ſtrings or pedicules, and furniſhed with ſeveral germens and ſtyles, ſucceeded by numerous pappous ſeeds, growing in round, hard, rough balls, ripening in autumn; and by which, ſowed in autumn or ſpring, the trees are propagated, alſo by layers and cuttings of the young wood in the ſame ſeaſons.

The Species of PLATANUS are,

1. PLATANUS *orientalis*, Oriental or Eaſtern Plane Tree.

A lofty-growing deciduous tree, attaining ſixty or ſeventy feet high—the leaves (*moſt large, dark-green*) palmated, divided into five principal lobes.—Native of Aſia, Taurus, Macedonia, Creta, &c. (*Loamy, moiſt, or any common ſoil.*)

Variety.

Variety.—Maple-leaved Oriental Plane—the leaves more ſlightly palmated or divided.

2. PLATANUS *occidentalis*, Occidental or Weſtern American Plane Tree.

A large deciduous tree, growing fifty or ſixty feet high—the leaves (*large, light-green*) lobated, or moſtly cut into three principal lobes.—Native of North America. (*Moiſt, loamy, or any common ſoil.*)

3. PLATANUS *hiſpanica*, Spaniſh or Middle Plane Tree, (ſuppoſed a Variety of the *Occidentalis*.)

A large deciduous tree, growing forty or fifty feet high—the leaves (*very large*) lobated, of three or five principal lobes.—Native of Spain and America. (*Moiſt, loamy, or any common ſoil.*)

Theſe are admirable fine trees, of beautiful, ſtately growth, for ornamental planting, and to introduce in foreſt-tree plantations; they growing with ſtraight, lofty ſtems, and noble ſpreading, branchy heads, which, cloathed in ſummer with their luxuriant, elegant leaves, of large expanſion, make a delightful appearance, and form an agreeable ſhade; and the flowers produced in ſuſpended balls, on long, pendulous pedicules, effect a curious ſingularity; ripening plenty of ſeeds in autumn, in moſt ſeaſons.

They are deſirable trees to plant, both in aſſemblage in all principal ornamental tree plantations, for adorning pleaſure-grounds, parks, &c. and to form groves wholly of their own kind; and have conſiderable merit to arrange with other large trees, in avenues, groves, groups, and clumps; and alſo to plant diſtinct, in clumps and in ſingle ſtandards, diſpoſed in parks, fields, and other capacious diſtricts, and in rows towards outward boundaries, &c. likewiſe, to drop ſingly, and in clumps, on ſpacious graſs lawns; and are peculiarly adapted to plant in particular compartments, to form ſhade in ſummer, where it may be required, which, in their ſpreading growth, and beautiful, luxuriant foliage, they will effect moſt agreeably, as well as appear ſingularly ornamental; and in all of which orders of planting theſe trees, they aſſume a peculiar grandeur in their general appearance, conſpicuouſly diſtinguiſhable.

Theſe trees are alſo proper to aſſemble in foreſt-tree plantations, as they grow with ſtraight, lofty ſtems, acquiring ſome conſiderable bulk; and may be aſſociated both with other deciduous timber trees, as Maples, Beech, Cheſnut, &c. in forming woods for timber, and coppices for under-wood; and likewiſe planted in groves and thickets, wholly as the Platanus kind, for the ſame occaſions; or the whole principally to grow for large ſtandards.

The trees of the different ſorts are raiſed plentifully in all the principal nurſeries, for public ſupply, and where they may be obtained in proper growth, of five or ſix, to eight or ten feet high, or more, for planting, in autumn or ſpring; or any time in mild, open weather, from October or November, to March or April.

They are propagated by ſeed, and occaſionally by layers and cuttings.

To raiſe them from ſeed, it is ſowed in autumn or ſpring, or principally in the laſt-mentioned ſeaſon: perform the ſowing in a bed of light, mellow earth, ſowed moderately thick, either at once on the rough ſurface, and raked in evenly, or the ground previouſly raked ſmooth; and then draw ſome earth off the top of the bed, an inch deep, into the alley, ſow the ſeed on the bed, ſmooth it down into the earth with the back of a ſpade, and cover it over with the earth out of the alley, regularly, about half an inch to an inch in depth; or may be ſowed in ſmall drills, ſix inches to a foot aſunder; the plants will come up in April or May, or early part of ſummer: keep them clear from weeds all that ſeaſon; and when they are of one ſummer's growth, tranſplant them in autumn or ſpring, in nurſery-beds, in rows, a foot, to fifteen or eighteen inches aſunder; and having increaſed in ſize and ſtrength, for one or two years, or more, ſhould be tranſplanted at wider diſtances, or in which might be planted at once from the ſeed-bed, in nurſery-rows, two feet and a half aſunder, in which, train them with ſingle, clean ſtems, prune off lateral ſhoots, according as the trees advance in height, preſerving the tops entire; and when three, four, or five, to ſix, eight, or ten feet, may be finally tranſplanted, as occaſionally required, for the intended plantations.

By layers and cuttings of the young ſhoots, they may alſo be propagated, performed in the autumn or ſpring; for layers, cluſe the young ſhoots produced from ſtools, near the ground; gaſh or cut a ſmall upward ſlit on the under ſide, lay them with that part in the earth, they will more freely root, and form proper plants by the following autumn; and cuttings of the ſtrong, clean, young ſhoots, principally in the ſpring, planted on a ſhady border, will alſo emit roots and grow; and in both of which methods of propagation, train the plants as intimated for the ſeedling trees.

In the advancing nurſery growth of the young trees raiſed by the above different methods, continue the whole trained with ſingle ſtems, pruning away lateral ſhoots therefrom, and permit the top leader, and branches of the head, to aſpire in height.

When

When the young trees, raiſed by either or all of the different methods, are advanced in growth, about four or five, to ſix, eight, or ten feet high, they are then of proper ſizes for any plantations in which they may be required.

The ſeaſon for tranſplanting or planting theſe trees, is principally either in autumn, at the decay of the leaves, or in the ſpring, February or March; or in mild ſeaſons, may be performed any time in open weather, from October or November, to March aforeſaid, or beginning of April as formerly intimated: have them taken up with full roots, and planted as ſoon after as poſſible; and if any are of tall growth, in expoſed ſituations, they ſhould have ſupport of ſtakes to preſerve them upright.

In their future growth, after the final tranſplanting of the trees, may prune up lateral ſhoots and under branches, by degrees, to run them with a clean, ſtraight ſtem, and permit them to run up freely above in full heads.

POPULUS, POPLAR TREE.

Claſs and Order.

Dioecia Octandria,
Two Habitations; Eight Males;

Or Flowers Male and Female, ſeparate on two different Trees; and the Males having eight Stamina.

THE *Poplars* are large and lofty-growing deciduous trees, moſtly of the aquatic tribe, delighting to grow in moiſt ſituations, valuable as foreſt-trees, as alſo for variety and ornament; are generally ſwift growers, with ſpreading and upright heads in the different ſpecies; garniſhed, in ſummer, with largiſh and middling, roundiſh, cordate, and deltoid-hearted leaves; and ſmall, greeniſh male and female flowers, diſtinct or apart on two ſeparate trees, diſpoſed in oblong, ſcaly amentums, each ſcale forming a cup to one floret, without petals; containing eight ſmall ſtamina in the males, and in the females, a ſhort ſtyle, crowned by a quadrifid ſtigma, and ſucceeded in the females by oval capſules, furniſhed with many downy, ovate ſeeds, by which the trees may be raiſed; but are more generally propagated by cuttings and layers, or particular varieties, by grafting.

The Species of POPULUS are,

1. POPULUS *alba*, White Poplar or Abele Tree.

A large deciduous tree, growing ſixty feet high or more—the leaves (*large and middling, light-green, whitiſh*) roundiſh, dentated-angular, three, four, or five-lobed, the under ſide hoary, white.—Native of the temperate parts of Europe. (*Moiſt, watery, or any common ſoil.*)

Varieties.—Large-leaved White Poplar.
Small-leaved White Poplar.
Variegated-leaved White Poplar.

2. POPULUS *nigra*, Black Poplar Tree.

A large deciduous tree, growing fifty or ſixty feet high—the leaves (*middling, dark-green*) deltoid-ovate-hearted, pointed and ſerrated, or ſawed.—Native of the temperate parts of Europe. (*Moiſt or any ſituation.*)

3. POPULUS *tremula*, Tremulous or Trembling-leaved Poplar, or Aſpen Tree.

A large deciduous tree, growing fifty or ſixty feet high—the leaves (*ſmaller or middling, light-green*) roundiſh, dentated-angulate, ſmooth on both ſides, having generally a continual tremulous or wavering motion, by the leaſt wind.—Native of the cold parts of Europe. (*Moiſt or any common ſoil and ſituation.*)

4. POPULUS *heterophylla*, Various-leaved American Poplar Tree.

A moſt large deciduous tree, growing fifty or ſixty feet high, or more—the leaves (*large, light-green*) cordate or hearted, and roundiſh, the early ones downy.—Native of Virginia, &c. (*Moiſt or any ſoil.*)

Variety.—(*Populus græca*) Grecian or Athenian variable-leaved Poplar, growing ſixty feet high—the leaves (*large, light-green*) heart-form, &c.—Native of Greece. (*Any common ſoil.*)

5. POPULUS *balſamifera*, Balſamatic Carolina Poplar.

A large deciduous tree, growing ſixty feet high—the leaves (*large*) ſomewhat heart-form, denticulated or fine-notched; the buds abounding in a balſamatic, odoriferous, gummy ſubſtance.—Native of North America. (*Moiſt or any ſituation.*)

Variety.—(*Populus Tacamahacca*) (*Tacamahacca*) commonly called Tacamahac, or Balſam Tree.

A middling deciduous tree, growing twenty-five or thirty feet high—the leaves (*middling, light-green*) oblong-ovate, and ſome hearted, hoary on the under ſide; the buds and leaves full of a balſamous ſubſtance, moſt excellent for freſh cuts or green wounds.—Native of America. (*Any common ſoil.*)

6. POPU-

6. Populus *italica*, Italian or Lombardy Poplar.

A lofty, moſt ſwift-growing deciduous tree, branching uprightly in a pyramidal growth, fifty or ſixty feet high—the leaves *(middling-large, light-green, ſhining)* roundiſh-heart-form, acute-pointed, ſmooth.—Native of Italy, near the River Po. *(Any ſoil or ſituation.)*

All the ſpecies and varieties of Populus are principally of an aquatic nature, or that affect to grow in humid ſoils, or near waters, or moiſt ſituations; but they alſo ſucceed in almoſt any ſoil and expoſure, only are generally the moſt proſperous in moiſture, in which they ſhoot up in a very ſwift growth; and therefore, may be cultivated in all ſituations, and particularly, to conſiderable advantage in any low, watery, or boggy ſoils, where many other trees, &c. would not proſper, and in which may be cultivated, both in ſtandard plantations, for the timber, which is valued for its peculiar whiteneſs, and light property, uſeful for many purpoſes; and as under-wood, in coppices and hedges, and along the ſides of rivers and brooks, or in moiſt places, to cut often in ſmall growth, for poles and ſpars, for various occaſions; though they may alſo be planted in any ſoils and ſituations where they may be required for uſeful and ornamental planting, or for variety, in large plantations.

For uſeful planting in woods, groves, coppices, for timber and under-wood, any or all the ſorts may be introduced, both in aſſemblage with other deciduous kinds, and in plantations wholly of the Populus kind; or alſo, aſſociated with other aquatic trees, as willows, birches, &c. in moiſt ſituations.

Or for ornamental planting and for variety, or to diverſify large tree plantations, and for ſhade, ſhelter, &c. the principal ſorts are the Lombardy Poplar, White Poplar or Abele Tree, Balſamic or Carolina Poplar, and the Tacamahac, or any of the others occaſionally; but, of the above kinds, the moſt prevailing is the Lombardy Poplar, now in great repute for its remarkably ſwift and handſome, erect growth, to plant both for ornament, to form ſhelter, ſhade, and blind, to particular diſtricts; though all the ſorts are well adapted to join in any outward plantations, on the boundaries of parks, fields, ſpacious lawns, and in any out grounds, as well as to aſſemble in clumps, groves, &c. in parks and other extenſive ſpaces; alſo to form decorative plantations in any low, marſhy, or humid grounds, either diſtinct, or in concert with other aquatic trees, to effect the greater variety.

But the Lombardy Poplar particularly, being a tree of ſingularly ſwift growth, ſurpaſſing that of all other trees, growing with an erect, cloſely-branching, pyramidal head, arriving to a lofty ſtature, and large ſize, in a few years, is peculiarly calculated for forming the moſt expeditious plantation, either for ſhelter, ſhade, or blind, as before hinted, to run up both in branchy, full ſtandards, in ſingle rows, groves, and thickets, and to plant cloſe, hedge-ways: is alſo particularly well adapted for planting in rows along any outward boundary, or next road ſides, both for ſhade and blind, aforeſaid, and to break off the duſt in ſummer, as it ſoon runs up incredibly ſwift, to a conſiderable growth, for theſe occaſions; and likewiſe, from its cloſe, branchy growth, admits of training in regular hedges; and the trees admit of tranſplanting, both in ſmall, middling, and larger growth, from three, four, five, or ſix, to eight, ten, or twelve feet high.

However, the Poplars in general, are eligible to introduce in any of the fore-mentioned orders of planting, and in all of which will advance in expeditious growth; and that where any plantations are required to run up in ſome conſiderable growth, as ſoon as poſſible, the Poplars are commendable in any ſituation, where thought neceſſary, or aſſembled with other ſwift growing trees, or in any general plantation, of various ſorts of trees, in a diverſified manner; and are always eligible in moiſt ſituations particularly.

Trees for planting may be procured at all the public nurſeries, of proper growth, four, five, or ſix, to eight or ten feet high, or more; and are all eaſily propagated by layers, cuttings, and ſuckers, that will ſoon advance to the above ſizes, for final planting, as occaſionally required.

As to the ſeaſon for planting Poplars, they being all very hardy, may be removed and planted any time in open weather, from the decay or fall of the leaves, in October or November, till March or April.

The propagation of all the ſorts of Poplars, is principally by layers, cuttings, and ſuckers, or ſome by ſeeds.

The layers may be of any lower, young ſhoots, produced from ſtools, near the ground, which may be layed in the autumn or ſpring, laying the ſtems of the ſhoots into the earth, three or four inches deep; will root freely, for planting off in the autumn following, into nurſery-rows, where train each with a clean, ſingle ſtem, and run the leading and other top-ſhoots intire, to aſpire in height and full growth.

Cuttings of the young ſhoots and branches will alſo emit roots freely, and grow, either the year old ſhoots, or larger growths, in poles and truncheons, of two or three years old, of a yard or two long, occaſionally planted in moiſt ſituations, or along the ſides of watery ditches, brooks, rivers, &c. to remain; but generally, when intended to raiſe a ſupply of handſome plants, in a nurſery, for future plantations, ſhould have cuttings of the ſtrong, clean, young ſhoots, of a ſum-

a ſummer's growth, cut into lengths of ten or twelve, to fifteen or eighteen inches; prune off the weak or bending tops, and planted in a moiſt part of the nurſery, in rows, a foot to half a yard aſunder, they will root abundantly well in one year; train them as obſerved for the layers, pruning off lateral ſhoots from the ſtems, by degrees, as they encreaſe in height, running the leader and other top-ſhoots intire; and when they are of ſome advanced growth, ſhould be tranſplanted at wider diſtances, in nurſery-rows, two feet and a half, to three feet aſunder; or, when of three, to four or five feet high, may be planted where they are to continue; or, as before intimated, cuttings of large growth, in poles or truncheons, of one or two inches thick, and a yard or two in depth, may be planted, for particular occaſions, in moiſt ſituations, above-mentioned, principally to remain where planted, admitting them a foot, to half a yard into the ground, they will put forth roots, and advance in ſtrong top-ſhoots.

Suckers ſometimes ariſing from the bottom of trees of advanced growth, may be dug up, with roots to each, in the autumn, winter, or ſpring, forming, at once, rooted plants, and planted in wide nurſery-lines, to grow to a proper ſize for final tranſplanting, training them for that purpoſe, as adviſed for the layers and cuttings.

The young trees raiſed as above, in the different methods, when grown three or four, to ſix or eight feet high, may be finally tranſplanted in the places where they are intended for any of the different occaſions before-mentioned; and which may be performed in autumn or ſpring, or any time during the winter months, in open weather; and in their advancing growth in the reſpective orders of planting, keep them trimmed up below, to continue them with clean ſtems, ſix, to eight or ten feet, or more, according as they advance to ſome conſiderable height; and let the whole branch out freely above, in full heads.

When intended to plant the Poplars as foreſt trees, for timber ſtandards, and for under-wood; they may be planted at five or ſix, to eight, ten, or fifteen feet diſtance; and in which, thoſe planted in cloſe rows, five or ſix feet aſunder, when of ſeveral years advanced growth, ſome may be cut down in a thinning manner, for poles, &c. leaving the fineſt growths to run for ſtandards; the others will ſhoot up again from the remaining ſtools, in ſeveral ſtems from each, to fell for under-wood, in ſix, eight, or ten years; but thoſe growing in ſtandards, for timber, ſhould ſtand many years, till they acquire a large ſize, of ten or twelve, to fifteen or eighteen inches thickneſs, or more, in the ſtem, before any are cut down.

POTENTILLA, (CINQUEFOIL)—CINQUEFOIL SHRUB.

Claſs and Order.

Icoſandria — *Twenty, or more, Males,* — Polygynia, *Many Females;*

Or Plants with Flowers (Herm.) having twenty, or more, Stamina, and many Styles.

ONE low, deciduous, flowering-ſhrub, of upright, buſhy growth, with pinnated, or winged leaves; and large, yellow, quinquepetalous flowers, in cluſters, having a permanent cup; a corolla, formed of five roundiſh petals, containing twenty, or more, ſtamina, and many piſtillums; ſucceeded by a cluſtered head be ſeeds reſting in the calyx, by which the plant may of propagated; but is generally raiſed by ſuckers, layers, and cuttings.

One Species, viz.

POTENTILLA *fruticoſa*, Shrubby Potentilla, or Cinquefoil Shrub.

A low, buſhy, deciduous ſhrub, three or four feet high—the ſtem ſhrubby; the leaves *(ſmall)* pinnated, of five folioles, and cluſters of yellow flowers; in July.—Native of England, &c. *(Moiſt or any common ſoil.)*

This is a hardy, ſhrubby plant, may be admitted in any ſhrubbery compartments; and is readily propagated by ſuckers, or by layers and cuttings.

PRINOS WINTER-BERRY.

Claſs and Order.

Hexandria — *Six Males,* — Monogynia, *One Female;*

Or Plants with Hermaphrodite Flowers, having ſix Stamina, or Males, and one Piſtillum, or Female.

THIS Genus furniſhes two ſpecies of large, ornamental ſhrubs, one deciduous, the other ever-green, both for the ſhrubby, growing ſix or eight feet high, garniſhed with largiſh and middling, oblong and ſpear-ſhape, ſimple leaves, and rotated, or wheel-ſhape flowers, one, two, or three together; each flower having a ſix-parted cup, and a rotated, ſpreading, monopetalous corolla, divided into ſix parts, containing ſix ſtamina, and one ſtyle, ſucceeded by roundiſh berries, remaining on the ſhrubs all the winter; furniſhed with ſix obtuſe ſeeds; and by which, ſowed in the ſpring, the plants are propagated, likewiſe by layers and cuttings.

Two Species, viz.

1. PRINOS *verticillatus*, Verticillated, or Whirled Winter-Berry.

A deciduous ſhrub, growing ſeven or eight feet high—the leaves *(large, dark-green)* oblong-ſpear-ſhape, longitudinally ſawed.—Native of Virginia. *(Moiſt, or any common ſoil.)*

2. PRINOS *glaber*, Smooth, or Ever-green Winter-Berry, Yappon, or South-Sea Tea Shrub.

An ever-green ſhrub, growing ſix or ſeven feet high—the leaves *(middling ſize)* ſpear-ſhape, alternate, ſawed at top, and ever-green.—Native of Canada, in North America. *(Dry, light, or any common ſoil.)*

Theſe two curious ſhrubs deſerve admittance in all principal collections in ſhrubberies, &c. to encreaſe the variety, as well as for ornament and obſervation; allotting them a conſpicuous ſituation: they may be had at the nurſeries, for planting, in autumn, or ſpring.

They are propagated by ſeed and layers, and ſometimes by cuttings: ſow the ſeed in the ſpring, in a bed or border of mellow earth, or in pots, plunged in a hot-bed, juſt to forward its germination, and to bring up the plants the ſame year; which tranſplant in autumn, or ſpring, in a ſheltered compartment, or in pots, ſingly; give ſhelter the firſt winter or two, from ſevere froſt; and when advanced two or three feet in growth, may be planted in the ſhrubbery.

Or may try layers and cuttings of the young ſhoots; or cuttings, planted in pots, may be placed in a hot-bed, in the ſpring.

PRUNUS, PLUM TREE, compriſing alſo the CHERRY and APRICOT, LAUREL, &c.

Claſs and Order.

Icoſandria Monogynia,
Twenty, or more, Males, One Female;

Or Plants with Flowers (Herm.) having twenty, or more, Stamina, or Male Fructifications, and one Piſtillum, or Female.

THE PRUNUS compriſes ſeveral ſpecies, and numerous varieties, of valuable fruit-trees, and others; comprehending, agreeable to the botanic ſyſtem, the Plumb Tree, Cherry, Apricot, and Laurel Tree, all ſpecies of the ſame Genus, or family, which alſo compriſe ſeveral other ſpecies; all of the hardy tree and ſhrub kinds, moſtly deciduous, and ſome ever-green; furniſhing, together, a large and valuable collection, both for the fruit garden, orchard, ſhrubbery, and ornamental and foreſt-tree plantations, conſiſting of many ſpecies, all of upright growth, from eight or ten, to twenty or thirty feet high; garniſhed with ſpear-ſhape, oblong, and ovate leaves, in the different ſpecies, and hermaphrodite, pentapetalous flowers; in April and May, &c. ſome ſingly, and in pairs, others in cluſters, at the ſides and ends of the branches; having in each flower a monophyllous, or one-leaved calyx, five parted; a roſaceous corolla, of five roundiſh petals, incloſing twenty, or more, ſtamina; a roundiſh germen, ſupporting a ſingle ſtyle; and the germen grows a roundiſh and ovate ſoft fruit, of the drupe kind, various in ſize and colour, in the different ſpecies and varieties, incloſing a roundiſh, compreſſed nut; and by which latter any of the trees are raiſed; or ſeveral principal ſorts are generally propagated by grafting, inoculation, and by layers.

The Species of PRUNUS are,

Conſiſting of the Plum Kinds, Cherry, Bird-Cherry, Apricot, and Laurels.

Plum Kinds.

1. PRUNUS *domeſtica*, Domeſtic, or Common Plum Tree.

A moderate, deciduous tree, growing fifteen to twenty feet high, or more—the leaves *(middling)* ſpear-ſhape, ovate, convolute; and peduncles, or flower-ſtalks, ſub-ſolitary, or moſtly ſingle; ſucceeded by roundiſh and oblong fruit, of many different ſizes and colours in the different varieties; ripening from July till October.—Native of the ſouther. parts of Europe. *(Any common ſoil.)*

Varieties of the Trees.—Striped-leaved Plum Tree.
Gold-bloached-leaved Plum Tree.
Double bloſſomed Plum Tree.
Damſon Tree.
Double-bloſſom Damſon Tree.

Of the Fruit, conſiſting of many Varieties, the principal eſteemed Sorts of which are—

Primordian, or early White Hative Plum—a ſmall, oblongiſh-oval, whitiſh-yellow fruit; *ripe the middle or end of July.*

Azure Hative—a ſmall, round, blueiſh Plum; *the end of July.*

Morocco, or Early Black Damaſk Plum—a middling-ſize, round, black fruit, furrowed along the middle; *the middle or end of July.*

Little

Little Black Damaſk—a ſmall, roundiſh, blackiſh-blue Plum, very ſweet; *the end of July and beginning of Auguſt.*

Orleans Plum—a middling or largiſh, round fruit, of a dark-red colour, covered with a farinous bloom; the tree a great bearer; *the middle of July.*

White Orleans Plum—a middling-ſize, round, whitiſh-yellow fruit; *the middle of Auguſt.*

Great Damaſk Violet Plum of Tours—a fine, largiſh, oblong-oval Plum, of a darkiſh-blue, covered with a violet-bloom; *the end of July and in Auguſt.*

Small Early Tours—ſmall, roundiſh, dark-blue; *the middle or end of July.*

Fotheringham Plum—a middling-large, oblong, dark-red, excellent fruit, deeply furrowed; the fleſh firm and rich; *the beginning and middle of Auguſt.*

Little Queen Claude Plum—a ſmall, round, yellowiſh-pearl-coloured fruit, rich and ſugary; *the end of July or beginning of Auguſt.*

Green Gage Plum—a ſmalliſh, round, green fruit, ſweet juice; *ripe the beginning or middle of September.*

Great Queen Claude, or large Green Gage Plum—a fine middle-ſize, round fruit, of a yellowiſh-green, often tinged with purple; moiſt, rich, and delicious; being the true or ſuperior ſort of Green Gage; *the beginning and middle of September.*

Blue Perdrigon Plum—a fine middle-ſize, oval fruit, of a blackiſh-blue colour, covered with a farinous violet bloom, moſt rich and excellently fine flavoured; *the middle of Auguſt.*

Violet Perdrigon Plum—a largiſh, fine, roundiſh-oval fruit, of a blueiſh or violet-red colour, exquiſitely rich flavoured; *the middle and end of Auguſt.*

White Perdrigon Plum—a middling-ſize, ovate-oblong fruit, whitiſh-yellow, rich and delicate; *the end of Auguſt.*

Maitre Claude Plum—a middle-ſize, roundiſh fruit, of a mixed red and yellow colour, rich and fine; *the end of Auguſt and in September.*

Roche Courbone or Red Diapre Plum—a large, fine round, red fruit, powdered with a farinous bloom, richly flavoured; *the end of Auguſt, &c.*

Cheſton Plum—a fine, middle-ſize, oval fruit, of a dark-blue, moſt rich and good; *the middle of September.*

White Bonum Magnum, or Egg Plum—a moſt large, ovate, or egg-ſhape, yellow fruit, powdered with a farinous white bloom, eſteemed principally to preſerve for ſweetmeats, alſo good to eat raw; *the middle of September.*

Red Imperial Plum, or Red Bonum Magnum—a moſt large, oval fruit, deep-red colour, finely powdered, valued for ſweetmeats, and good for eating raw; *the end of Auguſt and in September.*

Apricot Plum—a large, round, yellow fruit, having a whitiſh bloom; the fleſh firm and rich; *the middle or end of September.*

Myrobalan Plum—a middle-ſize, round, dark, or purple-violet fruit, very rich and ſweet; *the end of Auguſt, &c.*

Drap d'or, or Cloth of Gold Plum—a middle-ſize, round, bright-yellow fruit, red ſpotted, rich and juicy; *the middle of September.*

Royal Plum—a fine, large, oval, light-red fruit, narrowing towards the ſtalk, rich and ſugary; *the middle of September.*

La Mirabelle—a ſmalliſh-round, greeniſh-yellow fruit, moſt rich and ſweet; *the end of Auguſt and in September.*

St. Catharine Plum—a large, oval-oblong, compreſſed fruit, amber-coloured, with a whitiſh bloom, excellently rich and ſweet; *the middle or end of September.*

Brignole Plum—a large, oval fruit, yellowiſh and red, ſweet and rich flavoured; *the middle or end of September.*

Wentworth, or Monſieur's Plum—a moſt large, oval, yellow fruit, of a ſharp, acid flavour, good to preſerve, or to eat raw, when fully ripe; *the end of September.*

Imperatrice, or Empreſs Plum—a large, fine, round fruit, of a violet-red colour, with a whitiſh bloom; *the beginning of October.*

White Pear Plum—a middle-ſize, oblongiſh, white fruit, of an acid fla-

vour, better for preſerving than to eat raw; *the end of September and in October.*

Cherry Plum—a ſmall, round, red fruit, the ſize, ſhape, and colour of a large red-heart cherry, eſteemed chiefly as a curioſity; *Auguſt or September.*

Damaſcene, or Damſon Plum—a ſmall, round, blackiſh-blue fruit, very profitable for many kitchen purpoſes, in tarts, pies, &c. alſo for eating raw, when fully ripe; *September and October.*

Muſcel Plum—a middle-ſize, oblong, compreſſed fruit, of a dark or black-red colour; but of an indifferent flavour; the tree valued by the nurſerymen, for ſtocks, on which to bud peaches, &c. *the end of September, &c.*

St. Julian Plum—a ſmall, roundiſh, oblong, violet-coloured fruit, with a farinous bloom; *September.*

Almond-Shape Plum—a middle-ſize, oblong fruit, deeply furrowed, and of a whitiſh-yellow, tinged with red; *September.*

The above being the principal and moſt generally known ſorts of Plums, there are many others of leſs note that occur in different parts of this and other countries; but this collection affords a plentiful choice, to furniſh any garden with a proper variety.

The above varieties conſiſt of many fine eating Plums, and for tarts, pies, and preſerving; are various in ſize, ſhape, and colour; ſome being ſmall, others middling and large, and in ſhape, round, oval, oblong, &c. in colours, black, red, white, yellow, green, blue, &c. and attain perfection, in the different varieties, from the middle or latter end of July, in regular ſucceſſion, till October; and all of which are produced plentifully, both on ſtandard-trees, wall-trees, and in eſpaliers.

2. PRUNUS *inſititia*, Inſititious Wild Plum, or Bullace Tree.

A ſmall, deciduous tree, growing fifteen or ſixteen feet high—the branches ſomewhat ſpinous; leaves *(ſmalliſh)* ovate, villoſe, hairy on the under ſide, convolute; and peduncles or flower-ſtalks, moſtly in pairs, the flowers ſucceeded by ſmall plums; ripe in September and October.—Native of Germany and England. *(Any common ſoil.)*

Varieties of the Fruit.—Black-Bullace.
White-Bullace.
Red-Bullace.

The Bullaces are of the ſmaller and inferior ſorts of Plum, ripening late, of a tartiſh flavour; and a few trees merit admittance in the plum collection, in a garden or orchard, chiefly in ſmall ſtandards.

3. PRUNUS *ſpinoſa*, Spinous or Thorny Wild Plum, or Sloe Tree.

A ſmall, deciduous tree, of ſhrubby, buſhy growth, ten to fifteen feet high—the branches thorny; leaves *(ſmall)* ſpear-ſhape, ſmooth; and peduncles or flower-ſtalks, ſingly, and by pairs; and ſmall, berry-like black fruit, called Sloes; ripe the end of October and November.—Native of moſt parts of Europe, in woods and hedges. *(Any ſoil and ſituation.)*

Variety.—Double-bloſſom Sloe Tree.

The Sloes are conſiderably the ſmalleſt of the Plum tribe, very auſtere and ſour, but are in requeſt in ſome families, and for medicines.

Cherry Kinds.

Compriſing the Common Cherry in many varieties, the great Wild Cherry Tree, Bird-Cherries, &c.

4. PRUNUS *Ceraſus*—(*Ceraſus*) or Common Cherry Tree.

A middling, deciduous tree, growing eighteen or twenty feet high, or more—the leaves (*middling and large*) ovate-ſpear-ſhape, conduplicate, ſmooth; and flowers growing in umbels, ſucceeded by bunches of round fruit; ripening from May and June, till Auguſt and September.—Native of different parts of Europe. (*Any common fertile ſoil.*)

Varieties of the Tree.—Upright, cloſe-branching Cherry Tree, as in moſt of the Duke kinds, &c.
Strong-ſhooting, ſpreading-branched Cherry Tree, as in the Heart kinds.
Slender-branching Cherry Tree, as in the Morello Cherry.
Dwarf Cherry Tree.
Double-bloſſom Cherry Tree, (*very beautiful.*)
Red-bloſſom Cherry.
Pendulous-branched or Weeping Cherry Tree, (*very curious.*)

Of

Of the Fruit; ripening from May to September.

Early ſmall May Cherry — a ſmall, round, red Cherry, valued only principally for its early maturity, as being the firſt ripe: *the middle and end of May.*

Early May Duke Cherry—a larger, fine, round, red fruit, ripening of a dark-red colour, and good flavour; *the end of May, or moſtly in June.*

Arch-Duke Cherry — a large, moſt fine, round, red Cherry, ripening of a deep-red colour, excellent when fully ripe; *the middle or end of June, and in July till Auguſt.*

White-Heart Cherry — a middle-ſize, roundiſh-heart-ſhape fruit, of a whitiſh-yellow, and pale-red colour; *June and July.*

Black-Heart Cherry — a middle-ſize, roundiſh-heart-ſhape, black-red fruit; *June and July.*

Kentiſh, or common red Cherry—a middling-ſize, round, red fruit, very juicy, of a ſharp, acid flavour, profitable for general or common uſe; the trees generally plentiful bearers; *June, July, and Auguſt.*

Hertfordſhire-Heart Cherry—a larger, fine, roundiſh-oval, red fruit, firm and good flavoured; *the middle or end of July, till Auguſt.*

Large Spaniſh Cherry—a large, fine, round, red fruit, ripening of a deep-red colour; *the middle and end of June, till July.*

Amber-Heart Cherry—a large, roundiſh-heart-ſhape fruit, yellowiſh-amber-coloured, firm, and well flavoured, *July and Auguſt.*

Ox-Heart Cherry—a moſt large, roundiſh-heart-form, red fruit, fleſhy and well-taſted; *July and Auguſt.*

Bleeding-Heart Cherry—a middling, roundiſh-hearted, dark-red fruit, often having a red drop at the end; *July and Auguſt.*

Bigeroon, or Harriſon's Duke or Heart Cherry—a fine large, roundiſh-hearted, beautiful red fruit, moſt excellent; *July to Auguſt.*

Lukeward Cherry — a largiſh, fine, roundiſh, black-red fruit, of a rich, good flavour; *July to Auguſt.*

Carnation Cherry—a large, roundiſh-oval fruit, reddiſh and whitiſh-yellow-coloured, beautiful, with a firm fleſh; *Auguſt to September.*

Yellow Spaniſh Cherry—a largiſh, round-oval fruit, amber-yellow-coloured, of a ſweetiſh flavour; *the end of July and Auguſt.*

Turky-Heart Cherry—a large, fine fruit; *July to Auguſt.*

Crown-Heart Cherry—a large, roundiſh-hearted fruit, blackiſh-red; *Auguſt.*

Morello Cherry—a largiſh, fine, round, red Cherry, ripening of dark-red colour, very juicy, of a fine, acid flavour, and valuable for its long and late continuance; good both for eating and preſerving; when of full perfection, become almoſt black; *Auguſt to September.*

White Croſſian Cherry—a large, roundiſh, almoſt white fruit, firm fleſh, well-flavoured; *July to Auguſt.*

Theſe being the principal varieties of the common Cherry, are moſtly large fruit of the Cherry kind, and are produced abundantly both in ſtandards, wall-trees, and eſpaliers, attaining perfection, for eating, on the different varieties, from May or June, till September.

5. PRUNUS *avium*, (Birds) or Great Wild Cherry Tree.

A large, upright, deciduous tree, growing thirty or forty feet high—the leaves (*largiſh*) oblong-ovate-ſpear-ſhape, conduplicate, downy on the under ſide; flowers in cloſe-ſitting umbels, ſucceeded by bunches of ſmall, round fruit, ripe in Auguſt.—Native of England and the northern parts of Europe. (*Any common ſoil and ſituation.*)

Varieties.—Small Black Wild Cherry.
Small Red Wild Cherry.
Larger Red Wild Cherry.
Large Black Wild Cherry, or Corroune Cherry.
Double-bloſſom Wild Cherry Tree.

Of the above varieties of Wild Cherry, the firſt and ſecond are ſmall, the third larger, and the fourth ſort is a middling-ſize fruit, ſuperior to the others in ſize and perfection, for eating; all of which are of a bitteriſh-ſweet flavour; ripening the end of July and in Auguſt.

Bird-

Bird-Cherry Kinds, the Fruit not palatable for eating.

6. PRUNUS *Padus*—(*Padus*) or Common Bird-Cherry.

A moderate, deciduous tree, growing fifteen or twenty feet high, or more—the leaves (*middling*) oblong-ſpear-ſhape, the baſe having two glands underneath; and flowers produced in cluſters, ſucceeded by ſmall, black, round fruit, ripe in autumn; but inferior, or not agreeable for eating.—Native of England and different parts of Europe. (*Any ſoil, &c.*)

7. PRUNUS *virginiana*, Virginian Bird-Cherry Tree.

A middling tree, growing twenty feet high, or more—the leaves (*middling*) ovate, the baſe glandulous in the fore part; flowers in cluſters; ſucceeded by largiſh, red and black fruit.—Native of Virginia and Carolina. (*Any common ſoil.*)

8. PRUNUS *canadenſis*, Canada Bird-Cherry Tree.

A ſmaller deciduous tree, with very ſmooth branches—the leaves (*middling*) broad-ſpear-ſhape, wrinkled, both ſides downy; flowers in cluſters, ſucceeded by ſmall fruit.—Native of North America. (*Any common ſoil, &c.*)

9. PRUNUS *Mahaleb*—(Mahaleb) or Perfumed Cherry.

A ſmall, deciduous tree—the leaves (*moderate*) ovate, obtuſe; flowers in corymbous bunches; and ſmall cherry-ſhaped fruit.—Native of Helvetia or Switzerland. (*Any common ſoil, &c.*)

Apricot Kinds.

10. PRUNUS *Armeniaca*—(Armeniaca) Armenian Apple or Apricot Tree.

A moderate, deciduous tree, growing fifteen or twenty feet high—the ſhoots reddiſh; leaves (*middling, or largiſh*) ſub-cordate, or roundiſh, heart-ſhape; flowers ſeſſile or ſitting cloſe; and large, roundiſh, and oval, firm, yellow fruit, ripe in the end of July, to the latter end of Auguſt.—Native of Aſia. (*Loamy, or any good garden earth, and warm ſituation.*)

Varieties of the Fruit, ripening of the following Sizes, Shapes, and Colours, &c. from July to September.

Early Red Maſculine Apricot—a ſmall, roundiſh fruit, red next the ſun, the other ſide yellowiſh, not rich flavoured, but early ripe; *the beginning or middle, to the end of July.*

Early White Maſculine Apricot—a ſmall, round, whitiſh-yellow fruit; *the middle or end of July.*

Orange Apricot—a large, roundiſh, deep-yellow fruit; *the end of July or beginning of Auguſt.*

Roman Apricot—a large, roundiſh-oval, yellow fruit, of a more juicy, rich flavour; *the beginning of Auguſt.*

Algiers Apricot—a large, oval-ſhape fruit, ſomewhat compreſſed on the ſides, pale-yellow; *the end of July, beginning and middle of Auguſt.*

Turky Apricot—a more large, globular, deeper-yellow fruit, firm, and rich flavoured; *the beginning of Auguſt.*

Temple Apricot—a large, fine, roundiſh, yellow and reddiſh fruit, firm, and well-flavoured; *the middle of Auguſt.*

Tranſparent Apricot—a roundiſh, yellow fruit, with a clear pulp; *the middle of Auguſt.*

Breda Apricot—a large, roundiſh, deep-yellow fruit; the inſide deep-orange colour, of a high, rich flavour; *the middle or end of Auguſt, to September.*

Dunmore Breda Apricot—a large, roundiſh, fine fruit, yellow and reddiſh; *Auguſt and September.*

Bruſſels Apricot—a middle-ſize, roundiſh-oval fruit, red next the ſun, tinged with dark ſpots, the other ſide greeniſh-yellow; firm fleſh, with a high, rich flavour; *the middle or end of Auguſt, to September.*

The Apricots, in their mature growth, are moſtly firm-fleſhed, if not too ripe, and of a fine, poignant reliſh; but if too mellow, are ſoft, mealy, and of but little flavour; ſo ſhould generally be gathered while the fruit, in its mature ſtate, is of a firm texture.

The above are the principal varieties of Apricots cultivated in the Britiſh gardens; all of which are produced in plentiful crops, in favourable ſeaſons, on wall-trees, principally againſt ſouth and weſt walls, and ſome alſo on eſpaliers and ſtandards, in warm ſituations; but as being moſtly of the temperature of peaches and nectarines, and the trees bloſſoming early in the ſpring, generally when ſevere cold, or cutting blaſts,

blaſts, or ſharp froſts often prevail, and the fruit in its embrio ſtate, liable to be greatly injured, or cut off by inclement weather; the trees, &c. therefore in moſt of the varieties, require the protection of warm walls, both to defend the bloſſom and young fruit more effectually in its early growth, to obtain a more certain, tolerable crop, and to forward them to maturity in the beſt perfection of growth and flavour; they will likewiſe ſucceed on eſpaliers, or ſome ſorts on ſtandards, eſpecially the Bredas and Bruſſels Apricots, all as hereafter fully explained in their general culture of the trees.—*See culture of the Apricot.*

Laurel Kinds.

Which, being alſo ſpecies of the *Prunus*, agreeable to the ſyſtem of botany, conſiſts of two ſpecies, both very eminent and beautiful ever-greens, viz.

11. PRUNUS *Lauro-Ceraſus—(Lauro-Ceraſus)* Cherry Laurel, or Common Laurel Tree.

A large, ever-green ſhrub, or middling tree, growing twenty feet high, or more—the leaves *(large, ſhining-green)* oblong-ovate, continuing always green, two glanded on the back; flowers in racemous cluſters, ſucceeded by cherry-ſhape black berries, ripe in autumn; not eatable.—Native of Trebiſend, Aſia; brought to Europe 1576. *(Any ſoil and ſituation.)*

Varieties.—Broad-leaved Laurel Tree.
Narrow-leaved Laurel Tree.
Silver-ſtriped-leaved Laurel Tree.
Gold-ſtriped-leaved Laurel Tree.

12. PRUNUS *luſitanica*—Portugal Laurel, or ſmaller Laurel Tree.

A large, ever-green ſhrub, or ſmall tree, of buſhy growth, eight or ten, to fifteen feet high—the leaves *(ſmaller or middling, dark-green)* ovate-oblong, ſomewhat doubling, continuing always green, englandulous, or without glands; and flowers in racemous cluſters, ſucceeded by ſmall, berry-like fruit, ripe in autumn.—Native of Portugal and Pennſylvania. *(Any common ſoil, &c.)*

The laſt two ſpecies are moſt elegant ever-greens, of principal eſtimation, to plant, for ornament, in pleaſure-grounds, &c.

This numerous family of *Prunus* affords a valuable collection of eminent trees and ſhrubs, for uſe and ornament in gardens and plantations, in a comprehenſive variety; and particularly in ſome principal fruit-trees of different ſpecies, furniſhing many fine varieties of their reſpective fruits, as in the Plum, Cherry, and Apricot; ſome alſo to cultivate as foreſt-trees, and many ſorts principally for ornamental planting in ſhrubberies and other diſtricts, in pleaſure-grounds: five or ſix ſpecies may be ranked in the fruit-tree collection, conſiſting of the common Plum and Cherry Trees, in their numerous varieties; the great Wild Cherry Tree, and Apricot; alſo occaſionally the Bullace and Sloe Tree, in a ſmall portion; but the three former for principal culture, both for ſtandards, wall-trees, and eſpaliers, or the Apricot chiefly in wall-trees, for the general ſupply, or for foreſt plantations, the great Wild Cherry Tree, acquiring a lofty, large growth, is proper; and alſo the *Prunus domeſtica* and *Prunus Ceraſus*, in their natural growth, are eligible to admit in timber-tree plantations, the wood being in requeſt for various particular purpoſes, in ſeveral trades.

But all the other ſpecies, conſiſting of the Bird-Cherry kinds, Perfumed Cherry, and the two ſpecies of Laurel, are uſeful principally for decorative planting, very deſirable furniture for diverſifying ſhrubberies and other pleaſurable plantations, for ornament and obſervation; or likewiſe any or all the fruit-tree kinds are proper to introduce in ſimilar plantations in aſſemblage, in which they will affect a very diſtinguiſhable variety, both in their growth, abundant bloſſom, and production of fruits of their reſpective different ſorts; and the Sloe Tree or Black-Thorn being very branchy, buſhy, and armed with thorns, is employed in forming field hedges: the two ſpecies of Laurel are very beautiful ever-greens, to plant as principal ornamental ſhrubs of the ever-green tribe, for adorning ſhrubberies, &c. of which the *Prunus Lauro-Ceraſus*, or Common Laurel, was alſo formerly trained for ornamental garden hedges; and is likewiſe ſtill occaſionally planted to cover naked walls and palings, &c. or alſo to plant for blind in any particular diſtrict, or to exclude from ſight any diſagreeable object; and in all of which, it appears always green and beautiful in its large, ſhining foliage; the Portugal Laurel is alſo elegant in its natural growth, in large, buſhy, ſtandards; and the Common Laurel, attaining ſome conſiderable ſize in the tree order, by pruning up the under branches by degrees, is alſo eligible to introduce in tree plantations, and to form Laurel groves, &c.

In the fruit-tree kinds of *Prunus*, for general culture, the common or cultivated Plum, Cherry, and Apricot, and their reſpective varieties, are the principal ſorts; the merit of which being univerſally known, they demand particular attention, and ſhould be admitted in every garden, eſpecially a collection of the beſt varieties, in regard to thoſe of their reſpective fruits, more or leſs, according to the extent of ground; both in ſtandards, for the principal production, particularly of the Plums and Cherries, and in

in wall-trees, for earlier and finer fruit, in the greateſt perfection, and ſome in eſpaliers; or, where no walls or eſpaliers, may have the two laſt-mentioned kinds wholly in ſtandards, and in which moſt of the varieties will produce plentiful crops in good maturity; but the Apricots ſhould generally be trained in wall-trees, againſt warm walls, and ſome particular ſorts will alſo produce tolerable crops on ſtandards and in eſpaliers, as will be hereafter explained.

All the ſorts of Plum and Cherry trees produce the fruit principally upon ſmall ſpurs ariſing at the ſides and ends of the branches, of from two or three to ſeveral years old, and the ſame branches and fruit-ſpurs continue many years fruitful: though the Cherries particularly ſometimes alſo bear on the young ſhoots of a year old, or more generally in the Morello and ſmall May Cherry, the moſt abundantly, eſpecially the Morello, which commonly produces the principal crops of fruit on the young year-old wood.

Of the Plum kinds, to cultivate for the fruit, that of the *Prunus Domeſtica*, or Common Plum tree, is the moſt valuable, affording numerous varieties of the fruit in great diverſity, in ſhape, ſize, and colour, of red, white, yellow, blue, green, black, &c. ripening, in the different varieties, in regular ſucceſſion, from July till the end of October, both for immediate eating and for pies, preſerving, &c. and therefore the trees are very profitable to cultivate in gardens and orchards, for their production of fruit, eſpecially as they will proſper in any common fertile ſoil, either principally in ſtandards, or ſome alſo in wall-trees, where there is the accommodation of walls; in which it is eligible to allot ſome of the moſt eſteemed ſorts, both to obtain ſome fruit as early ripe as poſſible, and to have the whole, both early and other kinds, of an improved growth and maturity; and of the Plum kind, ſhould never omit having a few trees of the Damſon in ſtandards, the fruit being very uſeful in a family: likewiſe may admit ſome of the Bullaces in ſmall ſtandard-trees, to encreaſe the variety; the fruit, when quite ripe, in September and October, is wholeſome and of an agreeable acid flavor; or may alſo have ſome of the Sloe tree, the fruit of which being likewiſe of the Plum tribe, but conſiderably the ſmalleſt of that kind, of an auſtere quality, though palatable to ſome perſons, and is uſeful in ſeveral domeſtic occaſions.

Of the Cherry kind, the principal ſpecies for general planting is the *Ceraſus* or Common Cherry tree, compriſing its different varieties, a collection of which merits culture in every garden; valuable both for producing the earlieſt ripe ſummer fruit, continuing, in ſucceſſion, two or three months, or more, from May and June till Auguſt or September, in the early and late ſorts, all very refreſhing to eat in hot weather, and exceedingly uſeful for ſeveral kitchen purpoſes, and other occaſions in a family, as well as a very profitable fruit for market; and the trees of all the varieties generally produce plentiful annual crops, both on ſtandards, wall-trees, &c. ſo that they may be planted abundantly in gardens and orchards, in ſtandards, for the principal production; and Cherry orchards are very profitable in the production of fruit for ſale; and for wall-trees ſhould allot ſome of the beſt varieties, both of early and late kinds, planted againſt ſouth and other walls, or ſome may alſo be planted for eſpaliers. The *Prunus avium*, or Great Wild Cherry Tree, is proper to plant in full ſtandards in orchards, parks, avenues, and hedge-rows, or alſo in gardens and pleaſure-grounds; is a great bearer, the fruit ſmall, but of an agreeable bitteriſh-ſweet flavor; though the large red-fruited Wild Cherry, and the Black Couronne or Couroon, varieties of the *Prunus avium*, being tolerably good ſized fruit, and of a very agreeable taſte, peculiar to theſe kinds, are deſerving of culture in the beſt collections of the Cherry kind, in gardens and orchards, principally in ſtandards. —*See the general culture of the Cherry Tree*, &c.

The Apricot, conſiſting but of one principal ſpecies, *Prunus Armeniaca*, furniſhing many fine varieties, is cultivated principally in wall-trees, and planted moſtly againſt ſouth walls, and occaſionally thoſe of weſt and eaſterly aſpects; ſome ſorts alſo in ſtandards, ſuch as the Breda and Bruſſels Apricot, and in which, in favourable ſeaſons, they produce plentiful crops of fruit, and ripen in good perfection; and theſe two ſorts are likewiſe ſometimes planted in eſpaliers, in which they alſo produce fruit very agreeably, in good maturity.

General Culture of the Plum and Cherry.

As the Plum and Cherry are nearly ſimilar in their mode of bearing, and the ſame method of culture is applicable to both the ſpecies and their reſpective varieties, ſhall therefore treat of them accordingly, together, under the ſame general head.

All the ſorts of Plums and Cherries produce the flowers and fruit moſtly upon natural ſpurs or curſons, ſmall, robuſt ſhoots, half an inch to an inch or two long, emitted along the ſides and at the ends of the branches, when of two or three to ſeveral years old, ariſing firſt towards the upper parts, then gradually increaſing in number at the lateral eyes, the whole length of the branches, provided they are continued intire, not ſhortened; as their mode of bearing does not admit of ſhortening, which would not only deſtroy the firſt fruitful parts, or where the fruit-ſpurs generally begin to form, but alſo, by pruning away that part of the

ſhoots

ſhoots or branches, it makes the ſap flow ſtrongly to the lateral eyes or buds, whereby they are apt to puſh forth vigorous wood ſhoots, inſtead of forming fruit-buds for bearing, and therefore, in giving occaſional pruning to the trees, ſhould moſtly preſerve the general branches and ſhoots at their whole length, except in particular inſtances, to regulate or reduce any ſuper-extended ſhoots, or conſiderable ſtrolling growth, which may be pruned more or leſs accordingly, retaining all the others intire; and they will naturally furniſh the above-mentioned ſhort ſpurs for fruit: the ſame branches and fruit-ſpurs continue many years in a prolific ſtate.

Though in the Cherry particularly, the trees often bear on the year-old ſhoots immediately from the eyes thereof, as well as upon ſpurs formed as above explained, on the two, three, and ſeveral years old branches; or more generally, however, the Morello Cherry, which always bears abundantly upon the young ſhoots of a year old, and alſo on ſmall ſpurs on the older wood; but when trained in wall-trees, in which an annual pruning and nailing is requiſite, ſhould generally, in the Morello, leave a plentiful ſupply of the young ſhoots of each year, for immediate bearers the enſuing ſeaſon, and part of the naked, old wood cut out accordingly in the winter-pruning.

Both theſe ſpecies of fruit-trees, the Plum and Cherry, in their ſeveral varieties, are proper to cultivate plentifully in ſtandards and wall-trees, in gardens and orchards, as before intimated; being generally raiſed by grafting and budding upon ſtocks of their reſpective kinds, trained each with a ſingle ſtem, four to five or ſix feet high, for half and full ſtandards, and to branch out at thoſe heights, to form the head; but for the general ſupply, are moſtly trained in full ſtandards, in ſtems of about ſix feet height, and planted twenty or thirty feet diſtance, and permitted to branch out fully above; and occaſionally trained in dwarf and half ſtandards, with ſtems of one or two to three or four feet; and for wall-trees, ſhould allot a collection of the beſt varieties, trained principally in low ſtems, only five, ſix, or eight inches, to branch out near the ground, to cover the wall with branches, in a regular expanſion, quite from the bottom upwards, and planted againſt walls of different aſpects, as ſouth walls for the earlieſt production, and on walls of other expoſures, to furniſh ſucceſſion and late crops, planting them generally not leſs than twelve or fifteen to eighteen feet diſtance; and the branches arranged to the wall horizontally four to five or ſix inches aſunder, all generally at their whole length, both in the Plums and Cherries, in which they will gradually form fruit-ſpurs along their ſides for bearing: ſome may alſo be planted in eſpaliers and trained ſimilar to thoſe in wall-trees; and in both of which, the walls and eſpalier-trees, they will produce fruit in ſuperior perfection, if regularly managed, by proper pruning and nailing every year in ſummer and winter; but as to the ſtandards, they having full ſcope to branch out freely above all around in full heads, they do not require any pruning, at leaſt only occaſionally, to reform any very irregular growth, and to cut out caſual, decayed wood.

For ſtandards, any or all the ſorts of Plums and Cherries may be trained and planted in any common ſoil of a garden, orchard, &c. and in which may either have a full collection, where ſufficient extent of ground, or have only an aſſortment of the principal or moſt approved varieties.

But for wall and eſpalier Plums and Cherries, generally have only the principal ſorts, valuable ſome for their early production, others for the ſuperior quality of the fruit, and ſome for late ripening, thereby obtain Plums from July and beginning of Auguſt to the end of October; and Cherries from May and June till September, of which the principal early ſorts are the May and other Duke kinds, ſucceeded by the Heart Cherries, &c. and of the late ſorts, the Morello is ſuperior, as a great bearer and fine large Cherry, and which is commonly planted on north walls, as it bears abundantly in any aſpect, and when in a north expoſure, it continues in longeſt perfection; but it is alſo proper to have ſome on ſouth walls, to enjoy the benefit of the ſun, to ripen the fruit with a richer flavour, in which it proves a very fine large Cherry for the table; when fully ripe, of a black-red colour.

In ſtandard Plums, generally have a principal ſupply of the beſt bearers and moſt uſeful, both for eating and domeſtic occaſions; ſuch as the Orleans, Green Gage, Imperial Plum, Bonum Magnum, Fotheringham, Imperatrice, Royal Plum, Myrobalan, Perdrigons, Queen Claude, Damaſk Plum, Mirabelle, White Primordian, Wentworth Plum, &c. and always ſome Damſons.

And for ſtandard Cherries, all the Duke kinds are proper for principal ſupplies, ſome beſt ſorts of Heart Cherries, and plenty of the Kentiſh or Flemiſh Cherry, being an abundant bearer and excellent Cherry, when fully ripe; alſo ſome Morellos, and Black Coroune; but as to the Great Wild Cherry Tree, the common ſmall Black and Red-fruited kinds are cultivated principally in large ſtandards, in orchards and out-grounds, or occaſionally in garden collections, to encreaſe the variety, and is very commonly planted in hedge-rows of fields, and in parks, &c.

Proper collections of the different varieties of Plum and Cherry, for planting, may be procured at the public nurſeries, both in ſtandards and wall-trees; either young trees, with heads of only one or two years old.

or ſuch as are three or four, to five or ſix years growth, furniſhed with a tolerable head of branches, advanced to a proper age for bearing.

The ſeaſon for planting all the ſorts of theſe trees is either principally in the autumn, at the decay of the leaves, in October or November; and the ſooner it is performed at that time the better; and they will have a good chance of ſtriking root the ſame ſeaſon; or planted in the ſpring months, about February and March, or not later than the beginning of April; though they may alſo be planted any time in open, mild, weather, from October till March.

The propagation or methods of raiſing the different ſorts of Plums and Cherries, is principally by grafting or budding the deſirable or reſpective varieties upon ſtocks of their own kind, *i. e.* the Plums upon any ſort of Plum ſtocks raiſed from the ſtones of the fruit, or ſuckers taken from the roots of old trees; and the Cherries upon any kind of Cherry ſtocks, raiſed chiefly from the ſtones of the Cherries; for although Plum and Cherry trees may be raiſed immediately from the ſtones of the fruit, they neither bear ſo ſoon, nor come with certainty of the deſired ſorts, or, probably, not one in many produce good fruit; but grafting or budding, both continue the reſpective ſorts invariably the ſame, and the trees alſo ſooner attain a bearing ſtate, and bear more abundantly, which is the caſe with moſt other fruit-trees.

Therefore, to raiſe ſupplies of ſtocks on which to graft or bud Plums and Cherries, having a quantity of the ſtones of the fruit, they ſhould generally be ſowed in the autumn, in September, October, or November, or preſerved in ſand, till February, and ſowed in beds of light earth an inch or two deep, either broad-caſt and earthed in that depth, or in drills a foot diſtance, they will come up in the ſpring, in April or May; which, next autumn, or ſpring following, or when of two ſummers growth at moſt, ſhould be tranſplanted from the ſeed-beds, in nurſery-rows two foot and a half aſunder, in which to remain to acquire proper ſize for grafting and budding; likewiſe ſuckers of Plums, deſigned for ſtocks, ſhould be planted in the ſame order; and when the ſtocks, both of ſeedlings and ſuckers, are advanced in growth from half an inch to an inch thick, they are of proper ſize to receive the grafts and buds; or occaſionally the operation may be performed upon ſtocks of ſmaller ſizes, of from that of a large gooſe quill to half an inch thickneſs, eſpecially for whip-grafting; training the whole with a clean, ſingle ſtem, five, to ſix or ſeven feet high, for half and full ſtandards, and three or four for Dwarf or Common Wall-Trees and eſpaliers.

The operations of grafting or budding them is performed, the former in the ſpring, in February and March, and the budding in ſummer, in July and beginning of Auguſt, either of which methods of propagation is eligible; and at the proper ſeaſons as above, chuſing grafts and buds of the deſirable or intended varieties of the reſpective trees, obſerving, for grafts, to take cuttings of the young ſhoots of laſt ſummer's production; and for buds, theſe muſt be detached from cuttings of the ſhoots of the ſame year; and in both of which, to perform the grafting or budding higher or lower on the ſtock, according as deſigned to have ſtandards or dwarf trees; that for the former, ſhould graft or bud upon tall ſtocks, inſerting the graft or bud, at ſix feet height for full ſtandards, three or four for half, and at one or two feet for dwarf-ſtandards; but for common wall-trees and eſpaliers, the grafting or budding is performed low in the ſtock, within ſix or eight inches of the bottom, in order to obtain a proper ſpread of branches below, near to the ground, to cover the wall compleatly from the bottom upward; or occaſionally, for half-ſtandard wall-trees, they are grafted or budded at three or four, to five or ſix feet, whereby to have them furniſh an expanſion of branches at theſe heighths, and for planting between the Dwarf or Common Wall-Trees, to cover the upper part of high walls while the others are advancing below, and thereby have all parts of the wall ſooner and more effectually occupied.

Having performed the grafting and budding at the proper ſeaſons, as above, the grafts will ſhoot the ſame year, but the buds not till the following ſpring; and in both of which they will make ſtrong ſhoots in one ſummer, the grafts probably advance in two or three ſhoots, and the buds commonly but one; and in both of which, when the ſaid firſt ſhoots are of one ſummer's growth, the trees may be tranſplanted, next autumn or ſpring, into the garden, orchard, &c. where they are finally to remain, or continue two or three years longer in the nurſery, to form larger heads of ſeveral branches; but in either of which generally obſerve, that when the above ſaid firſt ſhoots produced from the grafts and buds, are a year old, next ſpring it is proper, either if tranſplanted into the garden, &c. or remain in the nurſery, to cut them down to a few eyes, in March, eſpecially the bud-ſhoots, or alſo the grafts, when only one or two ſhoots, in order to promote their puſhing forth lateral ſhoots the ſame year, near the head of the ſtem, to form the beginning head in an eligible expanſion of lower branches, as a proper baſis to furniſh others in a regular ſupply upward; and for wall-trees particularly, alſo for eſpaliers, it is likewiſe ſometimes neceſſary to prune down the ſecond year's ſhoots moderately, to obtain a further ſupply of laterals; for when the firſt ſhoots are not headed down as above, but permitted to run, they are apt to extend

tend long and naked, without furniſhing laterals, only towards the extremity.

As above obſerved, the young trees may be planted in the garden, either when they are of one or two years old, from grafting and budding, or of older growth, with heads advanced to two, three, or four years old, with a good ſpread of branches, and that are advanced to a bearing ſtate, both of the ſtandards wall-trees, &c.

The planting of ſtandard Plums and Cherries may be performed in gardens, orchards, and pleaſure-grounds, in any common ſoil and open ſituation: have the trees removed from the nurſery with as good a ſpread of full roots as poſſible, and of which prune off any broken parts, and only ſhorten any very long ſtraggler, or may juſt cut off the ends of the others, ſloping on the under ſide; and as to the top, if furniſhed with a ſupply of laterals, forming the head of ſeveral branches, they ſhould generally remain intire, except where any croſs-placed or others of very irregular growth occur, which may be cut out, or pruned to order, as may ſeem neceſſary, or occaſionally to ſhorten any long rambler, continuing all the reſt in their full extent; or if the trees are only a year old, having but one or two firſt ſhoots, theſe may be pruned down in the ſpring, as adviſed in the nurſery culture, to obtain an encreaſed ſupply of branches, to form the head of a more full, ſpreading order, and theſe permitted to advance in their full growth; and thus, agreeable to the above intimations, proceed to plant the trees in their allotted places, at twenty to thirty feet diſtance, and if early in autumn, or late in the ſpring, a moderate watering to the earth, about the roots, will be of advantage; and where ſupport of ſtakes may appear neceſſary to trees with tall ſtems and full heads, it ſhould be done as ſoon as planted, eſpecially in expoſed ſituations, placing one or two ſtakes to each tree; likewiſe, if very dry weather, in ſpring or early part of ſummer, occaſional waterings would be very ſerviceable.

In the future growth of the ſtandard Plums and Cherries, after final planting, they, in the firſt year from grafting and budding, either while remaining in the nurſery, or after tranſplanting into the garden, having their firſt ſhoots, if neceſſary, pruned down, in March, to a few eyes, to force out collaterals, to form the head of a more ſpreading growth, ſhould afterwards be generally permitted to branch out around every way, in their natural manner; will require very little pruning, or only occaſionally to prune to order any conſiderable irregularity, ſuch as to reduce any caſual, long rambler, or to cut out low ſtragglers, very rampant ſhoots, and croſs-placed branches, or to thin ſuch as are conſiderably crowded, and to cut out decayed wood; but, except in theſe inſtances, ſuffer all the general regular branches to advance in their full growth, and they will furniſh fruit-ſpurs abundantly, and bear plentiful crops of fruit.

As to the wall, Plum, and Cherry Trees, they may be planted in the garden, either in their young growth of one or two years old, having the firſt ſhoots, from the graft or buds, pruned down when a year old, in March, to furniſh a proper ſupply of collaterals below, to form the head; or if they have been headed in the nurſery, and, in conſequence thereof, are furniſhed with a tolerable ſpread of branches, it may be of greater advantage in regard to their being of larger expanſion, as at once to cover a good ſpace of walling, &c. from the beginning, and ſooner commence bearers, or ſometimes form immediate bearers the firſt ſeaſon, in a moderate degree, allotting ſome principal ſorts for ſouth walls, to produce fruit earlier, and in fineſt perfection, in ſize, beauty, and richneſs of flavour; and may plant others on walls of different expoſures, for ſucceſſion and late fruit; and for which, have the trees taken up with good roots, prune broken parts, &c. thereof, and long ſtragglers, as adviſed for the ſtandards, and cut out any projecting fore-right ſhoots of the head; then plant them not leſs than twelve or fifteen feet aſunder, or if fifteen to eighteen feet diſtance, it will be of more advantage, in affording proper ſcope to extend the branches in their advanced growth, at their whole length.

In eſpalier trees, may alſo plant ſome deſirable kinds, both of Plums and Cherries, at the diſtance above-mentioned for the wall-trees.

After planting the wall and eſpalier Cherries, let the branches be arranged to the walls, &c. in regular order, extended horizontally, four, to five or ſix inches aſunder, generally at their full length, for the reaſons before explained; or in young trees, having only two or three principal ſhoots in the head, they may be pruned down half way, or to ſix or eight eyes, in order to obtain a further ſupply of bottom branches, which train to the wall in the above order; or occaſionally, where it appears neceſſary to have further ſupplies of wood in particular parts, may ſhorten contiguous ſhoots either the ſame ſummer they are produced, performing it in June, or in the following winter or ſpring-pruning, to obtain laterals to furniſh the vacancies; and afterwards, in the general pruning, commonly retain the ſhoots and branches intire, and they will thus afford natural fruit-ſpurs all along the ſides to the extremity, and the ſame branches and ſpurs continue many years fruitful.

Then, with reſpect to the general culture of the wall and eſpalier Plums and Cherries, it conſiſts of an annual pruning, nailing, &c. every ſummer and winter; a ſummer-pruning to regulate the ſhoots of the year, and a winter-pruning, both in the young wood and

older branches; for as the training them in wall-trees and eſpaliers, each tree being allotted a certain ſpace, and the branches arranged in regular order, four, to five or ſix inches aſunder, and as they will produce numerous, improper, and ſuper-abundant ſhoots every year, the above annual prunings is neceſſary to reform irregularities, and to diſplace ſuperfluous and uſeleſs wood, to preſerve the regular expanſion of the trees within their allotted bounds; but as the ſame branches continue many years in a bearing ſtate, upon ſpurs before-mentioned, they do not require a renewal of a general ſupply of young wood for bearers, as in Peaches, Nectarines, Apricots, Vines, &c. which bear principally upon the young ſhoots of a year old; but when, after being trained in a full expanſion, they only require occaſional ſupplies of young wood in caſual vacancies, or to ſupply the place of any decayed or worn-out old branches, or ſuch as become of an unfruitful ſtate; though in the Morello Cherry particularly, it is proper to retain annual ſupplies of young wood for principal bearers; and in the Plums and Cherries in general, ſhould commonly continue a terminal ſhoot at the end of every branch, where room admits for their extenſion.

A ſummer-pruning and training, in the wall-tree and eſpalier Plums and Cherries, is neceſſary every year, to regulate the general ſhoots of the ſame ſeaſon only, and which ſhould be commenced in May or June, and continued, occaſionally, in July, &c. proceeding to the buſineſs firſt by diſplacing the ill-placed and evidently uſeleſs or unneceſſary ſhoots of the ſame year, and to retain and train in proper ſupplies of the well-placed ſhoots in all vacant parts, and the leading ſhoot to each main branch, if room admits.

This work of ſummer-pruning, if commenced early, the middle or end of May, or early part of June, while the ſhoots are quite young and herbaceous, may be performed by rubbing off the uſeleſs ſhoot-buds and twigs cloſe, with the finger and thumb; but when more advanced in a woody growth, it muſt be effected with a knife; and, by either method, diſplace the fore-right ſhoots that grow immediately from the front of the branches, in a projecting direction, and ſuch others as are not well placed, or improperly ſituated for training to the wall, &c. with regularity; as likewiſe any very luxuriant ſhoots, and others of improper growth; and alſo in the general ſhoots, where too numerous, prune out the ſuperfluous or over-abundant in a thinning order, taking the whole off cloſe to the mother branches, being careful, at the ſame time, to ſelect and retain a moderate ſupply of the beſt well-placed ſide-ſhoots of middling-ſtrong growth, ariſing on the lateral part of the branches in the moſt vacant ſpaces, both in young and old trees, in order for training to the wall accordingly, and to remain till winter-pruning, ready as a reſerve, either to furniſh preſent or apparent future vacancies, if any, or to ſupply the places of caſual decayed, worn-out, or unfruitful branches, obſerving alſo to retain the terminal or leading ſhoots, one only to each main branch, in all parts where room to extend them; and from the above-mentioned ſelect ſhoots, cutting out the improper and ſuper-abundant, continuing the reſerved ſupply intire, or at their whole extent, let them directly, or when of proper length, be nailed and trained to the wall in regular order, between the mother branches; and according as they advance in growth, train them along at their full length all ſummer, at leaſt not ſhortening any, except ſuch as extend conſiderably beyond their proper bounds, where not room to run them in their full extenſion; and of the reſerved ſhoots, if any puſh forth lateral twigs, they may be diſplaced in their young growth, leaving the main ſhoots clean and ſingly, and continued trained to the wall and eſpalier regularly as above.

Thus, giving the wall and eſpalier Plums and Cherries the principal ſummer-dreſſing, in May, June, July, &c. and as the trees will continue ſhooting, they ſhould be looked over again accordingly, at different times, during their ſummer's growth, to diſplace any uſeleſs after-ſhoots, and to train in the reſerved ſupply of proper ſhoots in their advanced or encreaſing length, or that caſually ſtart or project from the wall, both to preſerve the regularity and beauty of the trees; and that by having the ſhoots trained cloſe, in a regular manner, admits the benefit of the ſun, air, rains, &c. to improve the growth and goodneſs of the fruit; ſtill continuing the principal ſhoots intire without ſhortening, or only occaſionally, agreeable to the foregoing intimations.

For theſe and all other fruit-trees that bear the fruit principally upon natural ſpurs, ariſing on the two, three, or ſeveral years old branches, do not admit of ſhortening the ſhoots, neither in ſummer or winter-pruning, without detriment to their nature of bearing, as it would force out numerous uſeleſs or unneceſſary lateral twigs from the eyes below, and prevent the formation of fruit-ſpurs, which, as being the principal bearing parts of theſe kind of trees, you will, in the proceſs of the ſummer-pruning now under conſideration, be careful to diſtinguiſh and preſerve every where, they appearing of ſhort, robuſt growth, half an inch to an inch, or more, long, ariſing along the ſides, quite to the extremity of the branches, gradually, if not ſhortened, or but as little as poſſible, or not any, where room for their full extenſion, as formerly obſerved.

Though in particular inſtances, ſhortening may be occaſionally practiſed, ſuch as, if in the proceſs of the ſummer regulation, in June, any conſiderable vacancy occur, or in young trees, under training, requiring

ing further ſupplies of branches, ſome ſtrong ſhoots, contiguous to the vacant parts, might be ſhortened in May, or the beginning of June, pinched or cut down to a few eyes; they will produce a ſupply of collaterals the ſame ſeaſon, and thereby furniſh the vacancies more expeditiouſly and effectual; however, except in the above inſtance, continue the reſerved general ſhoots intire; and the whole remaining till winter-pruning, when, ſelecting a ſufficiency of the beſt where wanted, and a leader to each branch, the reſt muſt be then cut out cloſe to their origin, as explained in the following directions of *Winter-Pruning*.

The WINTER-PRUNING of Plums and Cherries trained in wall-trees and eſpaliers, which may be performed any time from the fall of the leaves in November till March, conſiſts of a general regulation both in the old branches and young wood, in which it muſt be obſerved, that as in theſe and moſt other of the ſpur-bearing trees, or that produce the fruit moſtly upon ſmall, natural ſpurs, the ſame bearers continuing fruitful ſeveral years, and increaſe in the number of ſpurs as they advance in length, do not want a general renewal of young wood annually, as in trees which bear principally on the young ſhoots of a year old; as in Peaches, Nectarines, Apricots, Vines, &c. the ſame general branches are to be continued from year to year, as long as they remain fruitful or well furniſhed with a proper abundance of eligible fruit-ſpurs for bearing, and only an occaſional ſupply of young wood is neceſſary, either to furniſh young trees under training, with an encreaſed ſupply of branches, more or leſs, as required, or in old or full-trained trees, to ſupply caſual vacancies, or the place of any unfruitful, or worn-out old branches, which happen either to decline bearing, or caſually decay.

That, according to the above intimations, in proceeding to the operation of winter-pruning of theſe trees againſt walls and in eſpaliers, examine both the general mother branches and the ſupply of young ſhoots which were trained in laſt ſummer; if in young trees, requiring ſupplies of branches to encreaſe or give the head a proper expanſion, retain well-placed young ſhoots accordingly; and if old trees, or having a full expanſion of branches, ſee if any bearers appear of an unfruitful, worn-out, or decaying ſtate, or aſſume any diſorderly or bad growth, they ſhould now be retrenched, and their places ſupplied with young wood, this being the only proper ſeaſon for making any neceſſary reform in the general branches in the operation of pruning; at the ſame time obſerve where ſupplies of young wood is wanted in any vacant parts, or to furniſh the places of improper old wood, as above, let the requiſite ſupply of the beſt-placed ſide-ſhoots of laſt ſummer be accordingly ſelected and retained in the proper places, cutting out therefrom all the ſuper-abundant and ill-placed ſhoots, pruning them cloſe off to their origin on the mother branches, not leaving any ſtump, ſnag, or eye thereof, to ſhoot forth again unneceſſary wood, being careful to preſerve on the bearing branches all the natural fruit-ſpurs of half an inch to an inch or two in length, and only of which cut away ſuch as are decayed, or aſſume a too-long projecting, or rugged, ſtumpy growth, which being cut off cloſe, new ones will be recovered in or near the ſame places; obſerving in all vacant parts to leave ſome well-ſituated middling-ſtrong ſhoots, as alſo retain ſome in any void ſpaces below, or near any apparently declining or ill-bearing main branch, in old trees, in order for training up between the main branches to a bearing ſtate, ready to ſupply the places of the above improper old wood, when cut out in a year or two after; and always, where room, preſerve the main leader, or terminating ſhoot to each principal branch or bearer; or if more than one leading ſhoot, generally cut off all but the principal one; or if this appears too long for the allotted ſpace, either above or on the ſides, may occaſionally ſhorten it, or prune down the branch, more or leſs, to ſome convenient lateral ſhoot, to remain for the leader; and where any old branches are too crowded, or of a decayed ſtate, cut them out either to ſome lower branch ariſing on the lateral parts thereof, or in default of ſuch, take them clean out to whence they originate, retaining ſome contiguous young ſhoots to ſupply the place; continuing all the ſhoots and branches intire, or at their whole length, at leaſt, as far as there is room to extend them in their full growth, and they will thus emit fruit-ſpurs all along their ſides, for bearing.

But likewiſe obſerve, in winter-pruning of wall-tree and eſpalier Cherries, that as ſome ſorts bear alſo on the young ſhoots of a year old, immediately from the eyes thereof, without forming previous ſpurs, as more generally occur in the ſmall May and Morello Cherry Trees, and which alſo bear upon ſmall ſpurs on the older branches, it is adviſeable, in theſe ſorts particularly, to retain plenty of the above-mentioned year-old ſhoots for bearing fruit the enſuing ſummer, cutting out part of the naked, old wood in proportion, pruned down, more or leſs, to ſome eligible young ſhoots, or branches furniſhed therewith; or ſome cut clean out, leaving contiguous ſhoots to ſupply the place of the unſerviceable, old branches, where thought neceſſary, or as circumſtances may require, retaining the whole ſtill at their full length, where room to extend them agreeable to the foregoing intimations.

Likewiſe obſerve, in pruning theſe wall-trees, to preſerve all the natural fruit-ſpurs as are of ſound, good growth, and only where any caſually aſſume a decayed

decayed or barren ſtate, cut them off cloſe, alſo all naked, barren ſtumps.

According as each tree is pruned, as above, let it be nailed to the wall, &c. in regular order, arranging the branches horizontally, all ſtill at their full length, three or four, to five or ſix inches aſunder, and nailed in ſtraight, and cloſe to the wall; or thoſe in eſpaliers have the branches tied and nailed occaſionally to the rails of the trellis.

Thus far concludes the general culture of the Plum and Cherry, in ſtandards, wall-trees, and eſpaliers.

As to the other ſpecies of the Plum and Cherry kinds, conſiſting of the Bullace, Sloe, different ſorts of Bird-Cherry, &c. they are admitted in plantations, for variety, and may be propagated by ſeed, the ſtones of the fruit, ſowed in the autumn or ſpring, and by layers, and ſome by ſuckers; or any particular ſorts are alſo raiſed by grafting and budding, as obſerved of the cultivated varieties of the Plum and Cherry.

Or alſo, to plant for variety and ornament, may introduce the common Plum and Cherry kinds, and great Wild Cherry Tree, &c. and their reſpective varieties; all raiſed as above.

But theſe, and the Bullaces, Sloe or Blackthorn, great Wild Cherry, &c. may, for common uſe in plantations, be raiſed abundantly from the ſtones of the fruit; and the Sloe-Plum alſo, plentifully by ſuckers from the root, where required to plant this kind for hedges, in fields, &c.

Or any deſirable varieties of the Bullace, Damſon, or great Wild Cherry, &c. may be propagated by grafting or budding, to continue theſe ſorts in their improved ſtate.

Early Plums and Cherries are obtained by having trees thereof in forcing-houſes, by the aid of which Cherries are ripened in April and beginning of May, and Plums in May and June: having, for this purpoſe, young trees of the moſt eſteemed early and other kinds, generally ſuch as are advanced to a bearing ſtate; both in dwarf trees, in ſmall ſtandards, and to train againſt a trellis, in the wall or eſpalier-tree manner; and ſome alſo in half and taller ſtandards, eſpecially Cherries, to elevate the heads near the top glaſſes of the forcing-houſe; and may all be planted in autumn, about October or November, in the borders within; or alſo ſome ſmall trees of Cherries, &c. in pots introduced; or ſometimes forcing apartments are allotted principally for Cherries, the bottom ſpace being wholly of good earth, a proper depth, and the trees planted in croſs-rows from the back to the front, in tall, half, and dwarf ſtandards.

Though in general forcing-houſes, ſeveral ſorts of fruit-trees are introduced in aſſemblage.

The forcing is commonly commenced by fire-heat, in the middle or end of January, or beginning of February; or is occaſionally effected by bark-bed heat; and the heat, in both methods, continued moderately till the fruit is advanced to perfection, in April, May, &c. obſerved for *Peaches* and *Nectarines*, under the Genus *Amygdalus*.

Apricot Kinds.

The Apricot being conſidered as a ſpecies of the *Prunus* family, but requiring ſome different management in the general culture, it is eligible to explain it under a ſeparate head.

This ſpecies of *Prunus*, Apricot Tree, differs ſomewhat in its general mode of bearing from the Plum and Cherry; it, in all the varieties, produces the fruit principally upon the young wood of one year's growth, and likewiſe upon ſmall, natural ſpurs, ariſing on the two and three years old branches; but generally bears the principal ſupply of fruit moſtly upon the young ſhoots of a year old; that is, the ſhoots produced one year bear fruit the year following, emitting the bloſſom-buds immediately from the eyes thereof along the ſides; and of which young ſhoots, in the operation of pruning the wall and eſpalier Apricots, a general ſupply of the beſt-placed, of middling-ſtrong growth, muſt be retained every year in all parts of the trees, for ſucceſſional bearers, and the ſuperfluous and improper ſhoots thereof, with part of the naked, old bearing-wood cut out in the winter-pruning, to make room for the young ſupply; but where eligible fruit-ſpurs appear on the two or three years wood, above-intimated, the ſaid branches and ſpurs are proper to reſerve occaſionally, as they alſo produce fruit in good perfection.

And as the young ſhoots retained for principal bearers, as above, both produce fruit, and a ſupply of young ſhoots at the ſame time, for next year's bearing, and which ſhoots are alſo produced occaſionally upon the older wood, and, in both of which, a plentiful abundance muſt be reſerved in ſummer, and trained in moſtly at their full length all that ſeaſon; but in winter-pruning, ſelecting a ſufficiency of the well-placed ſhoots, cutting out the ſuper-abundancy and all ill-placed, with ſingularly luxuriant ſhoots, the remaining proper ſhoots ſhould be then ſhortened moderately, both to encourage their producing collaterals more effectually, and properly ſituated on the lower and middle, as well as the upper parts, to train in to ſelect from, for next year's bearers; as, when not ſhortened in winter-pruning, the ſucceſſional bearing-ſhoots are apt to advance principally only towards the upper parts of the mother ſhoots or bearers, and which would moſtly be naked below, whereby the lower

lower and middle parts of the wall-trees would become unfurniſhed with proper ſupplies of young wood.

But as to the ſtandard Apricot trees, they being planted detached, and having full ſcope to branch out freely every way in their natural manner, furniſhing, as they advance, both plenty of young bearing wood, in ſucceſſional annual ſupplies, and fruitful ſpurs on the two or three years branches, do not require any regular pruning annually, as in the wall-trees, only need occaſional regulation, to cut out caſual, irregular and very crouded branches, and decayed wood, permitting the other general branches to advance in their full growth.

Propagation or Method of raiſing the Trees.

The propagation or method of raiſing Apricot trees is principally by budding or inoculating buds of the different varieties, or of any deſirable ſorts upon Plum ſtocks, in July or beginning of Auguſt, inſerted into the ſide of the ſtock one bud in each, at ſix or eight inches, for common wall-trees, and at three or four to five or ſix feet height, for half and full ſtandards; and the buds remaining dormant till next ſpring, when the ſtocks being then headed down a little above the inſertion of the buds, theſe puſh forth each one ſtrong ſhoot, and forms the new tree of the reſpective ſort.

To proceed in the above propagation, proper ſupplies of ſtocks, on which to perform the budding, muſt be raiſed, and which ſhould be principally Plum ſtocks being more hardy and durable than ſtocks of their own kind, raiſing them from ſuckers or ſtones of the fruit, or both; though they are alſo budded occaſionally upon thoſe of Apricots raiſed from the ſtones; but the Plum ſtock is moſt adviſeable for the general ſupplies; and which, as above obſerved, may either be young ſuckers, produced from the roots of Plum Trees, taken off and planted in nurſery-rows in autumn, winter, or ſpring, or by ſtones of the Plums, ſowed in autumn in beds of common earth, one or two inches deep; and when the ſeedling ſtocks are a year old, or of one or two ſummers growth, ſhould be tranſplanted in autumn or ſpring into the nurſery, in rows two or three feet aſunder, in which to advance in growth, one, two, or three years; training the ſtocks in general each with a ſingle ſtem, and when half an inch to an inch thick they are proper for budding; which ſhould be performed in July or beginning of Auguſt, as before intimated; when, for the buds, take off a quantity of cuttings of young ſhoots of the trees of the different or reſpective varieties intended for propagation, and from which ſhoots take the buds for inoculation, one at a time, and inſerted into the ſide of the ſtocks, which ſhould previouſly have the lateral ſhoots pruned off, continuing the top entire, ſo inſert one bud into each ſtock, performing it low in the ſtock, within about five to ſix or eight inches of the bottom, for common dwarf wall-trees and for eſpaliers; and at three or four to five or ſix feet for half and tall ſtandard wall-trees, to be planted occaſionally between the common dwarf trees, to cover the upper parts of high walls, while the latter are advancing below, eſpecially where required to have the walls completely covered as ſoon as poſſible, to afford a more plentiful production of fruit; or likewiſe ſome may be budded on tall ſtocks, as above, or budded low, and the firſt ſhoot run up for a ſtem, for half and full common ſtandards, to plant detached in the open ground, to branch out in full heads; particularly the Breda, Bruſſels and Dunmore Apricot, or any others, occaſionally.

Thus having performed the budding, the buds remaining dormant till the ſpring following, and the head of the ſtock continuing, then, in the beginning of March, the ſtocks ſhould be headed down, cutting them off ſloping, three inches above the inſertion of the bud, which will then ſoon after advance, each in a ſtrong ſhoot, two or three feet in length, the ſame year.

The young trees thus raiſed, advancing at firſt with one ſtrong ſhoot, this, either the ſame year, in ſummer, or the following ſpring, ſhould be headed down to obtain lateral branches, to form the head; ſo that to effect this, the above firſt ſhoot may either be topped the ſame year early in June, and will thereby furniſh ſeveral lateral ſhoots the ſame ſeaſon, or the ſaid firſt main ſhoot is generally permitted to run in its full growth all ſummer and continued intire till next March, then headed down to about ſix or eight inches, or to ſo many eyes, and it will then ſoon after puſh forth four, five, or more, collaterals, to give the head its firſt proper formation, training the ſhoots, when of due length, in a ſpreading order, to form the tree for the walls; or if any are deſigned for detached ſtandards, they being alſo headed down as above, permit them to ſhoot out freely every way to form full heads.

The young Apricot trees, as above, are proper for final tranſplanting into the garden, againſt walls, &c. or occaſionally for detached ſtandards, when they are from one, two, or three, to four or five years old, either of but one ſummer's growth, with the firſt ſhoot from the budding intire, and planted in the autumn or ſpring following, and the ſaid firſt ſhoot to be headed down in March, as above adviſed, to force out a ſupply of lower lateral ſhoots; or the trees remain in the nurſery, for heading down, and trained therein for two or three years, or more, or till advanced in ſome tolerable ſpread of branches and arrived to a bearing ſtate, then planted in the places where they are to continue.

Or trees for planting, of a proper growth, as above, may be had at the public nurſeries, in the different varieties,

rieties, either young, of one or two years old, or that are more advanced, which the nurſery-men call trained trees, being ready trained with ſome conſiderable expanſion of branches to commence immediate bearers the firſt year they are planted.

The planting of Apricot trees may be performed either in autumn, in October, or beginning of November, to ſtrike freſh root the ſame ſeaſon; or may be done any time in open weather, from October till February or March.

In planting the different varieties, allot ſome beſt ſouth walls, for the principal ſorts, others on weſt and eaſt walls; having proper borders of good earth along the walls of the different aſpects, three, four, or five, to eight or ten feet broad, and of two ſpades, or at leaſt one full ſpade deep of fertile ſoil; and if the borders are naturally of good, rich garden mold, or of a loamy kind, it will be of particular advantage, and no more will be required than to dig or trench the ground, or only, for the preſent, to dig an aperture for each tree; but if the ſoil is bad, unfavourable, or of a very poor, light, unſubſtantial nature, it ſhould be improved with ſome ſtrong, rich earth and rotten dung; or would be much benefited if augmented with a quantity of freſh ſurface loam from a common or paſture-ground; removing part of the bad or worſt ſoil of the borders, in proportion to the quantity of freſh earth added; and which improvements may either be applied to the whole border, if thought eligible, or only to the places where the trees are to ſtand, and the other parts enriched afterwards by degrees, in the two or three following years, in winter or ſpring: however, it is proper alſo to intimate that theſe trees will proſper in any common fertile ground of a garden, without any preſent additional improvement.

For planting the wall-trees, mark out places at twelve or fifteen to eighteen feet aſunder; obſerving, if low walls, it is generally adviſeable to allot a greater diſtance than in thoſe of more conſiderable height, that in default of good ſcope of walling above, there may be ſufficient room to extend the branches horizontally, and if any are deſigned for eſpaliers, they ſhould alſo be allowed the above-mentioned diſtances; and for both of which, have the trees digged up with all poſſible good roots; prune any broken parts thereof, and ſhorten any very long ſtragglers ſloping on the under ſide; and of the head, prune only, at preſent, any irregular projecting fore-right ſhoots; or if young year-old trees, leave the whole head intire till March, or if planted in that month, may be headed ſoon after: dig a wide hole for each tree, in which place the roots in a ſpreading manner, with the ſtem thereof three or four inches from the wall, and the head inclining thereto; fill in the earth equally about the roots and fibres, ſhaking the tree gently to make the earth ſettle in cloſe, and then tread it moderately to the roots; and if planted early in autumn, about October, or late in the ſpring, and the ground is dry, give a moderate watering to the earth to moiſten and ſettle it cloſe about the roots more effectually, and will alſo prove beneficial in aſſiſting their rooting.

If high walls, and if deſirous of having all parts covered as ſoon as poſſible, you may plant ſtandard wall-trees in the ſpaces between the common dwarf trees, either half ſtandards, with ſtems of three or four feet, or with five or ſix feet ſtems, for more lofty walls; and thus have all parts of the wall expeditiouſly covered; the common dwarf trees furniſhing the lower and middle, and the half ſtandards, &c. occupy the upper parts, while the others are advancing below; and as the common wall-trees are to be conſidered as the principal reſidentiaries for continuing, that according as they advance in a large expanſion upward, the branches of the ſtandards may be pruned away by degrees, or the trees tranſplanted elſewhere, to give proper ſcope to extend the others in full growth to cover the wall regularly from the bottom to the top, in a continued expanſion of branches.

The trees planted, if they are young, having only the firſt main bud-ſhoot of a year old, this ſhould be headed or cut down in March, to five or ſix eyes, to promote a ſupply of lower lateral ſhoots the ſame year to form the head, nailing them to the wall, &c. at their whole length, all ſummer; and in winter-pruning, or towards the following ſpring, cut or ſhorten each ſhoot about one half or third, according to their ſtrength, to obtain a further ſupply of well-placed collaterals to encreaſe the head in a larger expanſion of branches; and then managed afterwards in the ſeveral methods of pruning and training hereafter explained; and when three or four years old, will begin to produce ſome fruit.

But if trained trees are intended for planting, having been previouſly headed down in the firſt ſhoot, in the nurſery, and, in conſequence thereof, are furniſhed with a head of ſeveral branches, two or three to four or five years growth, theſe branches, &c. are to be principally retained, or only prune any fore-right or other ill-placed ſhoots not well ſituated for training regularly to the wall, cutting them out cloſe, and the remaining regular ſhoots be ſhortened about one third of their length; and then the general branches and ſhoots nailed to the wall horizontally in a regular expanſion, four or five inches aſunder, they will probably produce ſome fruit the firſt year, but in greater abundance and perfection the ſecond, if a favourable ſeaſon; and will increaſe in the production annually, in proportion as they acquire a larger expanſion of branches and advance in age; and generally in Apricot trees of ſome conſiderable growth, they bear more abundantly and the fruit richer flavoured;

voured, and will continue fruitful a great number of years, in good perfection, with proper management in regard to pruning and training, as in the following directions for their general culture.

For ſtandard Apricots, may plant ſome half and full ſtandards, detached from walls, in the open ground, in a warm, ſheltered ſituation, in the full ſun, where they may be defended, as much as poſſible, from the northerly quarter, in the ſpring, when in bloſſom, and ſetting their fruit, and in which, they, in favourable ſeaſons, will often produce plentiful crops, ripening in very good perfection.

Their general Culture of Pruning and Nailing.

As to the culture of the wall Apricot Trees, and ſuch as are trained in eſpaliers, it conſiſts of a ſummer and winter-pruning every year; and in both of which ſeaſons of pruning, as thoſe trees bear chiefly on the young wood, a general ſupply of the young ſhoots of each year muſt be retained for principal bearers, and the ſuperfluous and improper ſhoots cut out; and according to the ſupply of young, retained ſhoots, a proportionable part of the uſeleſs old wood cut out, to make room for the young.

The ſummer-pruning conſiſts of a general regulation among the young ſhoots of the year only, to diſplace the fore-right with other ill-placed and improper growths, and to retain a plentiful ſupply of the well-placed and proper ſhoots, for requiſite ſupplies of wood, in vacancies, and for ſucceſſional bearers, the following year; and ſhould generally commence the buſineſs in May or June; and if proceeded in early, while the ſhoot-buds, or advancing ſhoots, are only about two or three, to four or five inches long, before they become very woody, the irregular and uſeleſs productions may moſtly be rubbed off, or diſplaced expeditiouſly with the finger and thumb; though, in the more advanced ſtate of the ſhoots, and in the general ſummer-dreſſing, muſt always uſe the pruning-knife; and by both of which methods, ſhould now take off cloſe all the fore-right ſhoots as ariſe immediately from the front part of the mother branches, in a projecting direction, and with others as are ill-placed, or not well ſituated for training in regularly to the wall, together with ſuch as are evidently improper, unneceſſary, or ſuperfluous, leaving an abundant ſupply of the proper, well-placed ſide-ſhoots, and with a terminal or leading ſhoot to each branch; and in the further advanced growth of the ſhoots in June and July, it is neceſſary to prune out, in a thinning manner, part of the conſiderably ſuperfluous, or over-abundant ſhoots, and generally to cut away ſuch as affect a very luxuriant, rank growth; and all the retained, proper ſhoots, ſhould be moſtly continued at their full length all ſummer, as far as there is room to extend them, and all nailed, or faſtened in cloſe and regular to the wall, during that ſeaſon, to remain till winter-pruning, ready to chuſe from, in ſufficient plenty, for next year's bearers.

In this buſineſs of ſummer-pruning the wall Apricots, it is always adviſeable to commence the operation early in ſummer, before the ſhoots are very conſiderably advanced, to aſſume a confuſed, diſorderly ſtate; as when this work is performed while the ſhoots are of but a moderately advanced growth, the neceſſary regulation of pruning out the uſeleſs, and retaining the uſeful ſupplies, can be effected, both with much greater accuracy and expedition, and prove of particular greater advantage to the trees, and the preſent production of the advancing young fruit, whereby to obtain it in all poſſible perfection of maturity, in ſize, beauty, and flavour.

Therefore generally proceed in the firſt regulation of ſummer-pruning in the early growth of the ſhoots, when from about three or four, to ſix or eight inches, to a foot long, at moſt; or, as before obſerved, may commence the operation when the ſhoot-buds are advanced only two or three inches, which will be of ſingular advantage juſt to run over the trees, and diſbud, or rub off the advancing fore-right buds and ſhoots, and ſuch others, in young growth, as are improper, or ill-placed, for training to the wall, taking them off cloſe to whence they originate.

Then with regard to the general operation of ſummer-pruning, that either after performing the early or firſt pruning, or diſbudding the evidently uſeleſs productions, as above, in May or beginning of June, while in young growth; or if that buſineſs was omitted, ſhould begin this principal regulation in the more advanced growth of the ſhoots, in the beginning or middle of June, at fartheſt, before the trees have ſhot into conſiderable diſorder, in which they both appear very unſightly, require conſiderably more time and particular attention, as well as often occaſion much perplexity in the confuſed thicket of young wood, to perform the neceſſary regulation in diſplacing the uſeleſs, and ſelecting the requiſite ſupply of proper ſhoots, and proves greatly detrimental to the advancing fruit.

Thus proceeding to this buſineſs in proper time, cut out cloſe all remaining fore-right ſhoots, and others that are ill-placed, and carefully ſelecting a plentiful ſupply of the beſt regular-placed ſide-ſhoots, and a leading one to each mother branch; all which to be retained for training in, to chuſe from, for ſucceſſional bearers, next ſummer; leaving alſo proper ſupplies in vacant ſpaces, and below, to have all parts

of the trees regularly furniſhed with bearing wood; the whole of the retained ſhoots continued at their full length, at this ſeaſon; and as generally a ſuper-abundancy of ſhoots are produced, or more than is wanted, or can be trained in with proper regularity, muſt prune out the ſuperfluous, cutting away the worſt ſhoots in a thinning order, retaining great plenty of the well-placed, moderately-ſtrong ones; cut out all ſmall, weak twigs, both on the old wood, and ſuch as ariſe on the ſelect reſerved ſhoots of the year; and, of the proper ſhoots, if two advance from the ſame eye, or near together, leave but one, the moſt promiſing, and cut the other off cloſe; likewiſe prune off cloſe all ſuch as caſually aſſume a bad growth, as bunched, crooked, &c. and ſuch as are ſingularly luxuriant; and in this manner, cutting out the evidently ſuperfluous, and improper, retain a requiſite abundance of the beſt ſhoots, for training in, to chuſe from in winter-pruning, both for next year's bearers, and a further encreaſe of principal branches, where required, generally retaining doubly more, at leaſt, than what may apparently be wanted, that you may have plenty from which to make a proper choice in the winter-regulation, before obſerved.

As you proceed in this regulation, let all the retained proper ſhoots be continued at their whole length, and let thoſe of each tree, as you advance in the pruning out the improper young wood, be nailed or faſtened in cloſe and regular to the wall; not ſhortened during the ſummer, except occaſionally, where any extend conſiderably beyond their limited bounds, at ſides or above, which may be diſcretionally ſhortened, as it may ſeem expedient; but except on theſe conſiderations, preſerve the whole entire, as ſhortening would force out many lateral twigs the ſame ſeaſon, hurtful to the principal ſhoots, and croud the trees with a thicket of uſeleſs wood.

In the above ſummer-regulation of theſe trees, if any have produced very rampant, or remarkably luxuriant ſhoots, of conſiderably more rank and vigorous ſtrength than moſt of the other ſhoots of the ſame tree, they ſhould be moſtly either cut out cloſe to their origin, as not being adapted for bearing wood, and would draw the proper nouriſhment away from the other adjacent or neighbouring ſhoots of moderate growth, proper for the production of fruit the year enſuing; or where any luxuriant ſhoots advance in or near ſome vacancy, or where future ſupplies of wood will be apparently wanted, one or more might be occaſionally retained, and pruned down early in ſummer, to a few eyes, to promote ſeveral collaterals the ſame ſeaſon, which, by dividing the exhuberancy of ſap, may ſeparately prove of more moderate growth, proper to ſupply the vacant ſpace.

But where any trees aſſume a general luxuriancy of ſtrong rank wood, of an unfruitful ſtate, it is proper, in this caſe, to cut out ſome of the moſt rankly-vigorous, and retain as many of the beſt-placed, leſs luxuriant ſhoots thereof, as can be commodiouſly trained in with ſome degree of regularity, in order to divide and carry off the redundancy of nouriſhment amongſt a conſiderable expanſion, which, in a ſmaller quantity, would break out in greater luxuriancy, in proportion; but being expended in a more conſiderable number of branches, will be more effectually moderated by degrees, and the trees will gradually be reduced to a moderate growth, and commence a proper bearing ſtate; and thus, in luxuriant trees, obſerving the above method in the ſummer-regulation, train in all the reſerved ſhoots, cloſe and regular, at their whole length, and laid as much horizontally as poſſible, the more effectually to check the luxuriance.

Or, in ſummer-pruning, if any of theſe wall-trees are of an infirm ſtate, ſhooting weakly, and do not produce fruit in good perfection, prune out the ill-placed ſhoots, and all very ſmall, weakly twigs; and ſelect, for training, principally only the ſtrongeſt, well-placed ſhoots, of beſt growth, and train them regularly to the wall; and by thus continuing only the moſt promiſing ſtrongeſt ſhoots, the trees will gradually encreaſe in ſtrength, and improve in bearing accordingly.

Obſerve, in the ſummer-pruning any young Apricot Trees, of one, two, or three years growth, yet under training, be careful to diſplace the fore-right, and other ill-placed ſhoots, and ſuch as appear conſiderably over-abundant, together with any of very luxuriant growth, and leave as many of the regular, well-placed ſhoots as poſſible, that are properly ſituated for training to the wall, to furniſh an additional expanſion of branches, arranged horizontally in a regular manner, at their full length; or in any conſiderable vacant parts, one or more ſhoots, in or near the vacancy, may be pinched or pruned down, the beginning or middle of June, to a few eyes, in order to have them produce collaterals the ſame year, to fill the vacant ſpace more effectually, as ſoon as poſſible.

And in the ſummer-pruning of the wall Apricots in general, if any vacancies occur, be careful always to retain a proper ſupply of young wood, in or as near the vacant parts as poſſible; and likewiſe, if any vacant ſpaces appear to require a larger ſupply of wood than is at preſent produced, ſome convenient ſhoots of the year, contiguouſly ſituated, may be pruned down early in June, to four, five, or ſix eyes or buds, in order to force out and obtain an additional ſupply of lateral young wood the ſame year, in June and

and July, from the remaining lower eyes of the ſhortened ſhoots, whereby to furniſh the vacancy expeditiouſly the ſame ſeaſon, with proper ſupplies of young wood, or ſome that will probably produce fruit the enſuing ſummer.

After performing the general ſummer-regulation in pruning out the improper, and training in the requiſite ſupply of proper ſhoots of the year, in regular order, it is neceſſary to continue your attention in the further advancing ſummer's growth of the trees and reſerved ſhoots, in order to preſerve the proper regularity, by going over the trees once a week, or fortnight, as you ſhall ſee occaſion, both to diveſt them conſtantly of all uſeleſs or unneceſſary after-productions, particularly ſuch as advance in a projecting direction, or any very irregular or diſorderly growth; as likewiſe to regulate or adjuſt auy diſorderly growth in the retained ſupply of the general, ſelect ſhoots, that, according as they encreaſe in length, continue them ſtill intire, and trained along cloſe to the wall, in their full extenſion; and where any caſually detach, or project from the wall, train them in cloſe and regular; and by thus preſerving the requiſite uniformity of theſe wall-trees, they not only appear beautifully agreeable to the ſight, but, by being continued cloſely trained in proper regularity, admits the eſſential benefits of the full air, ſun, rains, &c. neceſſary both to improve the growth and goodneſs of the fruit, the principal object; and alſo to promote a proper degree of maturity, in the young wood, for ſucceſſional bearing.

Thus, agreeable to the foregoing intimations, the practical buſineſs of the general ſummer-regulation in the ſhoots of the year of the wall Apricot Trees is conducted, and which ſhould be carefully performed every ſummer, in May, June, July, &c. being eſſentially neceſſary, both for the proſperity and beauty of the trees, when continued in the moſt regular order during their ſummer's growth, and that the fruit may thereby have every poſſible advantage to attain the utmoſt perfection.

But before we conclude the ſummer management of the trees, it will be proper to give ſome neceſſary intimations reſpecting the fruit in its different ſtages of growth.

Firſt, that as ſometimes the Apricot, like the Peach and Nectarine Trees, in favourable ſeaſons, ſet ſuperabundant productions of fruit, often in cluſters, or cloſe together, that they would neither have room to grow proſperouſly, nor the trees be capable of bringing the whole to good perfection; and in which caſe of ſuper-abundancy, the fruit ſhould be thinned in its young growth, when not exceeding the ſize of ordinary green gooſeberries, or nuts, &c. principally in May and early part of June; and at which time the fruit that is thinned off will be excellent for tarts, while green and young, before they begin to ſtone hard in the heart.

Therefore, in May and early part of June, at fartheſt, ſhould proceed in the thinning, by degrees, when look carefully over the general branches, and where the fruit is crouded, thin off the moſt irregular, leaving proper ſupplies of the beſt, well-placed, at ſomewhat regular diſtances, three, to four or five inches aſunder, according to the ſtrength of the different trees, and that of the reſpective bearing ſhoots; in which ſhould generally leave the fruit thinner on trees of a weakly ſtate than thoſe of middling or ſtronger, free growth; the ſelect, retained fruit will thus have room to advance freely in full growth, in their proper ſhape, ſize, and colour, and ripen in good perfection and richneſs of flavour; but if permitted to remain croudedly-thick, the fruit would both aſſume an impoveriſhed growth, and in their advancing ſtate, would, for want of room, thruſt one another off, and not one in ten would attain good maturity; and beſides, in their great ſuper-abundancy, they would draw the whole nouriſhment, and prevent the trees making proper ſhoots for ſucceſſional bearers, &c. and prove detrimental to their growth for two or three years to come; therefore ſhould not be omitted to give a proper thinning, when required, both for the advantage of the trees and proſperity of the eligible crops of fruit; or even where not a general ſuper-abundance, only here and there in cluſters, they ſhould be thinned in thoſe parts; and in all of which, commence the thinning in proper time, while the fruit is young, from the end of April, or beginning of May, till June, as before obſerved.

In the above occaſional thinning the ſuperabundant young Apricot fruit, theſe taken off are valuable to uſe for tarts, being of a fine, acid reliſh, and for which are in much eſtimation as one of the firſt principal green fruit of the ſeaſon, for tarts and pies; and may be thinned off, by degrees, for that occaſion, in May, &c. both in wall-trees, eſpaliers, and ſtandards.

With regard to the further care of the regular crop of fruit in its advancing ſtate, give proper attention to continue the trees diveſted of all uſeleſs after-ſhoots, and to keep the others trained in cloſe and regular, to admit the eſſential benefit of the ſun, air, rains, &c. all moſt neceſſary to forward the growth and improve the goodneſs of the fruit, to attain the utmoſt perfection of maturity; obſerving, likewiſe, when arrived to full growth towards a ripening ſtate, in July and Auguſt, to continue all the ſhoots cloſe trained, to give free acceſs to the beneficial influence of the ſun, to promote a proper flavour in its peculiar degree.

According as the Apricots ripen in July and Auguſt, they ſhould be gathered while in good flavour, before they become too ſoft and mealy; theſe fruit being always in beſt perfection for ripeneſs while they remain moderately firm, and of a poignant reliſh; and generally, when in full ripeneſs, if gathered in the early part of the day, before much heated by the ſun, it will be preſerved in better flavour for eating.

As ſometimes theſe trees are attacked, in ſummer, with blights and inſects, ſhould endeavour, as much as poſſible, where it occurs, to ſtop their pernicious effects, being diſcoverable generally by the leaves crumpling, and the ends of the ſhoots becoming bunched and clammy, either generally, or appearing firſt in particular parts of the tree, and will ſoon ſpread conſiderably, greatly detrimental to the progreſs of growth both of the trees and fruit; or are ſometimes ſuddenly attacked with a dry blight or blaſt, often deſtructive without remedy; but where, in either of which maladies, the diſorder comes on more gradually, or occaſioned by numerous minute inſects, ſome means may be uſed to ſtop the depredation, by pulling off the moſt infected leaves, and cutting away the diſtempered parts of the young ſhoots, &c. uſing alſo the other aſſiſtant remedies adviſed for the Peaches and Nectarines, which are caſually attacked with the ſame malady.

We now proceed to explain the operation of winter-pruning theſe wall-trees, which is neceſſary every year, any time after the fall of the leaves in November, till March.

The winter-pruning of the wall Apricot Trees comprehends a general regulation in the young and old wood, both in the ſupply of young ſhoots which were produced and trained in laſt ſummer, and moſtly in the whole expanſion of older branches, as obſerved for the Peaches and Nectarines, &c. in pruning out the moſt irregular, improper, and ſuper-abundant, to make proper room for training in a general ſupply of ſucceſſional young bearing wood, conſiſting of the laſt ſummer's ſhoots, to produce the fruit the year enſuing; and the whole to be new-trained, or nailed to the wall, in a regular manner, four or five inches aſunder.

Obſerve, in performing this operation of winter-pruning, to keep in mind, that as theſe trees, as in the Peach and Nectarine, produce the fruit principally upon the young wood or ſhoots of laſt ſummer, and often on ſmall, natural ſpurs ariſing on the two years wood, though generally the principal production of fruit is obtained on the laſt year's ſhoots, as formerly intimated, the bloſſom-buds ariſing immediately from the eyes of the ſaid ſhoots, and ſeldom bear but once in the ſame order, only on caſual, ſmall ſpurs, aforeſaid, ſometimes emitted from the ſides in the ſecond and third year, that a general ſucceſſional ſupply of the beſt young ſhoots of the preceding ſummer, muſt be annually preſerved in all parts of the trees, in the winter-pruning, for bearing the principal crops of fruit the year following; and, likewiſe, to retain occaſional ſpurs, before-mentioned, which, furniſhed with bloſſom-buds, alſo produce fruit in equal perfection; obſerving, at the ſame time, in this regulation, muſt cut out the ſuper-abundant, ill-placed and improper ſhoots, with part of the former bearers, and naked, or worn-out, old branches, not furniſhed with bearing wood, to give room for retaining the requiſite ſupply of young bearers, four or five inches aſunder, as before obſerved; and all the retained ſhoots, or greater part, to be now ſhortened about one third, more or leſs, according to their ſtrength, to promote a production of ſhoots from the lower eyes thereof, next ſummer, for ſucceſſional bearers the year after, which, otherwiſe, would ariſe moſtly towards the upper parts, that the trees would thereby become naked below, or not well furniſhed with proper ſupplies of bearing wood, equally from the bottom upwards.

The ſeaſon to commence the winter-pruning is ſoon after the fall of the leaves, or any time in mild or moderate weather, from November till the ſpring, and ſhould be wholly compleated in February, or beginning of March, before the bloſſom-buds are conſiderably advanced.

Generally, in proceeding to this buſineſs of winter-pruning theſe trees, that as it compriſes a regulation in the general expanſion, it is proper firſt to unnail all the young ſhoots of laſt ſummer, and great part of the ſmaller mother branches, in order both to give proper ſcope in uſing the pruning-knife, in cutting out the ſuper-abundant and unſerviceable wood, and to have an opportunity of training the proper branches and ſhoots with eligible regularity, according to the regulation made in the general pruning.

And being furniſhed with proper pruning-knives, a ſmaller and larger, as explained for the Peaches and Nectarines, as alſo with proper ſhreds and nails, proceed to the buſineſs of pruning and nailing the trees, agreeable to the following intimations.

In proceeding to the operation, give great attention to the ſupply of young wood of laſt ſummer; and of which, to make a proper ſelection of the beſt in all parts of the trees, for training in three, four, or five inches aſunder, as before intimated, for ſucceſſional bearers next year, and ſome for new wood occaſionally, to increaſe the number and expanſion of principal branches, where neceſſary, chuſing the moſt regular-placed, middling-ſtrong ſhoots, ſituated principally on the upper and under ſides of the mother branches, and occaſionally the leading or terminal

ſhoots

ſhoots in particular parts, where it may ſeem eligible, though every branch ſhould terminate in a ſingle ſhoot, either, in ſome, placed naturally at the end, or in others, the branch ſhortened down to a proper ſhoot, for a leader.

That in the general regulation obſerve, in ſelecting the principal ſupply of proper ſhoots, it is adviſeable to prefer the moderately ſhort-jointed, that appear the beſt furniſhed with bloſſom-buds, being round, plump, and ſwelling; and from which, prune out cloſe the ſuperfluous or over-abundant, with any remaining fore-right and other ill-placed ſhoots, not well ſituated for training to the wall with proper regularity; cutting away alſo weak twigs, watery, unripened, autumnal ſhoots, and ſingularly rank luxuriants, taking them off cloſe to the old wood; likewiſe, if any of the retained proper ſhoots, have ſmall, lateral twigs, prune them off cloſe, that the ſaid principal ſhoots may be clean and ſingle; and to make room for the requiſite ſupply of young wood, a proportionable part of the former bearers, and naked, old branches, ſhould, in this pruning, be retrenched, either by ſhortening ſome down, more or leſs, to proper young ſhoots, or ſome cut clean out, ſuch as are the leaſt productive of eligible, bearing wood; obſerving, in the proceſs of pruning, to ſhorten moſt of the retained ſhoots about one third, or as hereafter explained.

And generally obſerve, that where any ſmall, natural ſpurs, half an inch to an inch, or more, long, occur on the continuing two or three years old mother branches, and appear furniſhed with bloſſom-buds, they ſhould be carefully retained, as they often bear abundantly in as good perfection as the principal bearing ſhoots; but cut out cloſe, any long, projecting, and naked, barren ſpurs, old ſtumps, and all decayed wood.

But, to explain the above pruning as fully as poſſible, it is neceſſary to obſerve, that as great part of the ſelect or proper ſhoots, now requiſite to retain, are produced chiefly upon the ſmaller branches, or two or three years old wood, or principally upon the laſt year's bearers, ariſing on the lower and upper parts, and ſome terminal or proceeding immediately from or near the extremity; and therefore, in order to make room for the neceſſary ſupply of the young ſhoots, a conſiderable part of the ſaid mother branches ſhould be cut away, in proportion, either by ſhortening or cutting down, more or leſs, in particular parts, to ſome principal ſhoots, ſituated on the reſpective branches; or others of the worſt, old bearers, cut away, as circumſtances may require, whereby to have ſufficient ſcope for training the requiſite ſupply of young bearing wood, equally in all parts of the trees, for general bearers, the enſuing ſeaſon.

Therefore, agreeable to the foregoing intimation, making choice of the proper ſhoots, and where ſituated on the lower or middle part, &c. of the former year's bearers, may ſhorten or cut down the upper parts thereof to the firſt, ſecond, or other moſt eligible ſhoot thereon, which then commences the leading ſhoot to the reſpective branch; or if only the uppermoſt ſhoot ſeems neceſſary to retain, cut away any others below it; or if two are neceſſary to leave on the parent branch, retain one below and the other above; ſo, in this manner, leaving on ſome branches but one, and on others, two ſhoots, or more, in particular wide ſpaces, or as it ſhall ſeem expedient, according to what appears requiſite to furniſh the reſpective parts of the tree.

For example, that where two ſhoots, or more, appear neceſſary to retain on any mother branches, or former bearers, to ſupply the particular parts, leave one of the beſt above, either the terminal or end ſhoot, if a proper one is thus ſituated; or if not, cut down the upper part of the branch to the firſt, good lateral ſhoot, and leave the others below, at a proper diſtance, and cut away any other intervening ſhoots on the ſame branch, if not wanted; or, in ſome caſes, it may be proper to retain only the end or terminal ſhoot, either placed naturally at the end, or where this would extend the branch too conſiderably, the branch may be cut down to ſome lateral ſhoot, if any thereon, that would not extend beyond the limited ſpace; or, in ſome places, it may probably be neceſſary to retain both a naturally terminal ſhoot, or one ſituated near the termination of the parent branch, or old bearer, and a lateral one towards the middle or lower parts, cutting awad any other intervening ones; and ſometimes, where long-extended branches occur, or ſuch as, in particular places, extend beyond certain limits, where not proper room, it may be requiſite, occaſionally, to cut down the extended part of the branches to ſome beſt lateral, or lower ſhoot, that will not extend beyond the limits intended.

Though, as good ſhoots alſo often occur on the larger, old, principal branches, frequently on the lower parts, where the ſaid branches do not admit or require being cut away, and that where proper young ſhoots are well-placed thereon, in parts of the tree in which they may appear neceſſary, either to ſupply a vacancy, for ſucceſſion bearers, or new wood for an encreaſe of young branches, they ſhould be retained in all parts where they can be admitted or trained in with regularity, between the ſaid branches, to have all parts of the trees furniſhed with young wood, advancing in the bottom, middle, and upper expanſion, in a regular progreſſion.

But

But obſerve likewiſe in this pruning, that where caſual, long-extended, old naked branches occur, not furniſhed with proper young wood, adapted either for immediate bearers, or for furniſhing ſuch hereafter; or that any old, naked branches are ſuper-abundant, or very irregular, or of a bad habit of growth, this is now the proper time to make the neceſſary regulation, by cutting out ſuch unſerviceable old wood, either ſome to their origin, if it ſeems expedient, and there is contiguous young wood to ſupply their places, where required; or otherwiſe, pruned down, more or leſs, either to ſome good, ſtrong lateral ſhoots, that are eligibly ſituated thereon, or to any convenient, younger mother branch, or former bearer, proceeding from the lower parts of the old, and is furniſhed with one, or more, proper ſhoots, for bearing; and hereby have young wood in conſtant ſupplies, in all parts of the trees, advancing, in regular order, quite from the bottom and middle, to the extremities at top and ſides.

It is material, in performing this pruning, generally to leave, or contrive, in cutting, to have a good young ſhoot to terminate the extreme part of the general branches, one to each, either ſuch as is naturally ſituated at or near the extremity, or when none of eligible growth is thus naturally placed, and that, when occaſion to cut away ſome unſerviceable or extended parts of the branches, they ſhould be pruned down to a proper ſhoot, to become a terminal or leader to the branch, not, where it can be avoided, to ſhorten any branch ſo as to terminate in a naked ſtump in the old wood, but generally to have a terminal ſhoot, as above, leaving principally but one, as a leader to each branch; for a leading or terminal ſhoot is eſſentially neceſſary, both in being conformable to the ways of nature, and to the good appearance and regular growth of the trees, as well as being of much advantage in drawing proper nouriſhment to the fruit in its advancing growth.

Obſerve further, in this general pruning, that, in cutting out the ſuper-abundant and improper ſhoots, and retaining the proper ſupply, and that when neceſſary to leave two or more ſhoots on particular parent branches, or former bearers, it is adviſeable, where convenient, to have them on oppoſite ſides, in alternate order, at ſome eligible diſtance, one above the other; though, as this may not always be practicable, and that ſometimes the ſhoots proper to retain, will happen both, or all on one ſide, in which it is not very material, only by being on different ſides of the branch, as above, they generally admit of being trained with greater regularity to the wall, conformable to the requiſite, regular diſplay of the general expanſion.

As you proceed in the general regulation, agreeable to the foregoing obſervations, in cutting out the unneceſſary and improper wood, and retaining the neceſſary ſupplies of the beſt young ſhoots of laſt ſummer, it is proper now, in the winter-pruning, as before obſerved, to ſhorten moſt of the ſaid ſhoots moderately, that by cutting off the weak, infirm, top part, they may more effectually furniſh ſupplies of young wood the enſuing year, properly ſituated for ſucceſſion bearers the year after, as formerly explained, generally performing the ſhortening as you advance in the general pruning, cutting the middling ſhoots about one third, the ſtronger ones nearly the ſame, in proportion to their length; and the moderate or ſmall ſhoots may occaſionally be cut a little more than thoſe of ſtronger growth; and generally obſerve, that in ſtrong-ſhooting trees it is proper to leave the ſhoots longer than thoſe of a more moderate or weakly ſtate, or generally cut below the weak, ſappy, upper part, or autumnal production.

But in the general ſhortening it muſt be remarked, that where you prune principally for fruit, be careful, in ſhortening, not to cut below all the bloſſom-buds, where they appear, or are expected to advance, diſcoverable, by their round, turgid, or ſwelling appearance; the wood-buds being oblong and thin; and ſhould generally perform the ſhortening with a ſloping-cut upward, juſt behind, and a little above a ſhoot-bud, to furniſh a terminal ſhoot, for a leader, next ſummer, to draw the nouriſhment to the fruit more effectually in its advancing growth.

Or, in ſhortening in particular trees, where neceſſary to prune ſome ſhoots principally to furniſh wood to ſupply vacant parts, they may be cut ſhorter than adviſed above in the general ſhoots, which are deſigned for bearers; and, on which occaſion, ſome may be cut to one half, or from five or ſix, to eight, ten, or twelve inches, according to their ſtrength, cutting the ſmaller or moderate ſhoots ſhorter, in proportion, than the ſtronger ones, in the particular parts of the tree, where it may ſeem neceſſary, whereby to have them more effectually produce the deſired ſupply of lateral ſhoots the enſuing ſummer, to furniſh the vacancies; or ſometimes ſmall ſhoots on the lower parts of the old branches, where additional ſupplies of new wood may appear requiſite, may be cut to two, three, or four eyes, that they may furniſh two or more ſhoots of ſtronger growth, to train in between the mother branches, either to ſerve preſent occaſions, or as a reſerve to be ready to ſupply the places of caſual, decayed, or any worn-out, or old, unſerviceable wood hereafter; and thus may always have young branches advancing between the old ready, quite from the bottom, middle, &c. both for preſent bearers, and to furniſh others in proper ſucceſſion in all parts of the trees, advancing in regular gradation.

It muſt likewiſe be obſerved in the winter-pruning, that where any trees are of conſiderable, luxuriant growth, having generally ſtrong, vigorous ſhoots, running

running greatly to rank wood, and not producing any tolerable crops of fruit, the ſhoots ſhould be left cloſer, or in greater abundance, and ſhould moſtly be, but very moderately ſhortened, or ſome of the moſt luxuriant not ſhortened at all; or others, leſs vigorous, cut only about one fourth, or leſs, or ſome only juſt topped, or the ſmall, upper part pruned only a few inches; and thus, in general, cut the retained ſhoots very little, or the ſtrongeſt left moſtly intire; as, in ſuch vigorous trees, if much ſhortened, they would ſhoot with greater luxuriance to rank wood, and not become fruitful; but, in which, leaving the ſelect ſhoots more abundant than in moderate ſhooting trees, and theſe but little ſhortened, agreeable to the above intimations, the redundant nouriſhment will thereby be more divided and expended amongſt a greater expanſion and extent of branches than in a ſmaller number and leſs extenſion of wood; and nailing all the ſhoots as much horizontally as poſſible, which alſo contributes, in ſome degree, in checking the luxuriancy, the trees, by theſe means, will be reduced, by degrees, to a moderate ſtate, productive of fruitful ſhoots adapted for general bearing.

Likewiſe, in this pruning, if any trees as are generally of moderate growth, have produced caſual, very rank ſhoots, conſiderably more vigorous than the generality of the others of the ſame tree, they ſhould moſtly be cut out cloſe, that they may not exhauſt, or draw the nouriſhment too much from the adjacent, moderate ſhoots; except any are produced in or near ſome vacant ſpace, or upon the lower parts of old branches, where a future ſupply of young wood will be apparently wanted, ſome may be retained ſingly, and pruned down, more or leſs, to furniſh ſeveral collaterals next ſummer, which, ſeparately, may prove of a more moderate, kindly ſtate.

Though, where any tree of a generally ſtrong growth, inclines rather to commence a vigorous habit of ſhooting, and that ſome ſhoots occur that are conſiderably more luxuriant than the reſt, one or more might be retained in different parts, to carry off part of the exhuberancy of ſap from the others, to prevent, as much as poſſible, too great luxuriancy taking place in the general expanſion; and, likewiſe, to aſſiſt further in preventing the production of rank wood, it is adviſeable, in retaining the requiſite ſupply of proper ſhoots, to leave them cloſer, or more abundant than in trees of moderate growth, and the ſhoots in general but moderately ſhortened, and theſe trained down as much horizontally, as room admits, in which they generally ſhoot leſs vigorous than in a more upright poſition.

Or, in winter-pruning ſuch trees as aſſume a weakly ſtate, either ſhooting reluctantly, or producing moſtly ſmall, weak ſhoots, it is eligible to cut out moſt of the ſmaller, infirm twigs, and retain principally only the ſtrongeſt ſhoots for the general ſupply; and that to promote their furniſhing a production of ſtronger wood, they ſhould be ſhortened more than in trees of a free growth; or ſome, in the moſt vacant parts, may be cut to one half, or others, a little more or leſs, according to their ſtrength and reſpective ſituations, or as ſupplies of future wood may be required in particular parts of the trees; giving proper attention to keep the lower and middle parts ſupplied as well as poſſible; where, in vacancies, or where room to train between the mother branches, cut particular ſhoots to a few eyes, to obtain ſome collaterals of ſtronger growth, next ſummer.

In the general winter-pruning, it being moſtly adviſed, in cutting out the ſuper-abundant ſhoots, to prune them cloſe to the old wood, yet, in ſome caſes, it may be proper, in particular parts below, and the middle, &c. in ſuch as are produced on the ſides of the larger, parent branches, or in places where future ſupplies of young wood may be the moſt apparently wanted, ſome of the ſmaller ſhoots, thus placed in different parts, lower and higher, &c. may be pruned to one, two, or three eyes, to furniſh one or more laterals next ſummer, in caſe they ſhould be wanted, and trained up between the principal branches, till winter-pruning; and if not then required, may be cut away, or ſome retained as a reſerve, ready to ſupply any unforeſeen vacancy; and by this means may have all parts of the trees always furniſhed with young wood, both for preſent bearing and future emergencies.

For in theſe wall-trees, as obſerved of the Peaches and Nectarines, ſhould give good attention always to have a general ſupply of young wood in all parts of the trees, quite from the bottom and middle, to the upper expanſion, advancing in regular gradation, as it were, one under or after another, at proper, moderate diſtances; and always keep the lower and vacant parts well furniſhed with requiſite ſupplies of proper ſhoots, by the means explained in the general prunings; and thus the trees, even when advanced to a great age, may be continued every where abundantly fruitful.

And it may be obſerved of old Apricot wall-trees, when well managed, as above, they are particularly valuable, in being generally more prolific than younger, and the fruit attains greater perfection in richneſs of flavour, and therefore ſhould give particular attention to encourage their growth, by preſerving proper ſupplies of young wood; and as decayed, or worn-out, old branches occur, having young ready to ſupply their place, ſhould be cut out, now, in the winter-pruning, either to the origin, or to ſome lower, fruitful branch, or good ſhoot eligibly ſituated; and thus keep all parts well furniſhed with bearing wood, by the

methods explained in the foregoing general directions, both in the winter and ſummer-prunings; continuing the general branches extended in a full expanſion, as far as their allotted bounds admit, and they will remain abundantly fruitful, in a ſuperior degree of perfection, to a conſiderable old age.

Young Apricot wall-trees, that are ſtill in training, requiring additional ſupplies of principal branches to form the requiſite expanſion, ſhould, now, in the winter-pruning, be carefully managed, to retain the well-placed ſhoots where required, and to prune out the improper, giving good attention to preſerve a proper ſupply of the beſt ſide and terminal ſhoots, both in the lower and advanced parts, where an encreaſe of branches is wanted, both to multiply the expanſion, and to extend the others in length, as well as for bearing wood; keeping the middle well ſupplied, and both ſides as equal as poſſible, both in the number, ſtrength, and length of the branches and ſhoots; and from which cut out the irregular and ſuperfluous, if any, with ill-growing fore-right and other ill-placed ſhoots; and if any ſingularly ſtrong luxuriants occur, which apparently, by their vigorous growth, would draw the nouriſhment from the reſt, they ſhould be cut out cloſe, eſpecially where on one ſide of the tree and not on the other, that both ſides and all parts may advance equally in ſtrength; or if any are in a vacant bottom or middle parts, it may be occaſionally retained and pruned down, to furniſh two, three, or more laterals to ſupply the vacancies.

Thus far concludes the principal obſervations and directions relative to the winter-pruning of the wall Apricots, next follows ſome intimations for nailing the trees to the wall.

According as you advance in the general winter-pruning, or as ſoon as each tree is pruned, it is generally adviſeable to have it nailed directly as you proceed, obſerving in this buſineſs, that the ſhoots and branches ſhould be arranged, more or leſs, horizontally to the wall, in proportion to their general expanſion and extent, and as the reſpective ſpace of walling, &c. admits, as obſerved for the Peaches and Nectarines; and, being furniſhed with proper wall nails and cloth ſhreds, cut about half an inch broad, and two to three inches long, arrange the branches ſtraight and regular, at equal diſtances, four or five inches aſunder, proceeding with the lower branches firſt, then with the others regularly upward, extending them equally on both ſides to the right and left, and nailed ſtraight and cloſe to the wall; obſerving if any ſhoots, &c. were left too cloſe in pruning, they, in the nailing, ſhould be cut out, the moſt irregular and inferior, that the others may be trained with proper regularity.

Where any Apricots are in eſpaliers, they ſhould have the ſame care in regard to pruning, &c. as adviſed for thoſe in wall-trees, both in the ſummer and winter-pruning; and the branches alſo ranged and trained to the eſpalier in the ſame order, either by nailing ſome of them to the principal rails, or others tied thereto, or to the ſmaller croſs bars, with oſier twigs, or occaſionally with old ſhip rope yarn.

That as the Apricot Trees, as obſerved of the Peaches and Nectarines, generally begin to bloſſom early in the ſpring, when ſharp froſts and cold cutting blaſts ſometimes prevail, and that the bloſſom and the fruit in embrio, and during its young ſtate, is tender and liable to be deſtroyed by froſt, it would be of much advantage to afford them ſome occaſional protection, eſpecially in trees of the moſt eſteemed principal ſorts, by covering them with large garden mats, when inclement weather, as above, and which care is neceſſary principally in March and April, when the bloſſoms expand, and the fruit ſetting, as well as during its infant growth, until the middle or end of April, if cutting weather happens at that ſeaſon, but particularly when froſts prevail; in which, nail up large mats againſt the trees in the evening, to continue till after ſun-riſing, or till nine or ten o'clock in the morning, or all day, if cutting froſt and no ſun; but when warm, ſunny, or in all mild, open weather, take off the covering; or ſome trees might be defended with cuttings of the ſmall branches of ever-greens, as laurel, yew, fir, &c. being furniſhed with the leaves, and ſticking them between the branches in a ſpreading manner, to cover the bloſſom and young fruit as well as poſſible; and to remain conſtantly night and day, they will break off part of the cutting effects of the froſt; or, in the ſame manner, may occaſionally uſe cuttings of the branches of dried fern; likewiſe, old fiſhing nets are alſo ſometimes ſuſpended before the trees, to remain conſtantly, as intimated of the ever-greens and fern.

And thus theſe different protections ſhould be continued until the fruit is well ſet, and encreaſed a little in ſize to that of large peas, or middling, green gooſeberries; afterwards, about the middle or end of April, or according as the ſeaſon proves more or leſs favourable, all the covering ſhould be entirely removed away, to admit the free air, ſun, &c. fully to the fruit.

Then, about the end of April, or in May, and beginning of June, if the fruit is ſet conſiderably thick, or in cluſters, it ſhould be gradually thinned, as adviſed in the ſummer management of the trees, leaving a ſufficient abundance of the fineſt fruit to attain maturity.

The

The further care of the fruit, in its advanced growth, is explained in the ſummer culture of the trees; it attains maturely for gathering in July and Auguſt.

Standard Apricot Trees planted detached from walls, in warm ſituations, in the open ground, often produce plentiful crops of fine fruit that ripen in good perfection; and as to their management, they having full ſcope in the head to branch out freely every way, like other ſtandard-trees, they only need occaſional pruning, not regularly every year, as is neceſſary for thoſe in wall and eſpalier-trees, but only to cut out caſual, diſorderly branches, or to thin others where conſiderably crouded, or ſometimes to reduce any of long, rambling growth, and to cut out decayed wood; and which occaſional pruning ſhould generally be done in the winter ſeaſon, or early in the ſpring.

Early Apricots are obtained by means of hot or fire walls, or forcing-houſes, by having bearing-trees planted therein, and forwarded by aſſiſtance of fire heat, communicated by flues extended within the forcing apartments along next the front and back parts, and ſometimes alſo by bark-bed heat, in a capacious pit within; and by either or both of which methods of artificial heat, the forcing is generally commenced about the end of January, or beginning or middle of February, continued till May, when, and beginning of June, early ripe Apricots are obtained.

The trees, for this occaſion, ſhould be previouſly raiſed to a bearing ſtate, againſt walls, &c. in the open ground; or ſome alſo in pots, that they may be more conveniently tranſplanted with the ball of earth about their roots, intire for immediate forcing; and, in either method, the trees ſhould be planted in the autumn, in the borders within the forcing-houſe, and the branches trained to a trellis of wood work; and afterwards managed, in regard to the forcing and other particulars, the ſame as explained for forcing early Peaches and Nectarines, under the article *Amygdalus*.

Of the LAURELS.

The LAURELS, agreeable to the Linnæan ſyſtem of botany, being conſidered as ſpecies of the *Prunus*, conformable to the *characters* of their flowers and fruit, we have retained them accordingly, as ſpecies of that Genus, arranged and deſcribed each in its proper place, among the other ſpecies thereof; and under this head is explained their general uſes and culture.

The two ſpecies of Laurels are fine ever-greens, of the firſt eſtimation for ornamental planting in ſhrubberies and other plantations, in pleaſure-grounds, being of the large ſhrub, or ſmall or moderate tree kind, moſt beautiful in their continuing ſhining foliage, at all ſeaſons; large, thick, and ſplendent in the common Laurel, ſmaller in the Portugal ſort, and generally doubling a little; and both of which ſpecies are moſt deſirable ever-greens, to plant both in aſſemblage with others of that tribe, in clumps and running plantations; and alſo to admit in thoſe of deciduous, ornamental trees and ſhrubs; and alſo to plant ſingly in detached ſtandards, in lawns, plats, borders, &c.

The Common Laurel particularly, is a ſuperbly-noble ever-green, of ſtrong growth, and large, elegant leaves, of ſingular beauty; and the tree is hardy to grow freely in any common ſoil and ſituation, both in open expoſures, and under ſhade of trees, &c. or where required; deſirable to admit as a principal firſt-rate ever-green in all ſhrubbery compartments, and to form Laurel clumps and plantations wholly of that kind, which, in pleaſure-grounds, parks, &c. has a fine effect; and is alſo peculiarly adapted to plant cloſe for blind, or to cover or hide any diſagreeable object, or naked, unſightly walls, palings, ditches, &c. in gardens, or where thought eligible, as it will grow any where; it was alſo formerly trained for ornamental garden-hedges; though, in giving the neceſſary annual clipping, the ſhears, by cutting the large leaves, occaſions them to appear unſightly, and ſometimes, in hot, dry weather, make them aſſume a ruſty hue in the cut-parts; but when, inſtead of clipping with ſhears, the projecting ſhoots are pruned in with a knife, without mangling the leaves, but preſerved whole, the hedge will then continue beautiful at all ſeaſons of the year.

The Portugal Laurel being likewiſe a handſome ever-green, growing with a large, full, buſhy head, is eminently adapted for adorning principal ſhrubberies, &c. and to plant ſingly in detached ſtandard ſhrubs, in borders, plats, lawns, or other conſpicuous compartments, for ornament.

They may be obtained, in proper growth, for planting, at all the public nurſeries, in plants two or three, to four or five feet high, and planted principally in the autumn or ſpring; or may be raiſed plentifully by the following methods.

Both theſe ſpecies of Laurel are raiſed from ſeed, cuttings, and layers; but as they grow very freely from cuttings of the young ſhoots in autumn, that method is commonly practiſed.

However, they may be occaſionally propagated by any of theſe ways; the ſeed ripens, in the berries, in autumn, and may either be ſowed in that ſeaſon, in September or October, &c. or in the ſpring, in light

earth, half an inch deep; and when the ſeedling-plants are of one or two year's growth, tranſplant them into nurſery-beds, &c. to acquire a proper ſize for the ſhrubbery; cuttings of the young ſhoots of the year, towards the latter end of Auguſt, and in September, or occaſionally in the ſpring, cut off about eight or ten, to twelve or fifteen inches long; or if cut off with an inch or two of the laſt year's wood, at the lower end, it will be ſome advantage to their ſtriking: preſerve the tops intire, diveſt them of the under leaves, and planted in a ſhady border, they will ſtrike freely, and be well rooted in one ſeaſon; and layers of the young wood, as above, in autumn or ſpring, will alſo be properly well rooted, to plant off in the autumn or ſpring following, in the nurſery.

And thus, by either of theſe methods, train the plants in the nurſery to a proper growth, either ſome branch quite from the bottom, or others pruned up a little below, and, in both of which, permitted to branch out above in full heads; and when advanced two or three, to four or five feet high, are of proper ſize for final tranſplanting.

The principal ſeaſon for removing or planting the Laurels, is, as adviſed for other ever-greens, either in autumn, from about the middle or latter end of September, to the end of October, or any time in November, in mild weather, or in the ſpring, from February to April, not very generally in the dead of winter, or only occaſionally, when ſettled, open weather prevails, or that the plants can be tranſplanted with good balls of earth about the roots, not to feel their removal; obſerving in the general tranſplanting, they may either be removed with ſmall balls of earth, where convenient, which would be of advantage in large plants particularly, and be alſo beneficial in thoſe of ſmaller growth; or may, likewiſe, be ſucceſsfully tranſplanted without balls, removing them carefully in their full ſpread of roots; and in either of which, plant them as ſoon as poſſible after removal out of the nurſery, &c. and watered, eſpecially if planted early in autumn, or late in the ſpring.

In their future growth in the ſhrubbery, &c. they may grow nearly in their natural order, or only give occaſional pruning to reduce caſual run-away, rude ſhoots; or if any are planted to cover walls, train the branches thereto at firſt in a ſpreading manner; and if in hedges, train them alſo in proper order, for that purpoſe; and in both of which laſt-mentioned methods, prune in the projecting ſhoots in ſummer or autumn, if required to have them grow cloſe and regular; or where this is not regarded, they may be permitted to run up in their natural growth.

PTELEA, SHRUB-TREFOIL.

Claſs and Order.

Tetrandria	Monogynia,
Four Males,	*One Female;*

Or Plants with Flowers (Herm.) having four Stamina and one Piſtillum.

COMPRISES one hardy, deciduous, flowering-ſhrub, of buſhy, moderate growth, adorned with trifoliate leaves; and ſmall, yellow flowers, of four petals, having four ſmall ſtamina or male genitals, and one piſtillum or female; ſucceeded by roundiſh pericarpiums, or ſeed-veſſels, containing obtuſe ſeeds, ripe in autumn; and by which, ſowed in that ſeaſon or ſpring, the ſhrub is propagated, and by layers and cuttings of the young ſhoots.

One Species.

PTELEA *trifoliata*, Trifoliate-leaved Ptelea, or Shrub-Trefoil.

A middling, deciduous ſhrub, of upright, buſhy growth, four or five, to ſix or eight feet high—the leaves *(middling-ſize, dark-green)* ternate, or compoſed of three folioles or lobes.—Native of Virginia. *(Any ſoil.)*

This ſhrub is cultivated in ſhrubbery collections, makes an agreeable variety in its buſhy growth and trifoliate leaves, and appears ornamental as a flowering ſhrub, continuing in flower a conſiderable time in autumn: may be obtained at the nurſeries, for planting in autumn or ſpring, or any time in open weather, from October till March or April.

It is propagated by ſeeds, layers, and cuttings, in the autumn or ſpring; and when the plants are raiſed to half a yard, or two feet growth, or more, are proper for the ſhrubbery.

PUNICA, POMEGRANATE TREE.

Claſs and Order.

Icoſandria	Monogynia,
Twenty, or more, Males,	*One Female;*

Or Plants with Flowers (Herm.) having twenty, or more, Stamina, or Male Fructifications, and one Piſtillum or Female.

THE PUNICA furniſhes two ſpecies, ſmall or middling tree, and dwarf ſhrubby kind, both of a tender

der nature, more particularly the latter, requiring protection of a green-houſe in winter; but the tree kind, common Pomegranate, is more hardy, admits of being planted in the open ground, in a warm ſituation, or againſt a ſouth wall; cultivated principally for variety and ornament, as a fine flowering-tree and for the beauty of its fruit; is a tree of moderate growth, very branchy and buſhy, adorned with narrow, ſpear-ſhape leaves; and very ornamental, ſcarlet, quinquepetalous flowers at the ends of the branches; having one-leaved, bell-ſhape, five-parted cups, coloured and permanent; five roundiſh expanded petals; twenty or more ſtamina, a roundiſh germen below, ſupporting a ſingle ſtyle; and the germen grows a large, globular fruit, of ſeveral internal cells, full of a ſucculent pulp, and many granulous ſeeds, good and delicious to eat; and by the ſeeds ſowed the tree may be raiſed; but is more generally propagated by layers of the young branches in the ſpring.

One hardieſt Species, viz.

PUNICA *Granatum*—(Granatum) or Pomegranate Tree.

Moderate, deciduous tree, fifteen to eighteen, or twenty feet high—a tree-like ſtem, very branchy from the bottom upward; the leaves (*narrow*,) ſpear-ſhape; and many elegant, red flowers, in bunches, at the ends of the branches and young ſhoots, in ſpring and early part of ſummer; ſucceeded by large, round fruit, ſometimes ripening, in tolerable perfection, againſt a ſouth wall; ſome kept in pots, to ſhelter in winter.—Native of Spain, Italy, and Mauritania. *(Rich ground and warm ſituation.)*

Varieties.—Common Pomegranate Tree, with ſingle flowers.
Double-flowered Pomegranate Tree.
Striped-flowered Pomegranate Tree.
Small-flowered Pomegranate Tree, with ſingle and double flowers.

This ſpecies, in the ſeveral varieties, are deſirable to plant for ornamental flowering-trees, allotting them a warm, defended ſituation, in the full ſun; and the common ſingle-flowered kind may alſo be planted both as a fruit-tree and for ornament, one, two, or three trees againſt a ſouth wall, and the branches trained thereto, regularly, in the wall-tree manner, in which they will both flower very ornamentally, and in favourable ſeaſons produce large, beautiful fruit, in ſome tolerable degree of maturity, in autumn; but in greater perfection, if the trees are protected with glaſs frames, in cold weather, in ſpring, &c. while flowering, and in wet, cold weather, in autumn, when the fruit is ripening; though, at beſt, they ſeldom ripen here with equal flavour, as in their native countries.

However, conſidered as ornamental flowering-trees, they merit culture in every curious collection, ſome planted againſt warm walls, or others trained in ſmall ſtandard-trees, in a buſhy growth, for adorning the ſhrubbery, and in both of which, their elegant ſcarlet flowers will make a beautiful appearance, more particularly the double-flowered kind, which are of ſingular beauty, continuing in ſucceſſion, two or three months.

All the varieties are propagated by layers of their young branches, in the autumn or ſpring, by ſlit layers, and will be well rooted, for planting off, by the autumn following, planting them in a warm ſituation, or trained as above; or ſome planted at once where they are to remain; or may alſo plant them in pots, ſingly, to move under ſhelter from froſt in winter.

When deſigned to plant any againſt a wall, to produce flowers and fruit, ſhould train the branches thereto four or five inches aſunder; and it ſhould be obſerved that as the tree produces the flowers, &c. at the ends of the branches or ſhoots of the ſame year, ſhould annually prune them, in the autumn or ſpring, cutting out the ſmall, weak twigs, of the former ſummers, reſerving the middling-ſtrong ſhoots; and thoſe ſhortened according to their ſtrength, that they may more effectually produce a proper ſupply of flowering-ſhoots; and when thus ſhortened train them to the wall, and in the following ſummer, when young ſhoots advance, prune off any as are of vigorous projecting growth, and retain the others for flowering, &c. and train them to the wall.

PYRUS, PEAR TREE, comprifing alſo the APPLE and QUINCE.

Claſs and Order.

Icoſandria — *Twenty or more Males,*
Pentagynia — *Five Females;*

Or Plants with Herm. Flowers, having twenty, or more, Stamina, or Males, and five Piſtillums, or Females.

THE PYRUS, conformable to the ſexual ſyſtem of botany, comprehends the Pear Tree as the principal or original of this Genus; and the *Malus*, or Apple Tree, and the *Cydonia*, or Quince, formerly conſidered as diſtinct Genera, are ranged as ſeparate ſpecies of the Pyrus family; which, conſiſting of four or five diſſerent ſpecies, furniſhing many varieties, are all of the deciduous tree kinds, moſt valuable fruit-trees, or ſome occaſionally for ornamental planting; but principally to plant abundantly as fruit-trees, in gardens and orchards, for their productions of fruit, of ſuperior value, as the

moſt generally uſeful and profitable, more particularly the Pears and Apples, in their very numerous varieties, but leſs abundant and valuable in the Quince; are trees of large, middling, and ſmall growth, in the different ſpecies; garniſhed, in ſummer, with ovate, ſpear-ſhape, and oblong leaves, of middling ſizes, and pentapetalous, roſaceous, white, and pale-reddiſh flowers, in umbellate bunches, and ſingly, produced from the ſides and ends of the branches, April and May; having monophyllous, or one-leaved, concave, five-lobed cups, five concave petals, twenty, or more, ſhort ſtamina; a roundiſh, central germen, ſupporting five ſtyles; and the germen grows a large, pyramidal, roundiſh, top-ſhape, and umbilical, fleſhy, eatable fruit; ripe in ſummer and autumn; furniſhed each with five oblong ſeeds, or kernels, by which, ſeparated from the fruit, and ſowed, the trees may be raiſed; not, however, for general propagation, as all the deſirable varieties are raiſed by grafting and budding, whereby to have the ſorts continued permanent, and ſooner commence good bearers; and ſome are alſo raiſed occaſionally by layers and cuttings, and ſome by ſuckers.

The principal characters of the Pyrus are—the flowers all hermaphrodite—have each a one-leaved, concave calyx, five-parted at the top—corolla, or flower, five roundiſh petals, concave, inſerted into the calyx—ſtamina, twenty, or more, awl-ſhape filaments, crowned by ſingle anthera—Piſtillum, a roundiſh germen, under the flower, ſupporting generally five ſtyles within, and terminated by ſingle ſtigmas; and the germen grows a pyramidal, roundiſh, and top-ſhape fruit, in the different varieties umbilicated at the top, and produced at the baſe, eſpecially the Pears and the Quinces, but not the Apples; and all of which have five internal membranous cells, containing each one ſmall oblong and pointed kernel, or ſeed.

This Genus conſiſting of five or ſix parent ſpecies, ſome of which furniſh numerous varieties, particularly the Pear and Apple, ſhall range the varieties under each reſpective ſpecies.

1. *Pear Kinds.*

1. Pyrus *communis*, Common Pear Tree.

A large, deciduous fruit-tree, twenty or thirty, to forty feet high, growing with upright and ſpreading branches, in the different varieties—the leaves *(middling and largiſh)* ovate-oblong, ſawed on the edges; and whitiſh flowers, in pedunculated or foot-ſtalked, corymbus bunches, in April and May; ſucceeded by the fruit, in June, &c. pyramidal, oblong, roundiſh, and top-ſhape, the different ſorts; ripening from July, to October and November.—Native of many parts of Europe. *(Loamy or any common ſoil.)*

Varieties of the Tree.—Common, cultivated, Pear Tree. *(Many varieties of the fruit, as hereafter.)*
Double-flowered Pear Tree.
Twice-flowering Pear Tree.
Stripe-leaved Pear Tree.

Varieties of the fruit.—Very numerous, conſiſting of ſummer, autumn, and winter Pears; the ſummer kinds, ripening, for eating, immediately off the trees, from the beginning or middle of July, to the end of Auguſt or beginning of September, and moſtly or principally for preſent uſe, as they do not keep long, ſome only a few days, others not above a week; the autumn kinds alſo, both ripen on the trees for immediate eating, in September and October, and ſome, after being gathered, will keep two, three, or four weeks, or more; and the winter Pears attain full growth in October, but do not generally acquire maturity for eating raw, until after being gathered, and lain in the fruitery rooms two, three, or four, to five or ſix weeks, in the different ſorts, and ſome two, three, or four months, as expreſſed below, in the different ſeaſons of ripening, annexed to the names of the reſpective varieties, both of the ſummer, autumn, and winter Pears: though of the winter Pears, ſeveral ſorts, although not of maturity for eating raw as ſoon as gathered, are proper for culinary occaſions, in baking, ſtewing, &c. and for making perry; and likewiſe ſome of the winter kinds are proper principally only for baking, &c. all which, as explained in the following regiſter of the names, &c. of the different ſorts; obſerving, that as moſt of the principal ſorts were originally obtained from France, many are ſtill known chiefly by the French names, and others by the Engliſh; they are here ranged accordingly, by the names by which they are the moſt generally known, with ſhort deſcriptions of the different varieties, and their times of ripening or maturity, viz.

Supreme, or little Muſk Pear—a ſmall, roundiſh, early fruit, ripening of a yellowiſh colour, and rich muſky flavour; *beginning and middle of July.*

Citron

Citron des Carmes, or Green Chiſſel Pear—a ſmalliſh, roundiſh, top-ſhape, early fruit, of a light green, or greeniſh-yellow colour; the fleſh melting, rich and juicy; *middle or end of July, and beginning of Auguſt.*

Red Muſcadelle Pear—a largiſh, beautiful, oblongiſh, early fruit; ripening of a yellow colour, ſtriped with red; the fleſh ſomewhat melting and rich flavoured; *middle or end of July.*

Little Muſcat Pear—a ſmall, roundiſh, oblong fruit, ripening yellow and muſky flavoured; *end of July and beginning of Auguſt.*

Primitive Pear—a ſmall, yellowiſh and red fruit; *middle and end of July.*

Jargonelle Pear, ſo called in England, but, from its ſhape, is more properly the *Cuiſſe Madame* (Lady's Thigh)—a large, long, pyramidal, early fruit, ripening of a ruſſetty-green colour, or of an irony tinge next the ſun; a moſt fine, ſummer Pear, the fleſh tender, breaking, rich and juicy, ſuperior to all other Pears of the ſeaſon; *beginning and middle of Auguſt.*

Cuiſſe Madame, ſo called, but is more properly the Jargonelle, as above; and is alſo very commonly called the Windſor Pear—a fine, large, oblong, pyramidal, early fruit, ripening of a yellowiſh-green colour, and ſometimes reddiſh on the ſide next the ſun; ſoft, rich, and juicy, if not too ripe, but ſoon becomes mealy taſted; the tree generally a great bearer; *middle of Auguſt.*

Windſor Pear, a variety of, and ſomewhat reſembling the laſt ſort; a large, oblongiſh, top-ſhape fruit, but ſhorter and more ſwelling towards the top than the Cuiſſe Madame, ripening of a yellowiſh-green colour; ſoft or tender, and tolerably juicy, but ſoon becomes mealy; *middle of Auguſt.*

Auguſt Muſcat or Averat Pear—a middling-ſize, roundiſh, flat fruit, of a whitiſh colour, breaking fleſh, rich, and juicy; a very fine ſummer Pear; *end of Auguſt and beginning of September.*

Orange Muſcat—a middle-ſize, ſhortiſh, globular fruit, yellowith, black ſpotted, muſky flavoured; *beginning and middle of Auguſt.*

Little Blanquette Pear—a middling or ſmaller, roundiſh fruit, greeniſh-yellow; tender juicy, and muſky; *middle of Auguſt.*

Long-Stalked Blanquette—a middle-ſize fruit, roundiſh-oblong; breaking and rich, ſugary; *middle or end of Auguſt.*

Red Orange Pear—a middling, roundiſh fruit, yellowiſh-green, and reddiſh-purple; melting, juicy, and perfumed; *end of Auguſt.*

Muſk Robine—a ſmalliſh, round, top-ſhape Pear, ripening yellowiſh; of a rich, muſky flavour; *middle or end of Auguſt.*

Early Ruſſelet Pear—a middle-ſize, oblong fruit, of a reddiſh-ruſſetty colour; melting and ſugary; *middle of Auguſt.*

Muſk Drone Pear—a middle-ſize, roundiſh fruit, ripening yellowiſh; melting and muſky; *end of Auguſt.*

Muſk Orange Pear—a large, roundiſh fruit, greeniſh-yellow, the fleſh melting; *end of Auguſt.*

Perfumed Pear—a middle-ſize, roundiſh-turbinated fruit, deep-red, ſpotted with brown; melting and perfumed; *end of Auguſt.*

Roſe Pear, or Thorny Roſe—a large, ſhort, roundiſh fruit, yellowiſh-green, red next the ſun; *end of Auguſt.*

Autumn Ruſſelet Pear—a large, oblong fruit, of a brown colour, dark-red on the ſunny ſide; ſoft, tender, and good; *middle or end of September.*

Hamdens, or Summer Bergamot—a largiſh, round, flattened Pear, yellowiſh-green; melting, and rich perfumed; *middle of September.*

Caſſolette Pear—a middling-ſize, longiſh fruit, aſh-coloured, or whitiſh; melting, juicy and perfumed; *end of Auguſt.*

Onion Pear—middle-ſize, roundiſh fruit, browniſh and purple; melting and good; *end of Auguſt.*

Princes Pear—a ſmall, roundiſh, bright-red and yellowiſh fruit; melting and high flavoured; *middle to the end of September.*

Pear Pouchet—a large, roundiſh, whitiſh-yellow Pear; ſoft, tender, and ſugary; *end of Auguſt.*

Summer Bonerétion, (Good Chriſtian)—a large, oblong Pear, beautifully reddened next the ſun, the other ſide whitiſh-green; tender, juicy, and perfumed; *beginning of September.*

Salviati Pear—a moderately-large, roundiſh, flat fruit, a little hollowed at both ends, red and yellow one ſide, the other whitiſh; ſoft and ſugary; *beginning of September.*

Roſe-

Roſe-water Pear—a large, round fruit, hollowed at the baſe, roughiſh, and of a brown colour; breaking and ſugary; *middle of September.*

Great Mouth-water Pear—a large, round, ſmooth, green fruit; melting and very juicy; *middle of September.*

Autumn Bergamot—a middle-ſize, roundiſh fruit, yelloviſh-green, reddiſh next the ſun; juicy and rich; *middle or end of September.*

Swiſs Bergamot—a middle-ſize, roundiſh Pear, greeniſh, ſtriped with red; melting, rich-juicy; *beginning of October.*

Deans Pear, or White Autumn Beurre—a large, fine, roundiſh-turbinated fruit, ſmooth and yelloviſh; melting and very juicy; *beginning of October.*

Red Beurre Pear—a large, oblongiſh-top-ſhape fruit, reddiſh-brown colour; ſoft, melting fleſh, moſt juicy and rich; *beginning of October.*

Brown Beurre—a large, oblongiſh, brown-iſh-green Pear; rich and very fine; *beginning of October.*

Green Beurre—a large, greeniſh Pear; moſt rich and juicy; *beginning of October.*

Autumn Verte Longue, or Long Green Pear of Autumn—a largiſh, long, green fruit; the fleſh melting, very juicy and ſugary; *middle of October to December, &c.*

Muſcat Fleuri, or Long-ſtalked Autumn Muſcat—a middle-ſize, roundiſh, very fine Pear, ruſſetty, or darkiſh-red; tender fleſh, juicy and moſt rich flavoured; *middle and end of October.*

Meſſire Jean, or Monſieur John Pear—a largiſh, or middle-ſize, roundiſh-turbinated fruit, with a rough, brown ſkin; the fleſh breaking, full of a rich, ſugary juice; *middle or end of October and November.*

Swan Egg Pear—moderately large, roundiſh-turbinate, gradually ſwelling in the middle, generally of a greeniſh-yellow, on one ſide a little purpliſh; moſt juicy and delicious; *October and November.*

Poire Pendar, or Knaves Pear—largiſh-oblong, whitiſh-green fruit; tender, with a ſugary juice; *end of October.*

Rouffeline Pear, or Late Long-ſtalked Autumn Muſcat—a middle-ſize, oblong, ſmooth fruit, greeniſh-yellow, and deep-red next the ſun; very tender fleſh, ſugary and perfumed flavour; *middle to the end of October.*

Green Sugar Pear—middle-ſize, oblong-pyramidal fruit, ſmooth green; buttery, ſweet, and rich-flavoured; *end of October.*

La Beſideri, or wilding Pear—middle-ſize, globoſe, or round fruit, whitiſh-yellow; better for baking, &c. than eating raw; *end of October or November, &c.*

Craſſane Pear, or Bergamot Craſſane—a middle-ſize, roundiſh-flat Pear, umbilicated, or hollowed at the crown and bottom, ripening of a greeniſh-yellow, and ruſſetty; very tender, buttery, and moſt rich flavoured; *end of October to the end of November or December.*

La Marquiſe, or Marquis Pear—large, oblong-roundiſh, flat at top, greeniſh-yellow, reddiſh next the ſun; tender, ſugary, and delicately-rich flavoured; *beginning of November to December, &c.*

Dauphine Pear—middling-ſize, roundiſh-turbinated, flat at top, of a yelloviſh colour; tender, rich, ſugary, and moſt excellent; *end of November, &c.*

Martin Sec, or Dry Martin Pear—largiſh-oblong, deep-ruſſet on one ſide, the other reddiſh; rich, ſugary, and fine; *end of November, &c.*

Colmar, or Manna Pear—large oblong, the middle ſwelling, and the head flat, deeply hollowed, greeniſh-yellow, or yellow-ſpotted; very tender, and ſugary juiced; *December to January or February.*

Virgouleuſe—a moſt fine, large, long Pear, of a greeniſh-yellow, the fleſh melting and delicately-rich and juicy—*December to the end of January, &c.*

Winter Verte Longue, (Long Green Pear of Winter)—large, roundiſh-long, and citron-ſhape, ſmooth and green, ripening ſomewhat yelloviſh; melting, buttery, and rich; *end of December.*

Amadot Pear—middle-ſize, oblong-turbinate, or top-ſhape, roughiſh, ruſſetty-coloured, fleſh dryiſh, muſky-flavoured; *December and January.*

Chat-brulé, (Burnt Cat)—ſmall, oblong, whitiſh and ruſſetty-brown; *beginning of November, &c.*

St. Germain Pear—a large, long, very fine winter Pear, ripening of a yelloviſh-green; melting, moſt juicy and ſweet, and is of much eſtimation; *December till February or March.*

Epine d'Hyver, or Winter Thorn—large, long-pyramidal ſhape, ſmooth, whitiſh-green, or ripening ſomewhat yelloviſh; a fine eating winter Pear, melting, buttery,

tery, ſweet and high-flavoured *December till March.*

Poire d'Ambrette, or Ambret Pear—large, roundiſh, and ruſſet-coloured; ſweet, and muſky-perfumed; *December to the end of January or February.*

Louiſbon, or Good Lewis—a large, long Pear, ſmooth, greeniſh-white, the fleſh very tender and ſweet—*December, January, &c.*

Winter Boncrêtion—a moſt large, long-pyramidal Pear, often irregular, or knobby, generally of a yellowiſh colour, ſometimes a little reddiſh next the ſun; the fleſh breaking and tender, juicy and rich, and is a moſt noted and much-eſteemed winter Pear; *January, February, and March, to April or May.*

Marveille d'Hyver, or Wonder of Winter—middle-ſize, roundiſh-oblong, green, ſomewhat ſpotted; very rich and fine; *December and January.*

Beſi de Chaumontelle—large, oblong, very fine winter Pear, whitiſh-green, and purpliſh next the ſun; melting, rich, and delicious; *November to January, &c.*

St. Martial Pear—large oblong, ſmooth, yellowiſh and purpliſh; melting, juicy, and ſweet; *January, February, March, &c.*

Winter Ruſſelet—a middle-ſize, oblong Pear, greeniſh-yellow, inclining to brown; melting and very juicy; *January, February, &c.*

Great Orange Pear—large round, of a whitiſh-yellow colour, the fleſh breaking and tolerably good; *end of November and December.*

Martin-Sire, or Lord Martin Pear—large, oblong-turbinated, unequal, or on one ſide ſwelling in the middle, ſmooth, purpliſh and yellow; melting, juicy, and rich-flavoured; *December, January, &c.*

Eaſter Bergamot—large roundiſh-oblong, or top-ſhape, greeniſh-yellow, adſperſed with many rough protuberant ſpots; breaking, and ſweet juiced; *February, March, April, &c.*

Spaniſh Boncrêtion—a large, handſome, pyramidal Pear, one ſide purple or red, with many black ſpots, the other ſide yellow, the fleſh breaking and rich; *December and January.*

Small Winter Beurre—a ſmall oblongiſh Pear, yellowiſh, ſpotted with red; melting, rich-juicy; *December and January.*

Eaſter St. Germain Pear—moderately-large, long, and greeniſh; melting and rich-flavoured; *February, March, or April.*

Holland Bergamot—a large, roundiſh, greeniſh Pear; tender, juicy, and high-flavoured; *keeps good till March or April.*

German Muſcat—middle-ſize, oblong-roundiſh, ruſſetty and red; melting, buttery, and muſky-flavoured; *March, April, till May.*

St. Auſtin Pear—middling-large, oblongiſh, of a citron-yellow colour, ſpotted with red; tender, and moderately juicy; *December till January or February.*

Golden End of Winter—large, roundiſh, or almoſt globular, yellow ſpotted with red; *January till March.*

Winter Citron Pear—moderately large, roundiſh citron, or orange-ſhape, and of a yellow colour; the fleſh rather dry, but good for baking; *December to March.*

Pound Pear, Black Pear of Worceſter, or Parkinſon's Warden—very large, oblong-turbinate, roughiſh, of a darkiſh, obſcure red, on one ſide, the other greeniſh; hard and auſtere; principally for baking, ſtewing, &c. *November to March.*

Union Pear, or Uvedale's St. Germain—very large, long-pyramidal ſhape, moſtly deep-green, or ſometimes reddiſh next the ſun; the fleſh hard, but excellent for baking, &c. *November to April.*

Cadilac Pear—large, roundiſh-turbinate, moſt part yellowiſh, and reddiſh next the ſun; the fleſh hard and juicy, but rather auſtere; generally eſteemed for baking, ſtewing, &c. *November to March or April.*

Double-flowered Pear—large, ſhort, and roundiſh, ſmooth, and yellowiſh, and purple-red on the ſide next the ſun; the fleſh rather hard, better for baking than eating raw; *December to April or May.*

The foregoing being ſhort deſcriptions of the principal varieties of Pears, the following conſiſts both of ſummer, autumn, and winter kinds, as in the foregoing liſt, are alſo moſtly good ſorts; ſhall mention their generally-known names and times of ripening.

Katherine Pear; *end of July and beginning of Auguſt.*

Orange Bergamot; *September.*

Lemon Pear; *September.*

St. James's Pear; *September.*

Lord Cheyne's Pear; *September.*

Red Admirable; *September and October.*

Crawford

Crawford Pear; *September and October.*
French Bergamot; *October.*
Brocas's Bergamot; *October.*
Auchen Pear; *October.*
Grey Good Wife; *October.*
Ganfil's Bergamot; *October.*
Pear Piper; *September and October.*
Scotch Bergamot; *September and October.*
Trumpet Pear; *September and October.*
Vicar Pear; *September and October.*
Echaffery; *November, December, &c.*
Carliſle Pear; *October.*
Chatea du Roi Bergamot; *October.*
Blood Pear; *October, November, December, &c.*
Carmeli e Pear; *October, November, December, &c.*
Winter Bergamot; *October, November, December, &c.*
Seven-elbowed Portugal Pear; *October, November, December, &c.*
Terling Pear; *October, November, December, &c.*
Beurre blanc; *October, &c.*
Beurre d'Ore; *October, &c.*

Of the different varieties of Pears, the following being very large, and ſome too hard and auſtere to eat, till improved by culinary preparations, in baking, ſtewing, &c.

Pound Pear, or Black Pear of Worceſter.
Cadilac.
Union, or Uvedale's St. Germain.
Double-flowered Pear.
Winter Citron.
Blood Pear.

Or may alſo bake or ſtew any other large ſorts, ſuch as

Winter Boncrêtion.
Spaniſh Boncrêtion.
Good Lewis.
Holland Bergamot.
Winter Thorn, &c.

Thus far concludes the general regiſter of the ſpecies and different varieties of Pears, eſpecially of the principal ſorts; as there are ſtill many more than is here enumerated, known in different parts of the kingdom by various names, peculiar to particular places; but as the foregoing liſt compriſes a large aſſortment of principal varieties, from which to make a collection, more or leſs, of good kinds for planting, it would be ſuperfluous to add a number of inferior ſorts, or of others, not ſo generally known, of good qualities.

The trees of all the varieties of Pears, are propagated by grafting and inoculating the reſpective ſorts upon any kind of Pear ſtocks, raiſed from ſeed or ſuckers; and upon Quince ſtocks to have trees of ſmaller or more moderate growth for walls, eſpaliers, and ſmall ſtandards; as more fully explained hereafter, under the article, *the General Culture of the Pears and Apples.*

2. *Apple Kinds.*

Conſiſting of three ſpecies, one of which is the Common Apple, (ſuppoſed originally the Crab) furniſhing many fine varieties of the fruit, attaining proper growth for eating and culinary uſes, cyder, &c. from June, July, and Auguſt, to the end of October; the ſummer kinds, attaining perfection before September, do not keep long, but the late ſorts keep good in winter, and ſome till next ſpring and ſummer; and of the other ſpecies, and ſome varieties of the Common Apple, are alſo proper to plant for ornament.

2. Pyrus *Malus—(Malus)* or Common Apple Tree.

A moderate, deciduous tree, fifteen or twenty, to twenty-five feet high, generally with a ſpreading, branchy head—the leaves *(middling)* ovate-oblong, and the edges ſawed; and umbellate bunches of reddiſh roſaceous flowers, ſeſſile, or cloſe-ſitting; ſucceeded by large, roundiſh, and oblong fruit, umbilicated at the top, and moſtly hollowed at the baſe.—Native of moſt parts of Europe. *(Loamy or any common ſoil.)*

Varieties of the Tree.—Common cultivated Apple Tree.—*(Many varieties of the fruit, as hereafter.)*
Double-flowered Apple Tree.
Wild Apple, or Crab, with ſmall, round, very ſour fruit.
Whitiſh-yellow-fruited Crab.
Purple-fruited Crab.
Stripe-leaved Crab.
Dwarf, or Paradiſe Apple—a ſmall, ſhrub-like tree, with very ſmall fruit.
Dutch Paradiſe Apple—larger and ſtronger.

Though of the above, the Crab and the Paradiſe Apples, are by ſome conſidered as diſtinct ſpecies, as they generally come the ſame from ſeed, and which ſorts, are principally uſed for ſtocks, upon which to graft or bud the different varieties of the cultivated Apples; the Crab ſtocks being proper for large trees, and the Paradiſe ſtocks to form ſmall or dwarf trees; and are likewiſe admitted in pleaſure-ground plantations, for variety.

Varieties

Varieties of the Fruit of the Cultivated Apple Tree.

These are numerous, attaining perfection for use immediately off the trees, from June or July, to September, &c. in the summer and autumn kinds, but do not keep long; and in the winter apples, acquiring full growth in October, some both for immediate eating, and which, and the other different varieties of that season, being gathered and housed, continue in perfection one, two, or three, to several months, in the different sorts; consisting of the following summer, autumn, and winter Apples—

Gennetting, or June-eating—a small, roundish, yellow and red fruit—for eating sometimes in the end of June and in July, when growing against a south wall, and on standards in August.

Codlin Apple, or Codlin—a middling, or largish oblong Apple, somewhat angled longitudinally, and of a greenish-yellow, or ripening to a yellowish and red colour; is generally the first Apple for principal use—June and July in young growth, and of full maturity in August.

Margarate Apple—a middle-size, roundish fruit, reddish next the sun, the other side whitish-green; *beginning of August.*

Dutch Codlin—large, oblong, fine Apple, much larger than the common Codlin, of a yellowish-green; excellent for culinary purposes; *August and September.*

Summer Pearmain—a largish, oblong, Apple, red-striped; *August and September.*

Summer Calville—largish, oblong Apple, whitish-yellow; *August and September.*

Summer Rambour—a large, fine Apple, red and yellowish-green-striped; *end of August and in September.*

Summer Pippin—a middle-size, roundish Apple, of a yellowish colour; *September and October.*

Red Autumn Calville—a large, oblongish Apple, of a beautiful red next the sun; good for eating, baking, &c. *September, October, &c.*

White Autumn Calville—largish, oblong, whitish-yellow Apple; *September and October.*

Red Winter Calville; *October, November, till March.*

None-Such—a middle-size, roundish, yellowish-green, and reddish Apple; *September, October, November. &c.*

Loan's Pearmain—middle size, oblong-ish, handsome Apple, beautifully red next the sun, the other side red-striped; *September, October, and November.*

Golden Rennet—a middle-size, roundish, oblong, beautiful, fine eating Apple, bright-red and yellowish; *September, or October, to March, or longer.*

Aromatic Pippin—a middle-size, roundish-oblong Apple, russetty-coloured next the sun, of a fine aromatic flavour; *October, November, &c.*

Holland Pippin—a fine, large, oblong-roundish Apple, of a greenish-yellow, good both for eating and culinary purposes; *October, November, till March.*

Golden Pippin—a small, roundish-oval, fine eating Apple, of a golden-yellow colour, &c. *October, November, till March or April.*

Pomme d'Anis, or Anise Apple—a middle-size, oblongish fruit, of a greyish-green; spicy-tasted, like anise-seeds; *September, October, &c.*

White, or French Rennet—a large, handsome, roundish fruit, of a whitish-green, becoming yellowish when ripe, good both as a desert Apple, and for kitchen uses; *October, November, to January.*

Violet Apple—moderately-large, roundish fruit, yellowish-green, with red stripes, of a sugary taste and violet flavour; *October, &c.*

Transparent Apple—a middle-size, roundish-oblong fruit, yellow-coloured, of a somewhat transparent nature, esteemed more for curiosity than eating; *September and October.*

Quince Apple—a smallish, oval-oblong fruit, quince-shaped, russet and yellowish; *September and October.*

White Coslin—a largish, or middle-size, roundish, white Apple; *September, October, &c.*

Kentish Pippin—a fine, large, oblong Apple, whitish-green, good both for eating baking, &c. *October, November, December, &c. to March.*

Scarlet Pearmain—a handsome, large, oblongish Apple, of a fine red colour, good for eating and kitchen uses; *September, October, November, &c.*

Golden Russet—a middle-size, roundish Apple, of a yellowish and russet colour; *September, October, November, &c.*

Autumn Russet—a large, roundish-oblong Apple, of a russetty-yellowish colour; *September, October, and November.*

Winter, or Hertfordshire Pearmain—a fine, moderately-large, oblongish Apple, red

on one ſide, the other yelloviſh-red-ſtriped; *October, November, December, &c.*

Royal Ruſſet—a large, moſt excellent Apple, roundiſh-oblong, broad at the baſe, wholly of a deep-ruſſet colour, ſometimes tinged with yellow, ſuperior for baking, boiling, and very good for eating raw; *October, November, to March or April.*

Embroidered Apple—a moderately-large, oblongiſh fruit, yelloviſh and broad red ſtripes; *October, November, December, &c.*

Grey Leadington Apple—a largiſh, handſome, oblong fruit, of a greyiſh-green colour, excellent both for eating, baking, boiling, &c, *October, November, &c.*

Pile's Ruſſet—a middle-ſize, roundiſh-oval fruit, ruſſet colour on one ſide, the other a darkiſh-green, of a ſharpiſh flavour; *October, and all winter and ſpring.*

Kentiſh Pippin—a large, fine, oblong Apple, of a yelloviſh-green colour; *October, November, till ſpring.*

Norfolk Beeffin—a middle-ſize, oblong, reddiſh Apple; *October, November, to January or February.*

Leathercoat Ruſſet—a ſmaller, middle-ſize, roundiſh apple, dark ruſſetty green, of a ſharply acid flavour; *November, and all winter and ſpring.*

Wheeler's Ruſſet—a good, middle-ſize, roundiſh Apple, ſomewhat flat, of a lightiſh ruſſet, and pale-yellow colour; *October, and all winter and ſpring.*

Stone Pippin—a middle-ſize, roundiſh, whitiſh, hard Apple, for long keeping; *October, all winter and ſpring, till May or June.*

Monſtrous Rennet—a very large, oblongiſh Apple, reddiſh on one ſide, the other ſide greeniſh; principally for baking, boiling, &c. *October, November, and December.*

Nonpareil—a moſt eſtimable eating Apple, ſmaller-middling-ſize, roundiſh and flat, of a ruſſetty-green colour; *October or November, or all winter and ſpring, till May.*

Large, Green Nonpareil—a larger, roundiſh Apple, of a brighter, ruſſet-green colour; *October and November, till ſpring.*

Royal Pearmain—large, fine, oblongiſh Apple, reddiſh and yellow; *October and November.*

Cour-pendu, or Hanging Body—an exceeding large, oblong Apple, with ſeveral longitudinal, riſing angles or ridges, and reddiſh on one ſide, the other a pale-colour; having a long, ſlender ſtalk, that the fruit is always in a pendulous, or hanging poſition; *October, November, &c.*

WhiteCour-pendu; *October, November, &c.*

Rennet Griſe—a middle-ſize, roundiſh-oblong Apple, of a deep greyiſh green, or one ſide tinged with yellow; *October and November.*

Pomme D'apis—a ſmalliſh, roundiſh Apple, bright-purple and yelloviſh-green, very beautiful, with a firm fleſh; *September, October, November, &c.*

Kirton, or Kirk-Town Pippin—a middle-ſize, roundiſh Apple, of a whitiſh-yellow colour; *October, November, and moſt part of winter.*

Kitchen Rennet—a fine, large, roundiſh-oblong Apple, of a yelloviſh colour; *October, November, &c.*

Winter-greening—a largiſh, roundiſh-oblong, green Apple, principally for kitchen purpoſes; *October, November, and moſt part of winter.*

Winter Rembourge—a large, fine Apple, yelloviſh-green, and red; *October, November, and great part of winter.*

Two-Year Apple—a ſmalliſh, roundiſh fruit, of a ruſſetty colour, hanging on the trees till the ſecond year; valued chiefly as a curioſity.

Fig Apple—ſo called, as ſuppoſed, like the fig, not to have any viſible, or conſpicuous, previous flower, or which is very ſmall and fugacious or quick-fading, ſoon dropping, before it is generally obſerved.

The above liſt compriſes the names and ſhort deſcriptions of the ſizes, ſhapes, colours, &c. of the principal varieties of apples; the following are alſo cultivated in different places, and many of them very good fruit, deſerving of culture where plenty of room to admit a large collection; ſhall juſt mention their names and times of perfection.

Summer Stubbard; *Auguſt and September.*
Summer Ruſſet; *Auguſt and September.*
Summer Queening; *Auguſt and September.*
Kentiſh Codlin; *Auguſt and September.*
Lemon Pippin; *September, October, &c.*
Virgin Apple; *September, October, &c.*
Newton Pippin; *October to January, February, &c.*
Pomme de Gelée; *October, &c.*
Pomme Pigeonette; *October, &c.*

John

John Apple; *October, and all winter, till May or June.*
Lawman's Apple; *October, and all winter, till May or June.*
Lord Hay's Golden Pippin; *October, &c.*
Spitfenberg Apple; *November, December, to April or May.*
Spencer's Pippin; *October, November, till ſpring.*
Cats Head; *(very large, roundiſh-oblong) October, November, till ſpring.*
Pipy Ruſſet; *October, November, till ſpring.*
Achlam Ruſſet; *October, November, &c.*
Margil Apple; *October, November, &c.*
Engliſh Rennet; *October, &c.*
Autumn Rennet; *September, &c.*
Barnard's Baking Apple; *October, November, December, &c.*
Glory of the Weſt Apple; *October, November, December, &c.*
Queen Charlotte Apple; *October, &c.*
French Pippin; *October, November, December, &c.*
Black Pippin; *October, November, December, &c.*
Salmon Apple; *October, November, December, &c.*
Kentiſh Wilding; *October, November, December, &c.*
Partridge Apple; *October, November, December, &c.*
Coſtard Apple; *October, November, December, &c.*
Norfolk Paradiſe; *October, November, December, &c.*
Gilliflower Apple; *October, November, December, &c.*
Pomme du Roi; *October, November, December, &c.*
Aromatic Ruſſet; *October, November, December, &c.*
American Apple; *October, September, &c.*
Drap d'or; *September and October.*
Spaniſh Rennet; *October, &c.*
Canada Rennet; *October, &c.*
Norfolk Storing; *October, November, December, &c.*

The following are eſteemed principally as cyder Apples, though any of the others of the autumn and winter kinds, where plentiful, may alſo be uſed for the ſame occaſion—

Red-ſtreak Apple; *October, November, &c.*
Devonſhire Royal Wilding; *October, November, &c.*
Gennet Moyle; *October, November, &c.*
Everlaſting Hanger; *October, November, December, &c.*
White-Scur; *October, November, December, &c.*
John Apple; *October, November, December, &c.*
Blackmoor Apple; *October, November, December, &c.*
Styre Apple; *October, November, December, &c.*
Herefordſhire Under-leaf; *October, November, December, &c.*
Wood-Cocks; *October, November, December, &c.*
Fox-Whelps, with ſeveral others, chiefly known in the cyder countries; *October, November, December, &c.*

Thus far finiſhes the general catalogue of the principal, or moſt generally known and eſteemed varieties of Apples; the trees of which are all propagated and continued the ſame, by grafting the different reſpective ſorts upon the ſtocks of any of the Apple kind, raiſed principally from the ſeed or kernels of the fruit; or ſome by ſuckers; raiſed to two, three, or four, to five, ſix, or ſeven feet high, for grafting them for ſtandard-trees, eſpaliers, &c. generally uſing Paradiſe or Codlin ſtocks to form ſmall or moderate trees; and on free ſtocks, as thoſe raiſed from the kernels of crabs, or any kind of Apples, indifferently, for common large trees, eſpecially full ſtandards; and all of which commence bearing in two, three, four, or five years after grafting; as explained in the article of their general culture.

Of the foregoing general liſt of the different varieties of cultivated Apples, ſhould allot a proper aſſortment of the beſt middling and ſmaller kinds, for eating, or deſert Apples; ſuch as ſome of the Gennetting and Margarate Apples, for early eating; with ſome of the other ſummer kinds to attain maturity in ſucceſſion; and for general eating Apples in autumn, winter, &c. have a more plentiful ſupply of the Pearmains, Golden Rennets, Golden Pippins, Holland Pippins, Aromatic Pippins, Nonpareils, ſome beſt Ruſſets, and ſome other principal ſorts; and for kitchen Apples, allot plenty of the common Codlins for the earlieſt, ſome Dutch and Kentiſh Codlins, large Rennets, Ruſſets, the Holland, and other large Pippins, Pearmains, &c. and where required for cyder, may either allot, principally, a collection of the varieties mentioned before, under the liſt of Cyder Apples; or any others of the autumn and winter kinds in the general liſt, where plentiful to ſpare from other occaſions, may alſo be employed for making cyder.

The following are other ſpecies of the Apple kind, and cultivated chiefly for variety and curioſity.

3. PYRUS *(Malus) coronaria*—Coronated odorous-flowering Wild Apple, commonly called Sweet-ſcented Virginia Crab.

A ſmaller tree, growing ten or twelve, to fifteen feet high—

high—the leaves *(middling)* oblong-ovate, ſawed-angulated, and umbels of ſweet-ſcented flowers, pedunculated or foot-ſtalked; ſucceeded by ſmall roundiſh Apples, ripe in September, &c.—Native of Virginia. *(Any common ſoil.)*

Varieties.—Common Deciduous Sweet-ſcented Crab.
Ever-green Sweet-ſcented Crab.

4. PYRUS *(Malus) baccata*—Berried-Fruited Apple, commonly called Siberian Crab.

A ſmall deciduous tree, five or ſix, to eight or ten feet high—the leaves *(ſmalliſh, light-green)* oblong and ſawed; and crouded peduncles of whitiſh flowers, ucceeded by very ſmall berry-like Apples, reddiſh and yellow; Auguſt and September.—Native of Siberia and America. *(Any common ſoil.)*

Variety.—Red American Crab—a very ſmall, roundiſh, berry-like, deep-red Apple, thickly crouded on the branches.

Theſe two laſt ſpecies and varieties of Apples, are cultivated principally for variety and curioſity, as before obſerved: the Sweet-ſcented Virginia Crab is introduced in ſhrubberies, &c. as a flowering-ſhrub, and ſometimes for its fruit, by way of variety, aforeſaid; and occaſionally uſed for ſtocks, on which to graft the other principal ſorts of Apples, in order to have them of moderate growth for eſpaliers and ſmall ſtandards; and the Siberian Crab is eligible to cultivate for its fruit, which both appear curious in its growth on the trees, and makes a pretty variety in a deſert; comes early in autumn, and is agreeably flavoured; and the trees being of ſmall growth, are cultivated in dwarf-ſtandards in borders and in pots; likewiſe occaſionally in eſpaliers and wall-trees, and is alſo ſometimes planted in ſhrubberies.

Theſe ſorts may be raiſed from ſeed; but in order to have them continued more permanent in their reſpective kinds, and to flower and bear ſooner, it is adviſeable to propagate them principally by graſting or inoculating them upon ſeedling-ſtocks of their own, or on the Paradiſe Apple, or Codlin; or may alſo be raiſed by layers and cuttings.

Quince Kinds, (CYDONIA.)

5. PYRUS *Cydonia*—(Cydonia) or Quince Tree.

A moderate or ſmall deciduous tree, growing twelve to fifteen or eighteen feet high, with very ſlender branches—the leaves *(middling)* ovate intire, ſomewhat downy, or hoary underneath; and roſaceous flowers produced ſingly at the ſides of the ſmaller branches; ſucceeded by large, roundiſh and oblong, yellow fruit; ripe in September and October.—Native of Auſtria, near the Danube, &c. *(Moiſt or any ſoil.)*

Varieties.—Apple-ſhape Quince; *September and October.*
Pear-ſhape Quince; *September and October.*
Portugal Quince—*large, roundiſh, and of ſuperior quality; September and October.*
Eatable Quince—*the pulp ſoft and eatable; September and October.*

Theſe fruit, when ripe, impart a ſtrong, fragrant odour, but moſtly hard and auſtere; uſeful principally for kitchen purpoſes, in baking, ſtewing, &c. and for making Marmalade and Quince Wine.

The Quince Trees are raiſed both by graſting and budding the deſired varieties upon their own or Pear ſtocks, and alſo by ſuckers, layers, and cuttings of the young ſhoots; but thoſe raiſed by graſting and budding will bear ſooner than the others; each method as hereafter explained.

Theſe trees are alſo in much eſtimation for ſtocks on which to graft and bud Pears, to form trees of moderate growth, eſpecially for walls and eſpaliers, and will generally bear ſooner than thoſe on free or Pear ſtocks.

Culture of the Pears and Apples.

The Pear and Apple Trees, in their numerous reſpective varieties, being not only ſpecies of the ſame Genus or family, but alſo ſimilar in their nature of growth, temperature, and mode of bearing, that one method of general culture is nearly applicable to the whole in their different ſtages of growth, ſhall, therefore, give the eſſential directions for their cultivation under one principal head, relative to the methods of propagation, raiſing, planting, pruning, training, &c. both for ſtandard-trees, eſpaliers, and wall-trees, with neceſſary diſtinctive intimations regarding the reſpective merits and other particulars relating to the trees and fruit, &c. of each of theſe two ſpecies; and as they are cultivated in ſtandard-trees, generally for principal planting, to furniſh the main ſupplies of fruit, and in eſpalier and wall-trees, aforeſaid, to obtain their reſpective fruits in a ſuperior degree of maturity, ſhall explain each method under its proper head.

The trees are raiſed or propagated by graſting and budding the deſired or intended ſorts upon ſtocks of their own kind; that is, Pears are grafted or inoculated upon any ſort of ſeedling Pear ſtocks raiſed from kernels of the fruit, and ſometimes ſuckers from the roots of Pear Trees; and both of which ſtocks being

being generally ſtrong growers, are principally to graft or bud upon for full ſtandards, and other trees of large growth, and upon Quince ſtocks, to form ſmaller trees, or of moderate growth, for principal wall-trees and eſpaliers, and to bear ſooner; and Apples, raiſed principally by grafting, are grafted upon ſeedling-ſtocks, raiſed from the kernels of any ſort of Apples or Crabs, which, being of a free growth, are proper for common large trees, and upon Codlin and Paradiſe ſtocks, to have ſmaller and dwarf-trees, and that they may ſooner commence bearers; and in all of which, both Pears and Apples, when the trees, after being grafted or budded, have formed heads of one, two, or three, to four or five years growth, they are proper for final planting in the places intended, and will begin bearing, ſome at three, four, or five years old, others longer before they attain that ſtate, eſpecially Pears; and all of which, by grafting and budding, produce fruit the ſame as that of the parent trees of the reſpective varieties from which the grafts and buds were obtained; hence comes the utility of grafting, &c. for although the trees may be raiſed from ſeed, *i. e.* the kernels of the fruit, and by which all the fine varieties were firſt accidentally obtained, it is long before they commence bearers; and even then, though raiſed from ſeed of the fineſt Pears and Apples, they ſeldom produce the ſame kind of fruit in return, but vary to other ſorts, and probably not one tree in twenty give fruit inheriting any deſirable property; but when any new varieties of good fruit from the ſeedling-trees occur, they being propagated by grafting or budding them on proper ſtocks, as above deſcribed, they are multiplied aud continued invariably the ſame; as is the caſe with all or moſt other deſirable varieties of fruits; and the trees ſo raiſed, always bear ſome years ſooner than ſeedling-plants.

But, for immediate planting, the trees may be had, ready raiſed, at the public nurſeries, in full collection, or as required, in different varieties, of two or three years old, or more, or that are advanced to a bearing ſtate, to produce fruit the firſt year, and may be planted any time in open weather, from October till the end of March: the ſtandards planted twenty to thirty, or ſixty feet aſunder, and the eſpalier and wall-trees fifteen to eighteen or twenty feet diſtance.

All the varieties of Pears and Apples, in the different orders of training, bear their fruit upon ſmall, natural ſpurs, or curſons, being ſhort, thick, ſhoots, of about half an inch, to one or two inches long, ariſing on the ſides and ends of the general branches, commencing when of three or four, to five or ſix years old, ſeldom ſooner in Pears; or ſometimes in theſe trees, are eight or ten years before they begin to form tolerable bearers, eſpecially thoſe grafted on crab or free ſtocks; but when on Quince ſtocks, they often bear in half the time; as alſo Apples, which, grafted on Codlin and Paradiſe ſtocks, often commence bearing in two or three years; and in all of which, the ſame branches and fruit-ſpurs continue many years fruitful, and, according as the branches encreaſe in length, they multiply in the number of fruit-ſpurs, continued quite to the extremities, and often formed at the termination thereof, if permitted to extend in their full growth; and, according as the trees encreaſe in age conſiderably, they bear moſtly towards the upper and extreme parts of the ſmaller branches; though, in the wall and eſpalier-trees, by proper pruning and training, to cut out naked and barren, old wood, having young, advancing ſhoots to ſupply the place, they are continued fruitful the whole length of the branches; and it ſhould therefore be remembered, in performing the occaſional or neceſſary pruning, that the branches and ſhoots of theſe trees muſt not be ſhortened, but permitted to extend always fully in ſtandards, alſo in eſpalier and wall-trees, as far as room admits.

As Pear and Apple Trees furniſh many different varieties of their reſpective fruits, moſt valuable, uſeful and profitable, both for eating in their natural ſtate, and for many principal culinary purpoſes, in baking, boiling, &c. occaſionally, great part of the year; and for making cyder and perry, the trees merit culture more abundantly than moſt others of the eatable fruit-bearing tribe, as being not only ſuperior in their productions for domeſtic occaſions, but alſo very profitable to cultivate in conſiderable plantations, in gardens, orchards, parks, fields, &c. for public ſupply in the markets and other occaſions, as may be required, or convenient.

It is therefore adviſeable to admit plenty of theſe trees, according to the extent of room which the reſpective gardens and orchards, and other grounds wherein they are intended afford; generally allot a larger portion, in ſtandards, to produce the principal ſupplies of fruit for general uſe, both for domeſtic occaſions and public conſumption, where required; and have alſo a collection of the principal or moſt eſteemed varieties, in eſpaliers, to obtain the fruit in greater perfection; likewiſe to have ſome fineſt ſorts of Pears in wall-trees, for the ſame advantage as in the eſpaliers, in a ſuperior degree; and may alſo allot a few trees of the choiceſt eating Apples, to plant on ſouth or weſt and eaſterly walls, for early ripening in the forward ſorts, or in others to acquire a ſuperior flavour: however, as all the varieties of Pears and Apples attain good maturity on ſtandard-trees and eſpaliers, ſhould allot plenty of theſe where room admits, generally moſt abundantly in ſtandards, and in which have principally more of Apples than Pears, as being the moſt generally uſeful fruit, and obtained in longer ſucceſſion, in good perfection and abundance; but not omitting to have ſome proportional quantity of

Pear

Pear Trees, or nearly equal to that of the Apples, if thought expedient.

In the intention of planting Pears and Apples, no time ſhould be omitted, not to loſe a ſeaſon or more, eſpecially as it ſhould be conſidered that it will be ſeveral years before the trees begin to produce any tolerable quantity of fruit, and in which, the Pears are generally longer than the Apples.

The trees of all the ſorts thrive in any common ſoil of a garden, or in ground of ſimilar quality, in orchards, fields, hedge-rows, &c.

As Pears conſiſt of a great variety of fine eating fruit, deſirably-valuable for uſe in ſummer, autumn, and winter, both for eating, baking, ſtewing, &c. and alſo, where in conſiderable quantity, are of much eſtimation for making perry, the trees ſhould be admitted in collection of different varieties, more or leſs, according to room, in gardens, orchards, &c. to plant in ſtandards, wall-trees, and eſpaliers; the ſummer and autumn kinds, attaining perfection for eating immediately off the trees in thoſe ſeaſons, and will not keep long, eſpecially the ſummer Pears, ripening in July and Auguſt, which ſeldom keep good but a few days; but the autumn kinds, attaining maturity in September and beginning of October, will keep longer, though ſome of the forward varieties of that ſeaſon continue only two or three weeks, and ſome of the later ſorts near double that time, ſerving for uſe till the winter Pears are in perfection; the winter Pears acquiring full growth on the trees, the beginning, middle, and towards the latter end of October, for gathering; few ſorts, however, for immediate eating, except for culinary uſes, and being houſed, become mellow as they lie in the fruitery; attaining perfection in the different varieties, in regular ſucceſſion, during the winter, &c. from November and December, till March, April, and May.

So that of the Pears, may plant plentifully in full and other ſtandards, both of the ſummer, autumn, and winter kinds, for the principal production, planted in gardens, orchards, &c. twenty, to thirty or forty feet aſunder; and ſome of the beſt varieties allot for eſpaliers, for producing fruit in ſuperior perfection, planted in the outward borders of the kitchen garden, &c. in a row, fifteen to eighteen or twenty feet diſtance; and likewiſe, ſome of the moſt eſteemed ſorts, in wall-trees, of the ſummer and autumn kinds, planted the ſame diſtance as the eſpaliers, ſome upon ſouth, and others on eaſt and weſt walls, to ripen fruit early, and in ſucceſſion, of improved growth and rich flavour; allotting alſo a larger portion of the principal eating winter Pears, on walls of the ſame aſpects, to attain all poſſible perfection of full growth, that they may keep well after being gathered, and acquire good maturity of mellowneſs and rich flavour, more effectually, according to their reſpective kinds in different varieties.

All the varieties of Pear Trees are raiſed or propagated by grafting or budding the intended ſorts upon any kind of Pear ſtocks, raiſed from the ſeed or kernels of the fruit and ſuckers; forming what are called free ſtocks of ſtrong growth, for large trees or full ſtandards, &c. or for extenſive eſpaliers and wall-trees; and on Quince ſtocks to have ſmaller trees, both for ſtandards, wall-trees, and eſpaliers; and which alſo ſooner become bearers than thoſe on Crab or free ſtocks.

Or all the ſorts, or any deſired varieties, may be procured at the nurſeries, ready raiſed, of a proper growth for immediate planting; or may occaſionally obtain ſuch as are well advanced towards bearing; or that are fully arrived to that ſtate, where required to have bearing-trees as ſoon as poſſible.

That as Pear Trees are generally ſeveral years before they bear, no time ſhould be loſt in the deſign for raiſing or planting, as they are commonly longer than moſt other fruit-trees before they bear in any tolerable abundance; as generally from the time of grafting, &c. it is five or ſix years, or ſometimes longer, before they give fruit; eſpecially when grafted on Crab or free ſtocks, which occaſions their aſſuming a ſtronger growth; running more conſiderably to wood than thoſe on Quince ſtocks; for thoſe latter being of a very moderate growth, the trees grafted or budded thereon, not running ſo greatly to wood, ſoon commence bearers; ſo that it may be proper both to have ſome worked on free ſtocks, for larger trees in full ſtandards, and for extenſive wall and eſpalier-trees, as before obſerved; and others on Quince ſtocks, for ſmall ſtandards, and for general eſpalier and wall-trees, and to bear ſooner.

Apples being a ſuperior valuable fruit, in a more extenſive degree, than the Pears, of great uſe at moſt ſeaſons of the year, the trees in ſtandards ſhould be introduced more abundantly in every garden, and in orchards, hedge-rows, &c. than of moſt other fruit-trees; and where good extent of ground, have great plenty of the ſtandards aforeſaid for the principal production; and to allot a portion of the principal ſorts for eſpaliers in gardens, to produce fruit in ſuperior goodneſs in growth and flavour; generally, in the whole, have an aſſortment of the ſummer, autumn, and winter kinds, as much as room admits, to obtain the fruit in proper ſucceſſion from the earlieſt to the lateſt ſeaſon; the ſummer and autumn Apples being proper for uſe immediately off the trees, from June and July till October; ſome in young growth in June or July, quarter or half grown, as in Codlins, &c. to uſe in ſeveral culinary occaſions; and,

in

their more advanced ſtate, in the end of July and in Auguſt, &c. ſeveral ſorts are proper, both for the ſame purpoſes, and attain ſome degree of maturity for eating in their natural ſtate, as table or deſert fruit, as obſerved of the Pears: though none of theſe early ſorts, even when full grown, will keep long, only a few days, or a week or two, or but little more; but the autumn kinds, acquiring full growth in September, conſiſting of many principal ſorts, are in perfection, both for immediate eating off the trees, and, that when gathered, will keep ſeveral weeks; and the late or winter Apples, attaining maturity of full growth, principally by the latter end of September, and in October, proper both for preſent uſe, and being then gathered, houſed, and thickly covered with dry ſtraw, will keep in good perfection two or three months, or more; and ſome ſorts will continue ſound and good till May or June following; or ſome, even till the production of young Apples for uſe the enſuing ſummer.

And therefore, as the varieties of Apples are very profitable fruit, both for many uſeful culinary purpoſes in baking, boiling, &c. and for eating, and of great value for making cyder, that where eligible ſcope of ground in gardens, orchards, parks, hedgerows, &c. ſhould have plenty of the trees in ſtandards, planted twenty or thirty, to forty feet diſtance, or more, according to room; as likewiſe in gardens have a portion of the fineſt ſorts in eſpaliers, planted in the borders of the kitchen garden, &c. next the walks, in a row, fifteen to eighteen or twenty feet diſtance, to have their branches trained to the eſpalier or trellis of poſts and rails, in the manner of wall-trees; or likewiſe a few of the fineſt early Apples may be trained againſt walls.

In planting a collection of Apple Trees, more or leſs, ſhould generally allot ſome good portion of Codlins in ſtandards, as being the firſt moſt uſeful Apples, for kitchen uſes particularly, or for eating when of advanced growth; and the trees being moderate ſhooters, not ſpreading conſiderably, they may be planted cloſer than the larger ſtandard-trees, and will ſoon become plentiful bearers.

All the ſorts of Apples are propagated by grafting the reſpective varieties upon Crab or any kind of Apple ſtocks raiſed from the kernels of the fruit, which being what are called Crab or free ſtocks, are principally for larger ſtandard-trees, and occaſionally for eſpaliers, when required to have any of extenſive growth; and others are grafted upon Codlin ſtocks, raiſed from ſuckers from the roots, &c. of old trees, which being of more moderate growth than free ſtocks, are more proper for ſmall or moderate ſtandards, and principal eſpalier-trees; and upon Paradiſe and Siberian Crab ſtocks, being of dwarf growth, are proper to form ſmall or dwarf ſtandards, and for eſpaliers of ſmall extenſion, and to bear ſooner than on ſtronger ſtocks; and in all of which, the grafting is always performed in the ſpring: the grafts ſhoot the ſame year; and when of one or two, to three, four, or five years old, from grafting, are proper for planting finally in the places where they are intended to remain, and will begin to bear in two, three, or four years; generally ſooneſt in thoſe on Codlin and Paradiſe ſtocks, more particularly the latter, which ſometimes commence bearers the ſecond or third year; but thoſe on large ſtrong ſtocks, running more ſtrongly to wood, are longer before they bear.

But, as obſerved of the Pears, young trees of all, or any of the principal varieties of Apples for immediate planting, may be had at the common nurſery-gardens, in good perfection; either in young growth, with ſmall branchy heads, of one, two, or three years old from grafting, or in a more advanced growth, as may be required; and ſuch as are become bearers, to produce fruit immediately, or the firſt year of planting.

Pear and Apple Trees, in their different orders of training, conſiſt of full ſtandards, half ſtandards, dwarf ſtandards, eſpaliers, and wall-trees; the ſtandard-trees being ſuch as are planted detached in the open ground, to branch out every way, generally moſt of the full ſtandards being trained with a tall ſtem, ſix or ſeven feet high, to branch out at that height, and form large heads, for the general production of fruit; half ſtandards in three, four, or five feet ſtems, to branch out in lower heads for occaſional planting; and dwarf ſtandards with ſhort ſtems, ſix, ſeven, or eight inches, to one or two feet, to grow in ſmall, low heads, to plant occaſionally, in borders and ſmall compartments; and the eſpalier and wall-trees, being ſuch as have the branches regularly trained, the former to a trellis of ſtakes and rails, and the latter to walls, are trained with a low ſtem, ſix or eight inches, to branch out near the ground, to furniſh the eſpalier and wall with a regular expanſion of branches, quite from the bottom upward; or ſometimes for high walls, Pears, in particular, are trained in half ſtandard wall-trees, with tall ſtems, four or five, to ſix or ſeven feet, to branch out at that height, to elevate the branches accordingly.

The full ſtandards, being ſuch as are trained with a tall ſingle ſtem, ſix or ſeven feet high, are generally worked on free ſtocks, which being run up tall are grafted or budded at that height; or ſometimes Pears, &c. are budded low, and run up with a ſingle ſhoot for a ſtem, and in either method, having the ſtem tall, clean, and ſingle, to branch out above, at the afore-mentioned height, forming the firſt ſet of branches, ſix or ſeven feet from the ground, that the head may be elevated both to admit the benefit of the free air, ſun, &c. underneath; and that the ſpreading branches being

at

at a diſtance from the earth, gives liberty for the cultivation of the ground below, and the growth of under crops, either garden-plants, or graſs, corn, &c. and likewiſe the branches being high, the fruit is more out of the reach of invaders; the head of branches permitted to extend freely every way, all round, in full growth, that in the proceſs of time they form a large expanſion, to produce conſiderable ſupplies of fruit accordingly; as ſometimes a ſingle tree, with a large, ſpreading and lofty head will produce one or two, to ſeveral or many buſhels in a ſeaſon; and therefore, of full ſtandards, where plenty of room, ſhould be admitted abundantly both of Pears and Apples, in different varieties, to furniſh the principal crops of fruit for general ſupply, as all the ſorts will attain proper maturity on ſtandard-trees: and which, in their growth, generally permitted to branch out in their natural order, or only to give occaſional pruning, to cut out caſual irregular-placed, and croſs-growing branches, and dead wood.

Half ſtandard Pear and Apple Trees being ſuch as are trained occaſionally with middling ſtems, three, to four or five feet, the branches beginning at that height, and for which, ſome good ſorts are grafted on dwarf ſtocks, or thoſe that are but of moderate growth, as Pears upon Quince or Medlar ſtocks; and Apples on Codlin or ſometimes Paradiſe ſtocks, in order to have them advance with ſmall or moderate heads; and that, as the branches commence lower than full ſtandards, they may not extend conſiderably to overſpread the ground; and likewiſe being on moderate ſtocks, the trees not ſhooting ſtrongly to wood, will bear ſooner, and the heads being lower and of leſs extenſive growth, ſhews the fruit in its growing ſtate, to better advantage; and admits of gathering ſome occaſionally by hand, more readily, when required, without climbing, &c. and therefore, on theſe conſiderations, ſome half ſtandards are admitted in gardens, more or leſs, as may be thought eligible; all permitted to branch out regularly every way, nearly in their natural manner, agreeable to the intimations mentioned for the full ſtandards, and they will bear fruit abundantly in all deſirable perfection.

Dwarf ſtandard Pear and Apple Trees being grafted or budded on ſmall ſtocks, are occaſionally introduced in ſmall and other gardens, both that they may take up but little room, and to have them ſoon become bearers, as likewiſe for variety and curioſity; they being raiſed with low ſtems, ſix or eight inches, to one or two feet, or a yard high, by grafting and budding at theſe heights, upon dwarf-growing ſtocks; *i. e.* the Pear grafted or budded upon Quince ſtocks, as formerly intimated; and the Apples on Paradiſe ſtocks, for the ſmalleſt dwarf-trees; and on the Codlin ſtock, to have them of a middling growth; and, in all of which, the trees are intended to grow with low branchy heads, commencing at one, two, or three feet at moſt from the ground; and to branch out regularly all round, in a moderate expanſion, kept to three or four, to five or ſix feet extent; and are proper to plant in ſmall compartments, or in borders, &c. or ſome Apples on Paradiſe ſtocks, to plant occaſionally in pots; and thus, in the whole, the trees, by being on dwarf ſtocks, ſhoot moderately, do not run much to wood, will bear ſoon, and very agreeably, in fine fruit, and abundantly, according to their extent of branches.

Theſe dwarf-trees may be of any varieties of the choiceſt Apples and Pears, and of which, when deſired to have the trees of ſmalleſt growth, ſhould graft the Apples on Paradiſe ſtocks; and may be kept to two, three, or four feet high; or grafted on Codlin ſtocks, for larger dwarf-trees, may be kept to four, five, or ſix feet; and Pears grafted or budded upon Quince ſtocks, will grow low and bear in two or three years; whereas thoſe upon free or Crab ſtocks run much to wood, and are often eight or ten years before they bear fruit.

In this their dwarf growth, they are trained ſometimes with concave or hollow heads, the branches pruned out in the middle, the outward branches continued in a ſomewhat circular order; and all ſhoots that advance in the middle, pruned away to preſerve the concavity; others are trained with convex or full heads, having an upright leader advancing in the middle, encouraged to branch out ſide-ways all round from the bottom upwards; and of which, cutting out the irregular and ſuper-abundant, and leave the others in a regular manner, the lower ones longeſt, diminiſhing gradually above to promote the convexity in a ſomewhat pyramidal form; and ſome are permitted to branch out from the bottom in ſeveral principal branches to grow in a natural order, and only cutting away caſual irregular growth, and to thin ſuch as are too abundant or croudedly thick; likewiſe ſome dwarf-trees, particularly Pears, are trained with ſeveral branches proceeding from near the bottom, and theſe trained in a ſpiral manner to ſtakes placed in the ground in a circular form round the tree, three, four, to five or ſix feet high.

Thus dwarf ſtandard Apples and Pears, trained as above, may be planted in any principal outward borders adjoining main walks, in a row, ten to fifteen feet aſunder; or where ſtraitened for room, ſome dwarf-trees on Paradiſe ſtocks, may be planted only eight or ten feet diſtance; in the whole, the branches generally permitted to advance moſtly in their full growth, without much ſhortening, except where any aſſume an irregular direction, or extend too conſiderably in length beyond the others of the general expanſion, or that exceed the intended limits of growth; or

or, likewiſe, to prune out caſual ill-placed, and ſuper-abundant branches, and ſuch as grow acroſs the others in a diſorderly manner; and generally, in performing any occaſional ſhortening of too-advanced branches, ſhould cut to ſome lower, moderate ſhoot, if any occur that do not exceed the bounds; or if none, cut occaſionally, either to a lateral fruit-ſpur, or a ſhoot-bud; but, except in ſuch inſtances of particular branches rambling conſiderably from the others, it is moſt adviſeable to preſerve them at their natural length, and they will furniſh fruit-ſpurs all along the ſides to the extremity.

Though ſometimes dwarf Apple ſtandards, on Paradiſe ſtocks, are kept down, by pruning, to half a yard, or two or three feet high; or, however, when on Paradiſe ſtocks, and permitted to take their full growth, they will always remain perfect dwarfs, of only three or four, to five or ſix feet high.

However, notwithſtanding that theſe dwarf-trees generally bear ſooner, and produce fruit in great perfection, they, from their ſmall extent or expanſion of branches, eſpecially thoſe on Paradiſe ſtocks, cannot furniſh it in conſiderable quantity, as in full and large half ſtandards; and therefore are chiefly proper to cultivate either principally to become bearers more expeditiouſly than large trees, or to furniſh ſome fruit till the latter commence a bearing ſtate, and as alſo to take up but little room in a garden, or for ſmall compartments; and likewiſe to introduce in gardens, both for variety and curioſity, to have trees of ſuch ſmall dimenſions producing, proportionally to their ſize, abundant crops of fruit in the fulleſt maturity of growth, according to the reſpective varieties or kinds; and being worked on dwarf-ſtocks, they ſoon become good bearers.

The eſpalier-trees are ſuch as are trained, in a fanned expanſion, to ranges of ſtakes and rails, to which the branches are faſtened in a ſpreading manner, in the order of wall-trees; have low ſtems, only a few inches high, branching out, near the ground, in a regular expanſion upwards, and extended horizontally on both ſides, till the branches of the different trees meet, and thereby forming a ſort of hedge, thence ſometimes called eſpalier hedges, and are applicable, not only to Apples and Pears, but to Plums, Cherries, Figs, Grapes, Apricots, &c. but generally more of Apples and Pears than other fruit-trees; and in all of which, the eſpalier-trees being generally planted in the borders bounding the large quarters of a kitchen garden, or any other, where convenient, in a row longways the borders next principal walls, and the branches being extended only to the right and left, in a ſtraight range, to the eſpalier, or trellis of ſtakes and rails, four, to five or ſix feet high, take up no room, bear on both ſides, equally in the front and back part; and the branches being thinly and regularly arranged at equal diſtances, have the full benefit of the ſun and air, to forward the fruit to the utmoſt perfection of maturity.

The trees for eſpaliers are always trained with ſhort ſtems, only ſix or eight inches long, in order to have the branches commence near the ground, that they may cover the trellis, &c. of the eſpalier, in a regular expanſion, equally from the bottom upward, four, five, or ſix feet high, having the branches arranged horizontally, four, to five or ſix inches aſunder, one above another, moſtly extended always at their full length, to the utmoſt extent of room in the eſpalier.

So, that in raiſing Pear and Apple Trees for eſpaliers and wall-trees, they ſhould be grafted, &c. low in the ſtocks, or at five, ſix, or eight inches from the bottom, either ſome on free ſtocks, for largeſt trees, in extenſive gardens, where room to ſpread in a conſiderable extent, in their full growth, or worked moſtly on middling and dwarf-ſtocks, for the general ſupply, as on Quince ſtocks, principally for Pears; and Apples on Codlin and Paradiſe ſtocks, in order both in the Apples and Pears, to obtain trees of ſmaller or moderate growth, and to have them bear in a ſhorter time than thoſe on Crab or free ſtocks, which, ſhooting ſtrongly to wood, are longer before they form fruit-ſpurs plentifully; but, when on dwarf-ſtocks, they ſhoot moderate, and ſooner furniſh ſpurs more abundantly for bearing.

Or proper trees, for eſpaliers, may be obtained at the common nurſeries, of proper growth for immediate planting.

In eſpaliers it is particularly adviſeable to plant a collection of the fineſt eating and culinary Pears and Apples in every garden of any tolerable extent, or even in ſmall gardens, to admit only of a few trees in that order of training; and in which, the trees being trained in a ſpreading expanſion, in the wall-tree manner, generally produce fruit in a ſuperior degree of perfection; and beſides, the trees do not take up much room, and have alſo an ornamental appearance, as well as afford ſome ſhelter to the adjacent under-crops in the ground, in winter, and ſhade in ſummer.

And wall-tree Pears, more particularly than Apples, being adviſeable to have a collection of the choiceſt kinds in every garden accommodated with walls, &c. they are moſt commonly trained with dwarf ſtems, as obſerved for the eſpaliers, about ſix or eight inches, grafted or budded at that height, that the branches may come out low, to cover the wall regularly from the bottom to the top; ſhould generally be grafted, &c. on Quince ſtocks, to have the trees ſhoot moderately, and ſoon become bearers, and that, in advanced growth, they may continue within moderate bounds,

by which, both to admit of having a larger portion of different varieties on the allotted ſpace of walling, and that they may ſooner bear plentifully than when grafted or budded on free ſtocks; though, where there is large extent of walls, may alſo have ſome that are worked on Pear ſtocks, in which the trees will ſpread a conſiderably larger extent, and, when planted, ſhould be allowed a greater diſtance between the trees accordingly.

Or ſometimes Pears are trained in ſtandard wall-trees, or with tall ſtems, five, ſix, or ſeven feet high, the branches commencing at that height, and ſerve either, ſome to plant occaſionally between the common dwarf wall-trees, where there are lofty walls; or ſometimes to plant againſt the ends of high buildings, in ſituations open to the power of the ſun and free air; and in which, if much expoſed, the ſtem of the trees being tall, elevates the head above the immediate reach of the hand, to preſerve the fruit both from being pilferingly plucked by ſtrangers, or other perſons who have leſs right to the product than the proprietor.

However, for the general ſupply of wall Pears, allot principally thoſe trained in the common wall-tree manner, with dwarf or low ſtems, branching out near the ground, and to plant them againſt ſouth and other walls; for it is eſſential to have ſome of the moſt eſteemed varieties of the fineſt eating Pears in wall-trees, both ſome of the earlier and late kinds, but more abundantly of the latter, conſiſting of the beſt autumn and winter ſorts, that they may attain the utmoſt perfection of full growth and rich flavour, for eating; planting the trees fifteen, to eighteen or twenty feet diſtance, the branches extended to the wall horizontally, four, to five or ſix inches aſunder, always moſtly at their full length, as obſerved of the eſpalier-trees, and they will emit fruit-ſpurs all along the ſides, and produce fruit, both of the early and late kinds, in a ſuperior degree of maturity.

Or likewiſe for walls, may have a few trees of the choiceſt varieties of eating Apples, to ripen earlier, and of ſuperior flavour, as Golden-Pippins, &c. planted and trained as mentioned for the Pears.

The propagation, or way of raiſing Pear and Apple Trees, being by grafting and budding the reſpective varieties of each upon ſtocks of their own kinds, as before obſerved, is performed according to the following intimations.

The Pears are propagated both by grafting and inoculating them upon Pear and Quince ſtocks, which, in the former, are raiſed from the ſeed or kernels of the fruit of any ſorts of Pears ſowed in the autumn or ſpring, and likewiſe by ſuckers from the roots of Pear Trees, though the ſeedling-ſtocks are rather preferable; and either or both of which ſtocks being of ſtrong, free growth, are commonly adapted for large trees in ſtandards, wall-trees, and eſpaliers; and upon Quince ſtocks raiſed from ſeed of the fruit and from ſuckers, cuttings, and layers of the Quince Trees; which being of moderate or ſmall growth, as before intimated, are proper ſtocks whereon to graft and bud Pears, to have ſmall or dwarf-trees accordingly, both in ſmall ſtandards, eſpaliers, and wall-trees, where required to have the trees in theſe different orders of training continue of a moderate or dwarf growth, both that they may take up leſs room in a garden, and to admit of planting a larger variety, as well as to commence bearers ſooner than trees on free ſtocks; however, for the general ſupply of common large or full ſtandards, the Pear ſtocks are the moſt eligible for that purpoſe.

And the Apples are principally raiſed by grafting them upon Apple or Crab ſtocks, raiſed from the ſeed or kernels of the fruit of any kind of Apples, &c. which being what are called Crab or free ſtocks, generally of a ſtrong growth, are proper whereon to graft, to obtain large or full ſtandards, or occaſionally large, ſpreading eſpalier-trees; and on Codlin ſtocks, raiſed by ſuckers from the roots and cuttings of Codlin Trees, to form ſmaller ſtandards and eſpaliers of moderate growth, and ſooner become good bearers; and Paradiſe ſtocks for dwarf-trees of ſmalleſt growth, and to bear as ſoon as poſſible in ſmaller productions, according to their ſize.

To raiſe ſupplies of proper ſtocks for Pears and Apples, from ſeed, ſuckers, cuttings, &c. the ſeed or kernels for ſowing, are obtained from decayed or rotten fruit, or any others in the autumn or ſpring, from October or November, till February or March, and ſowed in beds of common earth an inch deep, they will come up in the ſpring, for planting out in nurſery-rows the autumn or ſpring following; the ſuckers, cuttings, layers, &c. may be planted in the ſame ſeaſons; all of which, both ſeedling and other ſtocks, to be planted in a nurſery, in rows, two feet and a half, to a yard aſunder, to have two or three, to four or five years growth, for grafting, &c.

Sometimes, where large ſupplies of common ſtandard Apple and Pear Trees are required, and that there is proportionable extent of ground in fields, ſtocks, for grafting, are occaſionally raiſed or planted in hedge-rows, to remain for that purpoſe; or ſome places where Crab ſtocks grow naturally in hedges, they are trained up in proper ſtems; and in either of which, they are grafted as required, and permitted to remain always in the ſame places, to acquire full growth in ſtandards, and to produce their fruit accordingly.

The

The ſeaſon for grafting and budding them is, for the former, in the ſpring, from about the middle or latter end of February, to the end of March or beginning of April; and the inoculation or budding is performed in July and beginning of Auguſt.

In the grafting and budding theſe trees, allot generally tall ſtocks for full ſtandards, to graft or bud at five, ſix, or ſeven feet high, to branch out at theſe heighths to form the head; or for half or ſmall ſtandards, graft, &c. at three, four, or five feet, to form the head accordingly; or occaſionally, in both caſes, may be budded on ſmaller ſtocks, low or near the ground, and the firſt main ſhoot run up ſingly for a ſtem to the proper height, to furniſh branches as above; and for dwarf ſtandards, graft or bud at ſix or eight inches, to one, two, or three feet, to branch out in low heads; but for general wall and eſpalier-trees, they muſt be grafted, &c. low in the ſtock, at ſix or eight inches from the bottom, to form the firſt ſet of branches near the ground; or when intended to have tall or ſtandard wall-trees, eſpecially Pears, to plant between the common dwarf wall-trees, where lofty walls, or againſt the end of buildings, as formerly mentioned, may be grafted, &c. either on tall ſtocks, at four, five, or ſix feet, as for common ſtandards, or budded low in the ſtock, and the main ſhoot trained for a ſtem to the requiſite heighth; and then, in either method, permitted to ſhoot above and furniſh the proper expanſion of branches.

After grafting and budding, as the foregoing, the grafts will ſhoot the ſame year, and the budded trees not till the following ſpring; and in all of which, in the advanced growth of the ſhoots and branches, from the grafts and buds, train the trees, for the purpoſes intended, in ſtandards, wall-trees, and eſpaliers; the ſtandards run with clean ſtems below to branch out above regularly every way, in full heads: cut out only any ill-placed productions, and the general branches permitted to extend in full growth; and the wall and eſpalier-trees, train the branches in full expanſion, cutting off projecting, fore-right ſhoots, and extend the others horizontally to the right and left, and nailed, &c. to the wall or ranges of ſtakes, in regular order, at equal diſtances, at their whole length; and when thus, in the different methods, they have formed heads of one, two, or three, to four, five, or ſix years growth, they are fit for final tranſplanting into gardens, orchards, &c.

But previouſly obſerving in the young growth of the trees, that whether they remain in the nurſery, or planted in the garden, &c. the firſt and ſecond year from grafting and budding, it is ſometimes or generally proper to give a particular pruning while of that age, to the firſt ſhoots, to promote an eligible ſet of branches to form a regular head from the beginning; for inſtance, if, in the firſt year, the young trees have advanced with only one or two ſingle ſhoots, it is proper, in the following ſpring in March, to prune down the ſaid ſhoots to a few eyes, or within ſix or eight inches of the bottom; and they will thus ſend forth ſeveral lateral ſhoots from the remaining lower eyes in ſummer, to give the head its firſt proper formation; and which, heading down, is more particularly neceſſary in the wall and eſpalier-trees, in order to obtain a proper ſpread of firſt branches, advancing regularly from the bottom, whereby to furniſh the wall and eſpalier with a full expanſion of branches from that part upward; or likewiſe, in ſtandard-trees, if required to have them form ſpreading heads, commencing immediately from or near the top of the ſtem, the firſt year's ſhoots may alſo be headed down, to have them branch out below accordingly, in ſeveral branches, to form the head more full and regular; but when required to have ſtandards form more upright aſpiring heads, they may be permitted to advance in their firſt ſhoots in a natural growth; and in thoſe headed down in the firſt ſhoots, both of wall, eſpalier, and ſtandard-trees, if they furniſh others ſufficiently to form the head properly in a firſt regular ſet of branches, as above, no future general ſhortening will be required, except probably to particular ſhoots in the ſecond and third year, &c. eſpecially the wall-trees and eſpaliers, to promote a further encreaſe of branches.

However, if the trees headed down, and the ſecond production of ſhoots being not fully ſufficient to form a proper expanſion, as a foundation to furniſh all the other regularly upward, they may alſo be pruned or ſhortened, more or leſs, as it may appear neceſſary, in the winter-pruning or in the ſpring, and from which there will generally be enough produced in ſummer to give the head a firſt regular formation of ſeveral well-placed branches; after which, they may generally or moſtly be permitted to advance in full growth, without any future ſhortening; the ſtandards to advance moſtly in their natural order, and the wall and eſpalier-trees to have the branches always trained regularly to walls and eſpaliers, at their full length; and which will require pruning and training every year to continue them in proper regularity, as hereafter directed.

Or ſometimes wall-tree Pears, &c, are trained with a ſingle upright ſhoot, and this promoted to branch out laterally from the ſide eyes, cutting off the fore-right ſhoots, and retaining the ſide laterals at regular diſtances, are extended to the right and left in a perfect horizontal poſition; the upright in the middle being continued in advancing growth, or topped occaſionally, to encourage its producing a further ſupply of colaterals, more effectually to furniſh the wall regularly upward, trained in the ſame horizontal manner;

ſo that all the branches proceed immediately from one upright middle ſtem, and extended to both ſides, five or ſix inches aſunder.

But when deſigned to procure the intended ſupply of trees from the nurſeries for planting, they may be obtained in a plentiful choice in the different orders of training, either in young growth, of one, two, or three years old heads, or of a more advanced ſtate, for immediate bearing; and may occaſionally have trees ready trained of a proper growth for walls and eſpaliers.

All the ſorts of Pears and Apples, both in ſtandards, eſpaliers, and wall-trees, being very hardy, will proſper in any common fertile ſoil of a garden, orchard, field, &c. and in any open ſituation in ground not liable to be very wet of much continuance, which ſhould be avoided as much as poſſible, as, in ſuch, the trees would not thrive; but in a moderately-dry mellow earth they will be proſperous and durable; or, where a moderate loamy ground, it will prove beneficial to their growth; and, in which eligible ſoils, the trees may be planted without any additional preparation; or, however, if the ground is unavoidably bad, ſuch as very gravelly, or other unkindly ſoil, it ſhould be improved, if only for the preſent, in the place where each tree is to ſtand, by removing the bad ſoil, and adding a proportional ſupply of ſubſtantial good earth, either of freſh loam, where attainable, or any other good fertile ſoil, or a compoſt of earth and rotten dung; or in a low very wet ſituation which cannot be avoided, or no other choice for planting, it would be of advantage to raiſe the ground, or occaſionally in a gradual ſwell for each tree, with additional earth, to have the roots out of the water; and afterwards, the ſides of the raiſed places, may be augmented by degrees: however, as before obſerved, the trees will thrive abundantly well in any common ground of a garden and cultivated field-land, either of graſs or corn ground, or both, as may be required, or convenient to the planter.

And therefore, the trees may be planted both in kitchen gardens and pleaſure-grounds, in ſtandards, wall-trees, and eſpaliers; and in any out-grounds in fields and encloſures for orchard-plantations in full ſtandards.

And as to the preparation for planting, that if entire new ground, and for a general plantation in gardens, it may be trenched or digged one or two ſpades deep, either wholly or only for the preſent, along where each range of trees is intended; or at leaſt in the places where each tree is to ſtand, three or four feet in width, or more; or in cultivated or any tolerable good ground, may only dig a wide aperture or hole for the reception of each tree; obſerving that where the wall and eſpalier-trees are intended, the borders ſhould be four or five, to ſix or eight feet wide; and if not before cultivated ſhould be trenched two, or one full ſpade; or if in cultivation before, may either be wholly trenched, or only at planting, to dig a hole for each tree, and the other parts digged afterwards, at ſome convenient opportunity.

The ſeaſon for planting theſe trees is principally the ſame as for others of the fruit-tree kind, &c. any time from the decay of the leaves, in October or November, in open weather, till the end of March, or occaſionally the beginning or middle of April, but not to exceed the middle of the laſt-mentioned month; or, however, if planted ſoon in the autumn, they moſtly ſtrike root the ſame ſeaſon, or be advanced in good preparation for ſtriking freely in the ſpring; but may alſo be planted any time in winter, in mild ſeaſons, and in the early ſpring months, generally more ſucceſsfully than late planting, that they may be effectually well ſtruck in that ſeaſon, to proceed in a free growth the following ſummer.

The diſtances for planting theſe trees as ſtandards, wall-trees, and eſpaliers, is, the former, in full ſtandards, ſhould not be leſs than twenty or thirty feet, to allow for advanced growth in large ſpreading heads; and where plenty of ground room, thirty to forty or fifty feet, would be more eligible, eſpecially for any continued plantation; but ſmall ſtandards may be planted at half the diſtance; and the wall and eſpalier-trees, planted not leſs than twelve to fifteen feet, thoſe on dwarf-ſtocks, or larger trees, eighteen or twenty, to twenty-five feet aſunder.

Of the full ſtandards, thoſe deſigned for garden plantations, may be planted twenty to thirty feet in the row, or thirty to forty or fifty, or more, between, where room admits, both that there may be proper ſcope for the branches, when of full growth, and to allow for the growth of under-crops on the ground between the trees; but where deſigned for orchard plantations, in graſs ground, or any other, they are commonly planted at equal diſtances, and to range in lines every way, thirty to forty feet aſunder, as before obſerved; though ſometimes in extenſive orchard plantations, in cultivated fields, where conſiderable quantities of Apples are wanted for cyder, &c. the trees are planted thirty to forty or fifty feet, or more, in the row; by fifty or ſixty, to an hundred feet between the ranges, to admit of good room in the intervals to plow, ſow, and cultivate the ground, in corn, graſs, &c. as may be required; and the ſame order of planting might be obſerved in the large farming and other extenſive kitchen-garden grounds, as in the neighbourhood of London, in which ſtandard Pear and Apple Trees and others may be planted to great advantage, in their production of fruit; and, being in rows fifty or ſixty feet, or more, aſunder, would admit of ſufficient room to cultivate the ground in kitchen crops; and the planta-

tion

tion of trees would give an air of greater importance and value at all times, and more conſiderably when in fruit.

But in ſmall ſtandards, as Pears grafted on Quince ſtocks, and Apples on the Codlin or Paradiſe ſtocks; which growing with moderate heads, or of ſmall extent, may be planted in gardens only twenty feet aſunder in the rows, or leſs, where ſtraitened for ground room; or ſmall dwarf ſtandards planted in borders, ten, to fifteen or twenty feet apart; or ſome ſmall dwarf Apple Trees on Paradiſe ſtocks, may be planted in pots, for moving them into any particular compartment, occaſionally, while in flower and fruit, for variety or curioſity, or to ſerve up in deſerts with the fruit growing on the trees.

In procuring the trees for planting, they ſhould be carefully taken up with their full extent of roots, or as intire as poſſible; for this is of much importance to the future proſperity of the trees.

To prepare them for planting, prune out the broken parts of the roots, and ſhorten the ends of very long ſtragglers, and examining the head, cut away or reduce to order any diſorderly branches or ſhoots; or in the wall and eſpalier-trees, giving attention to the proper expanſion of regular branches, prune off fore-right projecting, and any other irregular or ill-placed ſhoots; and generally, in the whole, preſerve all the proper regular branches intire, both in the ſtandards, wall-trees, and eſpaliers, not ſhortened, except where any branches extend conſiderably longer than all the reſt, they may be reduced or pruned to ſome lateral ſhoot, &c. conformable to the extent of the general branches, to form the head in ſomewhat regular order, of nearly equal extent; cutting away all ſhoots from the ſtems below the head.

Proceeding to the planting, obſerve at the proper diſtance to dig a wide round hole for each tree, a foot or more deep, and capacious enough to receive all the roots freely to their full extent; place the tree therein upright, or in the wall and eſpalier-trees, incline the heads to the wall, &c. trim in the earth over the roots, ſhake the tree a little up and down, to make the earth fall in cloſe between the roots and fibres, filling up the hole at laſt, and tread the earth gently down to the roots; firſt, round towards the outſide, continuing it inward to the ſtem; and if early planting, in dry weather in autumn, or alſo in the ſpring, eſpecially late in that ſeaſon, and the ground dry, may give each a moderate watering to ſettle the earth more effectually about the roots, and to promote their ſtriking freſh root more expeditiouſly; and if a continuance of very dry weather in the advanced part of the ſpring, two, three, or more occaſional waterings, in April, May, &c. would prove very beneficial; obſerving, likewiſe, in the tall ſtandard-trees, it would be of much advantage to give ſupport of ſtakes, by driving one, two, or three long ſtout ones into the ground near each tree, inclining the tops of them to the upper part of the ſtem, which tie in that part to the ſtakes with a piece of cord, rope yarn, &c. previouſly winding ſome hay band round the ſtem to prevent the bark being rubbed againſt the ſtakes by the motion of the wind.

The wall and eſpalier-trees to be planted in the ſame manner as the foregoing, allotting principally Pears for walls more generally than Apples; ſome planted on ſouth and other walls, as before obſerved, of different varieties of early and late kinds, ſet at the diſtance formerly mentioned, fifteen to eighteen feet for thoſe on dwarf ſtocks, and if on Crab or free ſtocks, plant eighteen or twenty feet diſtance, or more, as, in their ſtrong growth, they will extend more conſiderably than the others: open for each tree a hole of proper width and depth to contain the root freely, place the tree therein near to the wall, inclining the ſtem and head thereto; fill in the earth about the roots, tread it down gently, keeping the head cloſe to the wall; and may then nail the branches finally, or rather defer it a little time, till the earth and tree together is fully ſettled, and then trained to the wall, as hereafter explained.

The eſpalier-trees are planted in a ſingle range along any principal borders next the main walks; or generally in borders which ſurround the large quarters of a kitchen-garden; or in any other garden diſtricts where thought eligible, moſtly in a free ſituation open to the ſun and air; having the borders four or five, to ſix or eight feet wide, the trees planted towards the back part, in a row, three or four, to five or ſix feet from the outer edge next the walk, at eighteen or twenty feet diſtance in the row, thoſe on free ſtocks, and thoſe on moderate or dwarf ſtocks, plant not leſs than twelve to fifteen feet aſunder in the row, that, in both of which, there may be proper room to extend the branches; and, in the whole, obſerve the ſame method of planting as directed for the ſtandards, &c. and when thus planted, ſhould have either a regular eſpalier or trellis of ſtakes or of poſt and rails, erected cloſe behind the trees; or only for the preſent, ſome ſtakes placed a foot apart, as far as the trees now extend; and in their advanced growth encreaſe the trellis-work by degrees, or form at once a full trellis, either of tall ſtakes driven into the ground a foot aſunder, ſtanding three and a half, to four or five feet high, and a rail nailed along the top, both to keep them more ſteady, and for the greater regularity; or have a regular eſpalier framed the ſame height, with poſts, five or ſix feet diſtance, and three, four, or five ranges of horizontal rails, and to theſe, have occaſionally, ſmall upright croſs bars, twelve, to fifteen inches aſunder.

Obſerve

Obſerving, of the wall and eſpalier-trees, the branches muſt be regularly trained to the wall and eſpalier, in a ſpreading expanſion; firſt, give any requiſite pruning, where neceſſary, to cut out fore-right or other ill-placed ſhoots, and retaining the others at their full length; and train them in horizontally to the wall and trellis of the eſpalier, by nailing the branches of the wall-trees with nails and ſhreds; and the eſpalier branches may either alſo be moſtly nailed to the trellis or rails, or tied thereto with oſiers, or ſome nailed and tied occaſionally, as convenient; and in which, both wall and eſpalier-trees, arrange the branches four, five, or ſix inches aſunder, and in their full extent, not ſhortening any, eſpecially the general branches, deſigned for bearers, but continued always at their whole length, both in their young and advanced growth, as far as there is room to extend them; as, from their nature of bearing, Apple and Pear Trees do not admit of ſhortening, and is only to be practiſed occaſionally, where any extended ſhoots advance beyond their limited ſpace of room, or in any very irregular growth, or to prune caſual decayed ends; or ſometimes where any principal branches extend conſiderably out of bounds, they are pruned or cut down to ſome lateral ſhoot, or lower branch, that admits of training within the proper limits, the terminal part thereof continued intire, at leaſt as far as the utmoſt extent of the allotted ſpace of walling and eſpalier for each tree allows, and only ſhorten agreeable to the above intimations, where they extend beyond their proper bounds.

For, as before obſerved, all the varieties of Apple and Pear Trees being of the ſpur-bearing kinds, ſhortening the branches or ſhoots, forces them greatly to wood, without furniſhing fruit-ſpurs, conſiſting of ſhort robuſt ſhoots, of half an inch to one or two inches long, produced naturally at the ſides and extreme part of the branches, when from two or three, to many years old, and always ſooner and more abundant when not ſhortened, but all or moſtly left intire; as ſhortening not only retards their bearing, by cutting away the upper or extreme bearing part of the branches in which fruit-ſpurs would ariſe, but alſo, by reducing them above, occaſions their ſending forth ſtrong lateral wood-ſhoots below, in the parts where natural fruit-ſpurs would otherwiſe have been formed by degrees; and thereby every ſhortening retards the branches one or two years longer, before they form bearers; which, therefore, determines that in the general pruning of thoſe trees, the ſhoots as are deſigned for bearers, muſt not be ſhortened, but permitted to extend in their whole length to the utmoſt extent of their allotted bounds in the wall and eſpalier; they will thus proceed in a moderate growth, and gradually form fruitful ſpurs at the lateral eyes, along the ſides, and at the extremity for bearing, and the ſame bearers continue many years fruitful.

And as, in theſe trees, the ſame branches and fruit-ſpurs continue encreaſing in fruitfulneſs and remain many years in a plentiful bearing ſtate, they ſhould be conſtantly retained accordingly; except when in advanced age, any branches decay or become unfruitful, ſhould fore-caſt to have young wood advancing below or between the old, ready to ſupply the place when neceſſary to cut any away as unſerviceable; as likewiſe, when any fruit-ſpurs appear of a worn-out or unfruitful ſtate, they being cut away, new ones are often acquired in or near the ſame places to ſucceed them on the ſame parent branches; ſo that theſe trees, in walls and eſpaliers, in the proceſs of pruning and training, only require renewals of young wood, occaſionally, in the above inſtances, not annually, as in trees bearing principally on the year-old wood, but the ſame bearers remaining fruitful are continued from year to year in long duration.

Reſpecting the culture of Pear and Apple Trees, it conſiſts principally in giving occaſional pruning to the ſtandards; and to the wall and eſpalier-trees a general pruning is neceſſary every year.

The pruning of ſtandard Pears and Apples is only required occaſionally, as before obſerved, to reform caſual irregularities of diſorderly branches, and to cut out decayed or worn-out barren branches in old trees; and which occaſional pruning in the ſtandards, as they, having full ſcope of growth, branch out freely every way, may probably be only neceſſary once in ſeveral years; and when requiſite, it ſhould generally be performed principally in winter, any time from the fall of the leaves in November, till March or April; obſerving in this buſineſs that the ſtandards muſt be permitted to advance in their full growth in a regular expanſion of branches all round and above; and only in which, if any conſiderable irregularities occur, either in young or old trees, they ſhould have requiſite pruning as you ſhall ſee occaſion; ſuch as to cut out croſs-placed or any of very diſorderly growth in the branches; and where any are greatly crouded in wood, ſhould not omit to prune out the worſt and moſt irregular, in a thinning manner, both in the larger and ſmaller branches, where it may ſeem neceſſary, whereby to keep the general branches moderately thin or clear of one another, in ſome regular order; alſo, occaſionally to reduce any diſorderly, long rambling boughs, cut or ſhortened down to ſome lateral branches thereon, conſiſtent with the general extent of the head; likewiſe to prune up low ſtragglers, or underhanging branches in the ſame proportion; and generally cut away any ſtrong upright crouded ſhoots in the middle of the head and other parts; and to cut out caſual decayed branches and dead wood; and eradicate ſuckers from the root and ſtem of the trees; and thus, giving the above occaſional regulation, permit the

the general expanſion of the regular branches to extend in their natural growth, and they will produce proper fruit-ſpurs abundantly all along the ſides to the extreme parts, for plentiful bearing; and the ſame branches continue many years in good fruitfulneſs.

Sometimes old ſtandard Pears and Apples are greatly infeſted with moſs growing on the branches, hurtful to their growth, that the production of fruit is of inferior quality; it is therefore adviſeable to clear the branches from the groſſeſt part of the moſs as well as poſſible, which generally perform in winter, by ſcraping it off with ſome ſmall inſtrument of iron or wood, a little hollowed on the edge; and where any trees thus infeſted, are very abundant in wood, in a crouded diſorder, give them a proper thinning, to admit the ſun, air, &c. and the rougheſt of the moſs cleared away, they will ſoon improve accordingly, by degrees, in a revived growth, and ſuperior goodneſs of the fruit.

For it is generally adviſeable in the ſtandard-trees, when any caſually become conſiderably crouded in wood of a diſorderly growth, to give them ſome neceſſary thinning, keeping the general branches moderately thin, to grow moſtly clear of one another, in ſomewhat regular order, whereby you will always have the fruit of ſuperior quality, in proportion.

The pruning of the wall and eſpalier Pear and Apple Trees, is required conſtantly every ſummer and winter, to preſerve the regularity of growth, and good fruitfulneſs in the peculiar degree of perfection, which, by proper management, is generally obtained on trees in this order of training; and in which different prunings, that in ſummer comprehends a regulation among the young ſhoots of the year only; and the winter-pruning includes a general regulation both in the young wood and older branches occaſionally, each as explained below, uner their ſeparate heads.

The ſummer-pruning is neceſſary, as before intimated, to regulate the ſhoots of the ſame year, which generally, in full-trained trees, are produced numerouſly, or ſuper-abundantly more than is wanted for training, as well as many that are ill-placed, not admitting of being trained with proper regularity; and in both of which inſtances, many of the year's ſhoots will require cutting out, eſpecially in trees already furniſhed with a full expanſion of branches; for as theſe trees continue bearing many years on the ſame branches, they only require occaſional ſupplies of young wood, either to furniſh vacant parts in young or other trees, or to ſupply the place of caſual, worn-out, old branches and decayed wood; therefore, beginning the ſummer-pruning in May and June, when the ſhoots will be conſiderably advanced, cut away all fore-right and others as are ill-placed for training, and thin out the ſuperfluous or over-abundancy of the other more proper ſhoots, retaining only ſome of the beſt well-placed thereof, in the moſt vacant parts, with generally the terminal or leading ſhoot to each branch; obſerving, however, of the beſt lateral ſide-ſhoots, generally to leave rather more than what may appear juſt neceſſary, in order that there may be plenty to chuſe from in winter-pruning, in caſe they ſhould be wanted; cutting all the unneceſſary or improper ſhoots cloſe to the old wood, not leaving any ſtump or bottom ſnag thereof to ſhoot again; and let all the retained ſhoots be continued at their full length, and tied in regularly to the trellis of the eſpalier; and after the firſt general regulation, keep the trees cleared from all after-ſhoots, except any of proper growth occur in a vacancy where wood is wanted; and continue all the other reſerved proper ſhoots trained along at their whole length, during their ſummer's growth, to remain till winter-pruning.

The winter-pruning of the wall and eſpalier Pears and Apples is performed any time in November or December, till March, or not later than the beginning of April; conſiſts of a general regulation, more or leſs, both among the ſuper-abundant and improper young wood of laſt ſummer, and occaſionally in the older branches; obſerving, now, in this pruning, that, as the ſame general mother branches formerly trained, either now preſent bearers, or advancing to that ſtate, continue many years fruitful, they are to be retained accordingly; and therefore, in trees of full expanſion, a renewal of young wood is only required occaſionally to ſupply the place of caſual, worn-out, or decayed branches, or to furniſh accidental vacancies; but in young trees, ſtill under training, a requiſite ſupply of young ſhoots muſt be retained for the neceſſary encreaſe of branches for bearers.

Thus, in proceeding to the winter-pruning, obſerve, agreeable to the above intimations, to examine the general mother branches or bearers, and ſtill retain all that are of ſound and good fruitful growth, or advancing to that maturity, conformable to their mode of bearing, and only to cut out any worn-out, barren, or decayed wood, and examining the ſupply of young ſhoots which were trained in laſt ſummer, and, as probably more were then retained than is now required, the ſuper-abundancy and ill-placed, if any, muſt be pruned out, and ſelecting only what may be wanted of the beſt well-placed ſide-ſhoots thereof, of moderately ſtrong growth, to ſupply any wants or vacant parts in young or old trees, as above; or where any old branches appear on the decline, or of a barren, unfruitful ſtate, leave ſome contiguous young wood, advancing between, to a bearing ſtate, ready to ſupply the places of the caſual unfruitful branches; obſerving always to continue one good terminal or leading ſhoot, and no more, to each of the mother branches; or where two or more ſhoots occur at or near the end,

cut

cut off all but one, either that naturally placed at the termination of the branches, where room to extend them therewith; or in branches very conſiderably extended, may occaſionally prune them down to ſome eligible lateral ſhoot, to remain for a terminal to the branches; all the retained ſhoots to be left at their whole length, none ſhortened where room for their full extenſion; and let all the others, not wanted, fore-right, or other ill-placed ſhoots, be cut off cloſe to the old wood, not leaving any ſtump or ſnag to ſhoot again; but be careful to preſerve all the natural fruit-ſpurs appearing along the ſides and at the extreme parts of the ſeveral years old branches.

Further obſerve, in winter-pruning theſe trees, or eſpecially thoſe of ſome conſiderable age, that, in the older branches, if any caſually become of an unfruitful or worn-out, declining or decayed ſtate, cut them away; retaining young to ſupply the place, if neceſſary, cutting the improper old wood either clean out to the bottom, or pruned down to any good lateral branch properly ſituated on the lower part, or may previouſly fore-caſt to have young wood advancing below, between, or contiguous to any apparently, declining, old branches, one, two, or three years, forwarding to fruitfulneſs, ready to ſupply occaſional deficiences; or alſo where any old branches are very croudedly too abundant or irregular, cut them out, or pruned agreeable to the foregoing intimations; but, except in the above inſtances, retain always the ſame principal branches or bearers, as long as they continue in a fruitful ſtate, furniſhed with plenty of good bearing fruit-ſpurs, and permitted to extend at their full growth without ſhortening, as far astheir allottedbounds admit, that they may not ſhoot vigorouſly in uſeleſs wood, but furniſh bearing-ſpurs the whole length, being careful to preſerve the ſaid ſpurs, and only cut off ſuch as caſually decay, or become barren or unfruitful, or that project too conſiderably in length in a fore-right growth, and cut away any large, barren and old ragged ſtumps and ſnags, cloſe to the branches, leaving only the good natural ſpurs; and by cutting off cloſe the worn-out ſpurs and uſeleſs wood ſtumps, new bearing ſpurs are often obtained in or near the ſame places in a year or two after; and thus, agreeable to the above methods, theſe wall and eſpalier-trees are continued always regular and abundantly fruitful to the longeſt duration.

Generally obſerve, in old trees, or where it may ſeem neceſſary, it is adviſeable to have, in any moſt vacant parts below, ſome well-placed young wood trained in occaſionally, to be advancing between the main branches, ready either for preſent ſupply or for any future deficiency.

Likewiſe obſerve in this pruning, that, in cutting out the unneceſſary and improper ſhoots, &c, and retaining the uſeful, always cut cloſe the former, not leaving any bottom ſtump or ſnag, which would ſhoot from every remaining eye the enſuing ſummer, in a profuſion of uſeleſs wood; and in the requiſite ſupply of proper ſhoots now retained, cut off any lateral twigs thereon, cloſe to the main ſhoots, preſerving the whole of the latter at their full length, not ſhortened, which, as in the ſtumps, would alſo occaſion a production of much unneceſſary wood, and retard their forming fruit-ſpurs, for bearing; but, being continued intire, will gradually emit natural ſpurs at almoſt every eye, their whole length.

Sometimes very old Pears and Apple Trees, in walls, eſpaliers, &c. have become almoſt wholly unfruitful by falſe pruning, all the branches covered with numerous large, projecting, ragged ſpurs, of barren growth, formed by the remaining bottom parts of ſhortened ſhoots, year after year, multiplied and encreaſed by every pruning, both rendering the trees very unſightly, and unprolific or bad bearers; and in which caſe, the only remedy is, at this pruning, to cut off all the largeſt and moſt irregular ſtumps cloſe to the mother branches, and ſometimes natural ſpurs will be obtained in or near the places, or ſome of the moſt unpromiſing large, old barren branches may be cut away, leaving young ones to ſupply their place; and have alſo young ſhoots in training from below, between the old branches, which, according as the young advance to bearing, may be cut away by degrees; and the trees will thereby be gradually recovered, and furniſhed with a general expanſion of proper branches for good bearing, being managed agreeable to the foregoing directions in the ſummer and winter-pruning and training.

Or where any old wall and eſpalier-trees, &c. either through bad pruning or other cauſe, have advanced in large, barren wood, or branches of a decaying or worn-out ſtate, the whole may be cut down low, to ſhoot out in the ſpring and ſummer, in young wood, and of which to retain a general ſupply of the beſt regular ſhoots, cutting away the unneceſſary and improper, and train the others to the wall and eſpalier, at their whole length, in the uſual manner already explained; and will thus form a ſet of new branches, furniſhed with ſpurs, for more plentiful bearing, in two or three years, and encreaſe in abundant fruitfulneſs by degrees.

In any old trees or others, of the wall and eſpalier Pears and Apples, where vacancies or want of wood occur in any particular parts, and that no young ſhoots ariſe naturally in or near the vacancy, it may ſometimes be obtained by cutting a notch on the lower parts of any contiguous large branches, which having a ſomewhat ſimilar effect as ſhortening, promotes the emiſſion of ſhoots in or near the cut or notched part.

Some-

Sometimes old Pear and Apple trees, being either of bad ſorts, or become of an unfruitful growth, are cut down in the ſpring, and ſome of the principal, beſt-placed branches are grafted with ſhoots of any deſirable varieties; the larger branches by crown-grafting, or ſmaller ones cleft-grafted; and they will thus renew the head of branches, and ſooner become good bearers than quite young trees.

Where there are young trees of the wall and eſpalier Pears and Apples, that are ſtill under training, not furniſhed with the requiſite expanſion of branches, ſhould, in this pruning, give proper attention to retain an eligible ſupply of the beſt-placed young ſhoots, cutting out the fore-rights, and continue the others at their natural length, and trained to the wall and eſpalier in regular order; and, as obſerved in the general pruning, extend the whole, both of the preſent and former training, always in their full growth, except it may appear neceſſary to ſhorten any particular middle ſhoots or others, where further ſupplies of wood are required in vacant parts to form the neceſſary expanſion of branches; but when this is obtained, continue them wholly at their full length, and they will emit and form fruit-ſpurs abundantly, and form plentiful bearers in due time accordingly; ſome beginning to produce fruit at two or three, others four, five, or ſix years old, and ſome, eſpecially Pears, &c. on free ſtocks, will ſometimes be five, ſix, or eight years, or more, before they commence bearing in the general branches.

According, in the general pruning, as each tree is pruned, it is adviſeable generally to train them to the wall and eſpalier, nailing the branches of the wall-trees with nails and ſhreds, and the eſpaliers, ſome branches may both be nailed occaſionally to the ſtakes and rails, and others or the whole tied thereto, with ſmall oſier twigs, or old, tarred rope yarn; and in all of which arrange the branches horizontally, more or leſs, according to the general expanſion, at four, five or ſix inches aſunder, equally to both ſides, both in the number and poſition of the branches, all laid ſtraight and parallel, nailed and tied cloſe to the wall and eſpalier in the moſt regular order; obſerving that where, in the pruning, any conſiderable retrenchment was made in cutting out unſerviceable, large branches in old trees or others; ſhould now, in the nailing, &c. be careful to regulate the others accordingly, by training ſome higher or lower, that the whole may arrange at equal diſtances.

Thus far finiſhes the general culture of the trees, ſhall next give ſome intimations relating to the maturity of growth of the fruit for gathering, &c.

The fruit, in the different varieties of Pears and Apples, acquire maturity, to gather for uſe, from June and July till October, immediately off the trees for preſent occaſions; and the late kinds, attaining full growth in September and October, and being then gathered, continue in good perfection all winter. Several of the different forward varieties of the Apples particularly acquire proper growth, to gather for uſe immediately off the trees, both in their young growth and more advanced ſtate, in ſummer and autumn, in June, July and Auguſt, eſpecially for various culinary purpoſes, for which Codlins in particular, and ſome others, are eligible for theſe occaſions, both when of quarter and half growth and when full grown; and in many ſorts, both of Apples and Pears, they attain a proper degree of mature growth the latter part of ſummer and early in autumn, to gather off the trees for immediate eating in their natural ſtate, as deſert fruit, &c. ſome earlieſt ſorts in July, but more abundantly in Auguſt, though theſe will not keep in perfection above a week or two, or ſome of the forwarder ſorts but a few days, eſpecially Pears; but many of the autumn Apples and Pears attaining full growth the beginning and middle of September, are proper to gather and houſed for keeping a ſhort time, till the late kinds acquire maturity in the latter end of September and in October, for uſe both at that time, and for long keeping in winter, and ſome till next ſpring and ſummer.

The late kinds of Pears and Apples, conſiſting of many principal varieties, ſhould generally, or thoſe deſigned for keeping, be permitted to have their full growth on the trees before they are gathered for that occaſion; they acquiring maturity of full growth, in the different varieties, from the latter end of September to the beginning, middle and end of October, many of them are proper both for immediate uſe, particularly moſt ſorts of the Apples, and ſome ſorts of Pears, and for keeping; but many fineſt eating Pears do not acquire maturity for eating till after being gathered and lain ſome time in the fruitery; ſome probably two, three, or four weeks, others double that time, or more; and, both in Apples and Pears, many principal varieties continue good in the houſe for ſeveral months; and all of which are valuable for their property of keeping a conſiderable time in perfection, and for their generally ſuperior quality, both as eating or deſert fruit, and all culinary purpoſes in which Pears and Apples are commonly uſed; as well as for making cyder and perry; therefore, permitting theſe late Apples and Pears to remain on the trees till they have full growth, they ſhould be then gathered accordingly, as they attain perfection, or ſome as wanted for preſent ſupply, and a large portion for keeping.

Or where large quantities of Apples are wanted for cyder, or Pears, for perry, many of the autumn kinds of September are proper, if uſed ſoon after being gathered,

thered, or before they ſpoil or decay; but of the late ſorts, they may either be uſed for that purpoſe, both as ſoon as gathered, or will admit of keeping longer for that occaſion at a future opportunity.

The maturity of full growth in Pears and Apples, after attaining their reſpective full ſizes on the trees, according to that of the different varieties, is diſcoverable ſome by changing, more or leſs, to a ſomewhat yellowiſh colour, and in many alſo by their mellow, palatable taſte and flavour, eſpecially of the ſummer and autumn kinds, ripening in the end of July and in Auguſt, or early part of September; others, both of thoſe ſorts and the later varieties, not changing colour in any material degree, but either indicate tokens of maturity by their mellow or agreeable flavour, aforeſaid, or ſome, both of the forwarder and late, or winter kinds, or more generally many of the latter, not diſcovering any particular degree of perfection, as above, on the trees, but which, and in Apples and Pears in general, having attained a peculiar plumpneſs in ſize, their full growth is apparent by their readily quitting the trees on being plucked, or by gently turning ſome of the fruit upward; and likewiſe often by the fruit frequently dropping from the trees naturally: however as many of the late autumn and winter Pears, &c. ſhew but ſmall indications of maturity, while on the trees, it may be obſerved that all theſe late Pears and Apples attain full growth for gathering in the end of September to the middle and end of October.

So, according to the above intimations, of mature growth in theſe fruit, they ſhould be gathered in their proper ſeaſons, that as many of the ſummer and autumn kinds acquire a mellow eatable ſtate on the trees, they ſhould be gathered accordingly, as wanted, for immediate occaſions; and the ſucceeding and late ſorts acquiring a more durable ſtate, for future ſupply, they, in the proper ſeaſon, may be gathered both ſome for preſent uſe, and a principal quantity for keeping; as none of the forward ſorts are eligible for that purpoſe, eſpecially thoſe attaining ripeneſs before September, which keep good ſome but a few days, or a week or two; or others of the later autumn Pears, &c. will keep ſome time longer; and therefore allotting moſt abundantly of the winter Pears and Apples for keeping all winter, ſpring, &c. in the different varieties; for, as above remarked, the forward ſorts do not keep long after being gathered; but the late kinds attaining full growth from the middle and end of September to the end of October, ſhould then be finally gathered and houſed for keeping, ſome three or four, to five or ſix weeks, and many principal ſorts to keep good ſeveral months.

Generally, in proceeding to gather Pears and Apples for keeping, chuſe dry days, and when the trees and fruit are alſo quite dry; and likewiſe obſerving that, for the ſame occaſion of good keeping in perfection, they ſhould be moſtly or all gathered by hand, that they may not be bruiſed, as would unavoidably be the caſe if ſhaken down, as ſometimes practiſed in the common ſtandard fruit, which, by their falling on the ground and againſt one another, being conſequently much bruiſed, ſoon begin to decay; and therefore all the principal fruit, both on ſtandards and eſpaliers, &c. ſhould be carefully hand-gathered in baſkets.

Though ſometimes any of the more common ſorts on large ſtandard-trees, wanted to gather in haſte for immediate ſupplies, and not required for long keeping, may occaſionally be ſhaken down, or eſpecially where not convenient to reach or time does not admit of hand-gathering in any conſiderable quantity for any preſent uſe required.

According as the Pears and Apples, deſigned for keeping, are gathered, they ſhould be houſed in the fruitery or ſome dry apartment; and the different varieties depoſited ſeparately, in proper diviſions, upon ſhelves, and the floor, &c. or where previouſly convenient to lay them together in heaps, to ſweat and diſcharge the watery juices, and then all wiped clean and dry, they will keep the better and be of improved flavour; that in depoſiting them finally in the fruitery, it would be eligible, in the principal keeping ſorts, to lay firſt ſome clean, dry ſtraw, and upon which place the fruit either thinly, more or leſs, thicker together, as room admits, laying them gently, not to bruiſe one another; and if then cloſely covered with clean ſtraw, a foot thick, to exclude the external air, damps and froſt, they will thereby keep longer ſound, in good perfection; or ſome choiceſt eating Pears may be packed cloſe in boxes, jarrs, or hampers, having ſtraw at bottom, ſides, and top; and the whole afterwards covered thickly with ſtraw, as above; and thus the fruit will keep in good condition for winter and following ſpring.

Obſerve, during the winter, &c. to examine the fruit occaſionally, to draw out ſuch as decay in due time, before they affect the others adjoining.

Of the QUINCE.

(PYRUS *Cydonia.*)

The Quince formerly conſtituted a diſtinct Genus, denominated *Cydonia*, but by the modern botaniſts is now ranged as a ſpecies of the *Pyrus*, as being ſimilar in the generic characters, conſiſtent with the ſexual botany of Linnæus, and in which we have placed it accordingly, having deſcribed the ſpecies, and its reſpective varieties of the fruit, in the proper place: ſhall,

ſhall, under this head, proceed to give ſome general intimations relating to the fruit and culture of the trees, which being principally raiſed in ſtandards, and occaſionally in eſpaliers, and, in both of which, their mode of bearing being nearly ſimilar to that of the Pears and Apples, already explained, there is no very material difference in the methods of cultivation.

Quinces, however, are of inferior value to Apples and Pears, with regard to the general utility of the fruit; and a much ſmaller portion of the trees is required, or probably not more in proportion than one to ten or twenty, or more, for any general culture for the ſupply of a family; for theſe fruit, although beautiful in their large growth and golden-yellow colour, impart a high fragrance, are moſtly too hard and auſtere to eat without ſome previous preparation in cookery, &c. and from their very ſtrong flavour and taſte, a ſmall portion of the fruit ſerves for thoſe occaſions; but as they are likewiſe uſed for making marmalade and Quince wine, larger quantities will be required accordingly.

The Quince fruit, therefore, being too hard and aſtringent to eat raw, are valued principally for ſome culinary or kitchen purpoſes, in which they, being of a ſingular ſtrong flavour and taſte, are uſed occaſionally to ſlice in apple pies, tarts, apple ſauce, &c. to improve the flavour in a high reliſh, where required; and, as before intimated, are in eſtimation for making marmalade, Quince wine, and ſome other domeſtic occaſions; and for all of which purpoſes, the fruit attains perfection in autumn, in September and October, both for immediate uſe off the trees, and being gathered in October, when of full growth, houſed and covered cloſe with ſtraw, will keep good ſome conſiderable time to uſe occaſionally.

That according as Quinces may be in requeſt for the above purpoſes, the trees may be admitted in a ſmaller or larger portion, from two or three, to ſeveral or many.

The trees are cultivated principally in ſmall ſtandards in gardens, orchards, or any out-grounds, or by the ſides of ponds, watery ditches, &c. as they delight in moiſt places; though they will alſo grow in any common ſoil and ſituation; and ſome may likewiſe be trained in eſpaliers, in aſſemblage with thoſe of Pears and Apples, but in a ſmaller portion, by way of variety to diverſify the eſpalier plantations in different kinds of fruit, and the trees will appear ornamental both in their bloſſom and fruit, which will alſo acquire an improved growth, and, when full grown, appear beautiful in its large ſize, and golden-yellow colour; however, the fruit attains abundant perfection on ſtandards, which may be planted any where in open expoſures, and raiſed both in half and full ſtandards, with ſtems, three or four, to five or ſix feet, and to branch out at theſe heights to form the head.

Thoſe trees are of very moderate growth, the branches ſlender, producing the bloſſom and fruit upon ſmall natural ſpurs emitted at the ſides and toward the extreme part of the branches, nearly ſimilar to the Pears, &c. but the bloſſoms, &c. generally come ſingly, and the fruit produced conſequently in the ſame manner, only one in a place; and obſerving that, as in their nature of bearing, the ſame branches continue many years fruitful, furniſhing bearing ſpurs quite to their extremity, they ſhould not be ſhortened, but permitted to extend in their full growth.

They are raiſed or propagated, either both by grafting and budding upon ſtocks of their own kind, raiſed from the ſeed or kernels of ripe Quinces, or ſuckers from the roots of Quince Trees, or occaſionally upon Pear ſtocks, to have trees of larger growth; and may alſo raiſe the trees wholly from ſuckers, layers, and cuttings, to run naturally without grafting, &c. or likewiſe, occaſionally, from the ſeed or kernels of the Quinces, but theſe will not bear near ſo ſoon as grafted trees, or thoſe raiſed from layers, cuttings, &c. of the young branches and ſhoots of trees of the deſired varieties.

Or young ready-raiſed Quince Trees, for immediate planting, may be procured of proper growth at the general nurſeries in the common planting ſeaſons.

But when deſigned to raiſe ſupplies of the trees, if intended by grafting, &c. provide eligible ſtocks, raiſed either from kernels of the fruit, or ſuckers from the roots, in autumn or ſpring, and when of proper growth, of two or three years, or more, graft them in the ſpring, or bud them in ſummer, upon the proper ſtocks, at three, four, to five or ſix feet, for ſtandard-trees, and at ſix or eight inches for eſpaliers; or raiſe the trees wholly from ſuckers, layers, or cuttings, which may be planted in autumn, about October, November, and December, or in the ſpring; or may ſow kernels of the fruit at the ſame ſeaſons, either for natural trees, or ſtocks for graſting: the ſuckers from Quince roots are proper to plant off, for the above purpoſes, when of one or two years growth, and planted in nurſery-rows, and for layers and cuttings, ſhould generally be of the young wood of a year old, which will root in one year; and all of which young plants may be trained up in nurſery-rows, either in ſtocks for grafting, &c. or continued in their natural ſtate, as may be thought convenient.

In the above different methods, the trees may be raiſed in half and full ſtandards, trained in ſingle,

clean ſtems, three or four, to five or ſix feet, either graſted, &c. or run up in their natural growth, to thoſe heights, and then to branch out to form the head accordingly; or ſome may alſo be trained in dwarf ſtandards, in low ſtems, ſix or eight inches, to one or two feet; or alſo for eſpalier-trees, in ſtems of ſix or eight inches, to branch out low in ſpreading heads, as obſerved of Pears and Apples for the ſame occaſion; and when, in either of the above methods, the trees have formed heads of two or three, to four or five years growth, they may be finally tranſplanted where they are to remain.

The ſeaſon for planting the trees is autumn or ſpring, or any time in open weather, from October or November, till March or April.

The trees may be planted in any common ſoil, either in kitchen gardens, pleaſure-grounds, orchards, hedge-rows, &c. as formerly intimated, fifteen or twenty feet aſunder, the ſtandards, and the heads of which be permitted to branch out every way in their natural manner; and for eſpaliers, may plant ſome, for variety, in aſſemblage with thoſe of Pears, Apples, &c. and the branches arranged horizontally to the trellis, at regular diſtances, generally at their whole length, to the full extent of their allotted ſpace.

Or Quince Trees may alſo be admitted in ſhrubberies and other ornamental plantations in pleaſure-grounds; and in which will diſplay an agreeable variety, in their flowering and fruit, in ſummer and autumn.

In the general growth of the Quince Trees, their culture is, in the ſtandards, to give only a little occaſional pruning, when any diſorderly growth in the branches occur; and in the eſpalier-trees, they require an annual pruning every ſummer and winter, to preſerve the requiſite regularity in that order of training; and in regard to the methods, both in the ſtandard and eſpalier pruning, may obſerve nearly the ſame as directed for Pears and Apples, which in general is applicable to the Quinces, as being ſimilar in their growth and ways of bearing, and to which we therefore refer for the particulars, relating to the article of pruning and training thoſe trees.

The Quinces attain full growth, for uſe, in September and October, moſtly large, yellow, and impart a high odour; and may then be gathered, both for preſent occaſions, as wanted, and likewiſe for keeping, laying them in a dry apartment, and covered thick with clean ſtraw, to exclude the air, &c. and they will keep in perfection ſome time, for future uſe, as may be required.

Further Obſervations relating to the different Species of the Apple, Pear, and Quince Kinds.

In the different ſpecies, &c. of the Pear, Apple, Crabs, Quinces, &c. ſome may alſo be introduced, with propriety, in pleaſurable plantations, for variety and ornament.

The Siberian Crab and American Dwarf Apple, being trees of ſmall, ſlender growth, producing ſingularly ſmall fruit, of the Apple kind, of a curious appearance, are proper to cultivate both ſome as fruit-trees, in ſmall ſtandards, eſpaliers, &c. and to plant in ſhrubberies, for variety; they ripen fruit in autumn, and are agreeably flavoured, particularly the Siberian Apple, and both ſorts make a pretty variety in a deſert; the trees bear the fruit in cluſters, on ſmall ſpurs, the ſame manner as the Common Apple, and like them raiſed by grafting, &c. or by layers of the young branches, or occaſionally by ſeed of the fruit; and trained both in ſmall, dwarf and half ſtandards, to plant detached in borders and other ſmall compartments, or alſo ſome occaſionally in pots; and likewiſe ſome trained in low, ſpreading heads, for eſpaliers and wall-trees; and in all of which, they, in their mode of flowering and abundant fruitfulneſs, will have a pleaſing effect; and in their culture of pruning, &c. is the ſame as the Common Apples, explained in its proper place.

But the Sweet-ſcented Virginia Crab, both of the deciduous and ever-green kinds, are eſteemed principally to admit in ſhrubberies, borders, &c. of pleaſure-grounds, for variety, in which they will make an agreeable appearance in their ornamental and ſweet-ſcented flowers; and the ever-green kind continues in verdant foliage the year round; and both ſorts will ſometimes produce fruit very agreeably, more deſirable, however, for variety or curioſity, than eating: are raiſed by ſeed or kernels of the fruit, and by grafting or inoculation, and by layers; and trained in low or ſmall ſtandards; may be planted at the general ſeaſon of removal, in any common ſoil and ſituation, the heads permitted to branch out fully, or give only occaſional pruning, to reform any conſiderable irregularity of growth, in diſorderly branches, &c.

For ornamental planting may introduce occaſionally any ſorts of Pear and Apple Trees, and Quinces, in tree plantations, to encreaſe the variety in their general growth, or more particularly in their bloſſoms and production of fruit, which latter will alſo be profitable for uſe; but the ſorts which are more generally employed for ornament or variety, in pleaſurable plantations, are the double-bloſſom, twice-flowering, and ſtriped-leaved Pear, double-bloſſom Apple, and occaſionally ſome varieties of the Quince, with ſometimes the two-year and Fig Apple, tranſparent Apple, &c.

the

the Siberian Crab, American Apple, and the ſweet-ſcented Virginia Crab, both of the deciduous and ever-green kinds.

Likewiſe, for foreſt-tree plantations, may admit the Pear Tree particularly, raiſed in a natural ſtate, from ſeed of the fruit and ſuckers from the roots, to run up in tall, ſtraight ſtems, without grafting, or, if thought proper, ſome budded or grafted, and trained each with a ſingle ſhoot, to form a tall, clean ſtem of ſome conſiderable length; as the trees grow lofty and of a large ſize, and the wood is uſeful in ſeveral trades, as turners, button-mould makers, &c. and may therefore admit them in aſſemblage with other deciduous kinds, as maple, beech, elm, aſh, oak, &c. to form timber plantations and coppices of under-wood, and permitted to run up in their natural growth; and for which occaſions, they may be raiſed either by the kernels of the fruit in a nurſery, and alſo ſuckers from the roots of Pear Trees, or ſome by budding, &c. and in all of which train up the plants in clean, ſingle ſtems, the top-ſhoot entire, to aſpire in height; and when three or four, to five, ſix, or ſeven feet growth, tranſplanted where they are to remain, as above; or ſeeds or kernels may be ſowed in drills in the places where the plants are always to ſtand, to grow up for large trees, or as required.

QUERCUS, OAK TREE.

Claſs and Order.

Monoecia, Polyandria,
One Habitation, Many Males;

Or Plants with Male and Female Flowers, diſtinct and apart, on the ſame Tree, and the Males having many Stamina.

THE Quercus furniſh many ſpecies of ſuperior, large, deciduous, and ever-green trees, for uſeful and ornamental plantations, moſtly of great utility and value as foreſt or timber trees, exceeding many others in the ſtrength and durability of their timber, growing forty or fifty, to ſixty or ſeventy, or ſome near an hundred feet high, with conſiderable branchy heads, garniſhed with middling and largiſh, oblong and ovate, and ſpear-ſhape leaves, ſinuated, pinnatifid, and intire in the different ſpecies, and ſmall, yellowiſh male and female flowers, ſeparate on the ſame tree, all without petals or flower-leaves; the males produced in looſe catkins or amentums, each floret having a five-parted cup, and many ſhort ſtamina; and female flowers in cloſe-ſitting buds in hemiſpherical, rough, thick, one-leaved, intire calyxes, with an oval germen, and ſingle, five-pointed ſtyle; and the germen grows an oval nut or acorn, fixed into the rough, permanent cup, ripening in autumn; and by which, ſowed in that ſeaſon or ſpring, the trees are generally propagated.

The Species of OAK, conſiſting of deciduous and ever-green Kinds are,

1. *Deciduous Kinds.*

1. QUERCUS *Robur*—(Robur) or Common Engliſh Oak.

A moſt large, lofty, deciduous tree, growing ſixty to near one hundred feet high—the leaves *(middling-ſize, dark-green)* oblong, broadeſt toward the top, ſinuated-acutely, with the angles obtuſe.—Native of England and other parts of Europe. *(Loamy or any common ſoil.)*

Varieties.—Common Oak, with the acorns ſitting cloſe to the branches.
Common Oak, with pinnatedly-ſinuated leaves, and acorns on long foot-ſtalks.
Striped-leaved Common Oak.

2. QUERCUS *alba*—White American Oak.

A large, deciduous tree, growing fifty or ſixty feet high, with a whitiſh bark—the leaves *(middling or large, lighter-green)* oblong, obliquely-pinnatifid, with the ſinuſes angular-obtuſe.—Native of Virginia. *(Any common ſoil.)*

3. QUERCUS *nigra*—Black American Oak.

A middling, deciduous tree, thirty or forty feet high, with a dark-brown bark—the leaves *(broad upward, ſhining-green)* wedge-ſhape, ſlightly three-lobed.—Native of Virginia. *(Any common ſoil.)*

4. QUERCUS *Prinus*—(Prinus) or Cheſnut-leaved American Oak.

A moſt large, deciduous tree, ſixty or ſeventy feet high—the leaves *(large, long, bright-green)* oblong-ovate, pointed at both ends, ſinuated-ſawed; the denticles round, uniform; and very large acorns.—Native of North America. *(Loamy or common ſoil.)*

5. QUERCUS *Phellos*—(Phellos) or Willow-leaved Oak.

A large, deciduous tree, growing forty or fifty feet high—the leaves *(middling, pale-green)* ſpear-ſhape, ſmooth, and intire.—Native of North America. *(Any common ſoil.)*

Varieties.—Long-leaved, Willow-leaved Oak.
Short-leaved, Willow-leaved Oak.
Variable-leaved, Willow-leaved Oak.

6. QUERCUS

6. QUERCUS *rubra*, Red or Scarlet Virginia Oak.

A large, deciduous tree, growing forty, to fifty or ſixty feet high—the leaves *(large, bright-green)* oblong, ſinuated, with the ſinuſes obtuſe, briſtly-pointed; green in the ſpring, changing to a bright-red or ſcarlet colour.—Native of Virginia and Carolina. *(Any common ſoil.)*

Variety.—Three-pointed-leaved Red or Scarlet Oak.

7. QUERCUS *Eſculus*—(Eſculus) Horſe-Cheſnut-leaved Oak.

A large, deciduous tree, forty or fifty feet high—the leaves *(broad, light-green)* oblong, deeply cut, or pinnate-ſinuated, and ſmooth; and longiſh acorns ſitting cloſe to the branches.—Native of the ſouth parts of Europe. *(Loamy or any common ſoil.)*

8. QUERCUS *Cerris*—(Cerris) Lyrate-leaved Spaniſh Oak.

A large, deciduous tree, fifty or ſixty feet high—the leaves *(middling, dark-green)* oblong, lyrate-pinnatifid, or indented in the middle in a lyrie-ſhape form, tranſverſe-jagged, in acute points, downy on the under ſide.—Native of Spain, Auſtria, &c. *(Any common ſoil.)*

9. QUERCUS *Ægilops*—(Ægilops) or Prickly-cupped Spaniſh Oak.

A moſt lofty, large, deciduous tree, of beautiful growth, ſixty or ſeventy feet high, or more, widely branching—the leaves *(middling, pale-green)* ovate-oblong, ſmooth, with the edges ſawed-dentated; and acorns in very large, prickly cups.—Native of Spain and the Levant. *(Loamy or any common ſoil.)*

The following are Varieties of different Species.

Quercus humilis, Dwarf American Oak.
Quercus oxonienſis, Exeter or Luccombe's Oak.

Ever-green Kinds.

10. QUERCUS *Ilex*—(Ilex) or Common Ever-green Oak.

A largiſh, upright, ever-green tree, thirty or forty feet high—the leaves *(middling, dark-green)* ovate-oblong, undivided, ſawed, ſhining-green above, downy underneath, placed on foot-ſtalks; and ſmall acorns.—Native of the ſouthern parts of Europe. *(Any common ſoil.)*

Varieties.—Broad-leaved Ever-green Oak.
Narrow-leaved Ever-green Oak.
Sawed-leaved Ever-green Oak.
Intire-leaved Ever-green Oak.
Various-leaved Ever-green Oak, with leaves narrow and broad, ſome ſawed, others intire, and ſome prickly-edged; ſometimes all on the ſame tree.

11. QUERCUS *gramuntia*, Gramuntian or Holly-leaved Ever-green Oak.

A largiſh, ever-green tree, thirty or forty feet high—the leaves *(middling, darkiſh-green)* oblong-oval, ſinuated-ſpinous-edged, downy underneath, ſeſſile or ſitting cloſe, without foot-ſtalks; and glands peduncled or foot-ſtalked.—Native of the ſouth of France. *(Any common ſoil.)*

12. QUERCUS *Coccifera*—(Coccifera) Scarlet-bearing or Kermes Oak.

A ſmaller, ever-green tree, fifteen or eighteen feet high, of buſhy growth—the leaves *(middling, bright-green)* oval, undivided and ſmooth, with the edges prickly-indented, ſcarlet glands on the branches and leaves, called Kermes, uſed in dying.—Native of France, Spain, Italy, the Eaſt, &c. *(Any common ſoil.)*

13. QUERCUS *carolinienſis*, Carolinian, or American Live Oak.

A largiſh ever-green tree, thirty or forty feet high—the leaves *(middling, dark-green)* ovate-ſpear-ſhape, intire, and ſhort foot-ſtalked; and ſmall, oblong acorns.—Native of Carolina and Virginia. *(Any common ſoil.)*

14. QUERCUS *Suber*—(Suber) or Cork Tree.

A large, ever-green tree, thirty or forty feet high, having a rough, fungous, and cleft bark, which is the cork—the leaves *(middling, dark-green)* ovate-oblong, undivided, ſawed, and downy on the under-ſide.—Native of the ſouthern parts of Europe. *(Any common ſoil.)*

Moſt of the ſpecies of Oak being of the largeſt tree kind, growing with ſtems or trunks of a conſiderable bulk

bulk and ſtature, more particularly ſome of the deciduous kinds, are valuable to cultivate as foreſt-trees, for the great worth of their timber, to uſe for many ſuperior purpoſes where ſtrength and long duration is neceſſary and required; is of particular value as the principal timber employed in ſhip-building, and various other occaſions, for ſtrength and durability; and for which, one of the ſpecies in particular, the *Quercus Robur*, or Common Oak, ſurpaſſes moſt of the others in its vaſt dimenſions of growth in this country, and ſuperior quality of its wood, as well as the great utility of the bark of the tree, as the principal material for tanning of leather; and when after being uſed for that valuable purpoſe, becomes of ſingular uſe to the gardener, for making tanner's-bark hot-beds, commonly called tan or bark-beds, peculiarly uſeful in hot-houſes or pineries, for the culture of the Pine-Apple, and in forcing-houſes and frame hot-beds occaſionally; though ſeveral or moſt of the other ſpecies, being trees of ſuperior growth in height and magnitude of their trunk, are alſo eligible to aſſemble with foreſt-trees, and occaſionally in large, ornamental plantations, in parks and any out-grounds; and in all the ſorts, their production of acorns ripening in autumn, are good to fatten ſwine and deer, when they fall from the trees, in September, October, &c.

In ſeveral ſpecies of the Oak are produced glands, or roundiſh, protuberant excreſcences, larger and ſmaller, upon the young ſhoots and leaves in May and June; very abundant in the Common Oak, and which are commonly called Oak-Apples, generally occaſioned by inſects, and are of no particular uſe, except in the *Quercus Coccifera*, or Scarlet-bearing Oak, where the trees grow naturally, being the Kermes, called Scarlet Grain, and is collected for the uſe of dyers, &c.

All the ſpecies of Oak may be employed in extenſive plantations, both as foreſt-trees, in large ſtandards, for timber, and in under-wood, to uſe in ſmaller growths occaſionally; likewiſe, to plant, for variety and ornament, in aſſemblage with other large trees, in conſiderable pleaſure-grounds, parks, fields, hedge-rows, and in any out diſtricts; but, for uſeful plantations in foreſt or timber-trees, the Common or Engliſh Oak generally claims preference for principal culture, as ſuperior in growth, and for the known value of its wood; and abundance of the trees may be cultivated, to great advantage, in all extenſive grounds, to form Oak woods, both by raiſing the trees in a nurſery, and tranſplanted where they are to continue, and by ſowing the acorns in the places where the trees are always to remain; likewiſe, ſhould introduce ſome, or as many of the other ſpecies as may be thought expedient, as they will grow to handſome timber-trees, and effect an agreeable diverſity in the plantations, in their different growths, foliage, &c.

Or for ornamental planting in conſiderable grounds, or to embelliſh different parts of eſtates, any of the ſpecies of Oak may be admitted in forming extending plantations in aſſemblage with other large trees, or in ſimilar plantations towards the out-boundary of pleaſure-grounds, extenſive lawns, parks, &c. and in forming clumps, ranges, and ſingly, both in parks and any extenſive out-grounds, as above-intimated; or may alſo be introduced in large, running ſhrubbery plantations, for variety; or for garden ſhrubberies, may have principally ſome of the ſmaller kinds, and any of the ever-green Oaks, as they will appear ornamental at all ſeaſons, in their conſtant verdure.

Moſt of the Oak Trees are ſlow growers, and continue, for ages, in an advancing growth; the Common Oak particularly continues growing many centuries.

The Oaks moſtly ſucceed beſt in a loamy ground, and will alſo thrive in any common ſoil, not very wet or marſhy; or, however, where the ground, intended for plantations, is of a loamy nature, it will be of advantage in promoting a more expeditious, ſtrong, handſome growth; but they may likewiſe be planted ſucceſsfully in any common ground, of a ſomewhat fertile nature, or of ſome tolerable cultivating ſtate, as may occur in the places where deſigned or convenient to have plantations thereof, either for profit or ornament; though, for the latter, the fertility of the ſoil is not ſo material as for the former, where intended to plant principally for timber plantations.

All the ſorts of Oaks are propagated or raiſed by ſowing the acorns in autumn or ſpring; and the young ſeedling plants, when a year old, tranſplanted in nurſery-rows, to advance to three or four, to five or ſix feet growth, for the intended plantations, as more fully directed hereafter.

Or young trees, ready raiſed to proper ſizes, as above, may be obtained at the public nurſeries, for planting.

But when deſigned to have conſiderable plantations of the Common Oak, and of any other ſorts, to form Oak woods, for timber-trees and under-wood, it is moſt adviſeable, where convenient, to raiſe proper ſupplies of young trees in home nurſeries, to a due ſize for tranſplanting, as required for theſe occaſions; or the acorns ſowed at once in the places where the plantation is intended, and the trees to remain where thus raiſed, and they eſtabliſhing their roots more effectually from the beginning, not having any check by tranſplanting, they will generally make the moſt proſperous trees, of long duration, in a thriving growth; or, however, if raiſed in a nurſery, to tranſplant for the foregoing purpoſes of timber-trees particularly, it would

would be moſt ſucceſsful to perform it while they are young, of three or four, to five or ſix feet high at moſt, in which they will more effectually root firmly in the ground, and grow more proſperous than ſuch as are tranſplanted larger.

The proper ſeaſon for planting Oaks is either in the autumn or ſpring, or may be done any time in winter, in open weather, from November, to February, March, or wholly compleated by the beginning of April.

When deſigned to form Oak woods for timber-trees, it may be effected either by young plants previouſly raiſed from the acorns ſowed in a nurſery, and when two or three, to four or five feet high, tranſplanted in the places intended, in rows, four or five, to ten or twenty feet diſtance, or the acorns ſowed at once in drills where the plantation is intended, and as they remain where raiſed, will generally grow more expeditious and proſperous than thoſe which are tranſplanted, having the ground previouſly prepared for their reception, by ploughing and harrowing; and, in both of which methods, may either be diſpoſed in wide rows, ten, to fifteen feet aſunder, or in cloſe rows, only four or five feet diſtance, in order that, when of advanced growth, they may admit of thinning out ſome of the underling trees gradually, either ſome ſmall, for tranſplanting, or larger, for other purpoſes, and of cutting down ſome for under-wood, every eight, ten, or twelve years, and will ſhoot up again for the ſame occaſion, leaving a ſufficiency of the fineſt ſtems from the beginning, to run up for large ſtandards, at from ten to twenty feet apart at firſt; and when theſe are conſiderably encreaſed in ſize, ſome may be cut down in a thinning order, for ſmaller timber, &c. retaining the reſt at twenty or thirty feet diſtance, to acquire full growth; the retained ſtandards, both in their young and advanced ſtate, ſhould be pruned up below, by degrees, each in a clean, ſingle ſtem, preſerving the tops intire to run up in height.

Or, where intended to raiſe a nurſery of Oaks, for tranſplanting, it is effected in the following manner.

The propagation or method of raiſing all the ſorts of Oaks, being by ſowing the acorns, both of the Common Oak, which ripen abundantly every where in autumn, and of the other ſorts that can be obtained; all either ſowed ſoon after they are ripe, in autumn, or preſerved cloſe and dry till the ſpring, about February or beginning of March, or as ſoon as the intended ſorts can be procured; or ſome are occaſionally raiſed by grafting or budding on Common Oak ſtocks, eſpecially any of the foreign ſorts, of which the acorns are not attainable; or alſo any particular varieties to continue the ſame, as the Oaks ſeldom ſucceed well by layers or cuttings; and the grafting, &c. is only practiſed occaſionally in the above inſtances, and by which they will take upon ſtocks of any of the Oak kind; though, for the general propagation, it is always effected by ſowing the acorns.

Therefore, to raiſe the principal ſupply from the acorns, and having procured a requiſite quantity of thoſe of the Common Oak, for the general plantation, and of ſuch others as may be intended for variety, prepare beds of any common, light earth, in the autumn or ſpring, aforeſaid: ſow the acorns either in drills two inches deep, and the drills ſix or eight to twelve inches aſunder; or by broad-caſt, firſt raking two inches depth of earth off the ſurface of the beds, then ſcatter the acorns evenly on the bed moderately thick, preſs them into the earth with the back of a ſpade, and cover them in with the earth that was raked off evenly about two inches deep: they will come up in the ſpring; keep them clean from weeds all ſummer, and when the plants are of one or two year's growth, they ſhould be tranſplanted, either in the autumn, in October or beginning of November, or in the following ſpring, in nurſery-rows, two or three feet aſunder, by fifteen or eighteen inches diſtance in each row.

In the nurſery-rows, let them have three or four years growth, training each with a clean, ſingle ſtem, by pruning off the ſtrong ſide-ſhoots, preſerving the top-ſhoot intire; and when advanced three, four, or five, to ſix or eight feet high, they are of proper ſize for final tranſplanting.

When deſigned to propagate any particular ſorts by grafting or budding, it may be performed upon any ſeedling-ſtocks of the Common or other kind of Oak; the grafting performed in the ſpring, and the budding in July and Auguſt; and, in both of which, train the young trees as above.

The young Oaks raiſed as above, to a proper growth for final tranſplanting, three, four, or five, to ſix or eight feet, as before obſerved, they ſhould be planted out accordingly where they are to remain, in the proper ſeaſon; have them dug up with as full roots as poſſible, and of which, only cut away broken parts, or prune any long, naked, tap-root, of down-right growth, and ſhorten any very long ſtraggler; cut off ſtrong, lateral ſhoots from the ſtem, or may prune any rambling or very irregular branches at the head, preſerving the main top leaders intire, and plant them at the diſtances formerly mentioned, five or ten, to fifteen or twenty feet, agreeable to the foregoing intimations, particularly thoſe deſigned to form Oak woods or any other plantations of the Oak kind, or at ten, fifteen, to twenty or thirty feet, to form clumps, &c. in parks and fields, or in aſſemblage with other large trees,

trees, either in forming profitable or ornamental plantations, for the improvement and embelliſhment of eſtates.

But, in forming Oak woods deſigned principally for large timber trees, they ſhould generally either be planted in young growth, or the acorns ſowed in the places where the trees are to ſtand; and in which latter method, as not being tranſplanted, they do not receive any check in their growth, root more effectually, grow faſter, more proſperous, and continue of longer duration, in a free growing ſtate.

The young plantations for woods, &c. as above, ſhould be defended by ſome ſurrounding outward fence, either a ditch, ſtake and buſh hedge, hurdles, palings, &c. and in the young or ſmall growth of the trees, keep them clear from large, aſpiring weeds in ſummer; and the trees deſigned to run for ſtandards, both in their young and advanced ſtate, have the ſtems pruned up from ſtrong lateral ſhoots, and permit the tops to aſpire in height in their full growth.

RHAMNUS BUCKTHORN, compriſing alſo the Frangula, Paliurus, and Alaternus.

Claſs and Order.

Pentandria, Monogynia,
Five Males, One Female;

Or Plants, with Hermaphrodite Flowers, having five Stamina, or Males, and one Piſtillum, or Female.

THE Rhamnus compriſes ſeveral hardy ſpecies of deciduous ſhrubs, and one ever-green kind; all employed for variety in ſhrubberies, &c. are moſtly of the large and middling ſhrub kinds, of upright growth, ſix or eight to twelve or fourteen feet high; ſome armed with thorns, others not; and adorned with middling and ſmall, oblong, oval and ſpear-ſhape ſimple leaves, and ſmall, greeniſh-yellow flowers, in cluſters, at the ſides and ends of the branches; moſtly funnel-ſhape, four or five-parted at the top, each containing five ſtamina, a roundiſh germen, ſupporting a ſingle ſtyle, crowned by a quadrifid ſtigma; and the germen grows a ſmall, roundiſh berry, ſeveral together, in cluſters, furniſhed with three or four roundiſh hard ſeeds, ripening in autumn, and by which, ſowed in that ſeaſon or ſpring, the plants may be propagated, alſo by layers and cuttings.

The hardy Species of RHAMNUS are—

1. RHAMNUS *catharticus*—Cathartic or Common Purging Buckthorn.

A large, deciduous ſhrub, branching irregularly ten or twelve feet high—armed with terminal thorns: the leaves (*middling, dark-green above*) oval, ſpear-ſhape, and ſmall, quadrifid or four-parted, dioicous flowers, in cluſters, ſucceeded by bunches of ſmall, roundiſh berries; uſed in medicine.—Native of England, &c. in hedges. (*Any ſoil.*)

Varieties.—Common larger Buckthorn.
Dwarf Buckthorn.
Long-leaved Dwarf Buckthorn.

2. RHAMNUS *Frangula*—(Frangula) or Berry-bearing Alder.

A large, deciduous ſhrub, branching irregularly ten or twelve feet high—unarmed or thornleſs; the leaves (*ſmalliſh, dark-green*) ovate-oblong intire; and hermaphrodite, monogynous or one-ſtyled flowers, in cluſters, ſucceeded by bunches of ſmall, black, round berries.—Native of England, &c. in hedges. (*Any ſoil.*)

Variety.—Dwarf Berry-bearing Alder.

3. RHAMNUS *alpinus*—Alpine Berry-bearing Alder.

A large, deciduous ſhrub, ten or twelve feet high—unarmed or without thorns; the leaves (*larger, rough*) ovate-oblong, doubly-crenated or notched; and dioicous flowers, ſucceeded by ſmall, round, black berries.—Native of the Helvetian mountains. (*Any ſoil.*)

4. RHAMNUS *Paliurus*—(Paliurus) commonly called Chriſt's Thorn.

A large, deciduous ſhrub, with ſlender, pliant branches, growing eight or ten feet high—armed with thorns in pairs, the lower ones reflexed; leaves (*ſmaller, pale-green*) ovate-roundiſh, and cluſters of ſmall, greeniſh flowers, trigynous or with three piſtils; ſucceeded by roundiſh, compreſſed fruit.—Native of Paleſtine, Italy, Spain, Portugal, the Levant, &c. (*Any common ſoil.*)

This ſpecies, as being a native of Judea, &c. is by many travellers ſuppoſed to be the tree of which was compoſed the crown of thorns which was placed on the head of our Saviour, hence called *Chriſt's Thorn*—though others ſuppoſe the following is the real plant.

5. RHAMNUS *Spina-Chriſti*—(Spina-Chriſti) Chriſt's Thorn, with ſtraight Spines.

A deciduous ſhrub, with ſlender branches—armed with ſtraight thorns, by pairs; the leaves (*ſmall*) oval;

and ſmall yellow flowers, ſucceeded by round berries. —Native of Paleſtine, Syria, Æthiopia, &c. *(Dry, warm ſituation, or againſt a ſouth wall, or ſome in pots, to place in a green-houſe in winter.)*

6. RHAMNUS *lineatus*,—Lineated-leaved, Chineſe Rhamnus, called Supple Jack.

A large, deciduous ſhrub, with long, pliant ſtems and branches—unarmed, or without thorns; the leaves *(ſmall)* ovate, lineated, repand or ſerpentined, netted on the under ſide; and hermaphrodite flowers.—Native of China. *(Any common ſoil.)*

7. RHAMNUS *Alaternus*—(Alaternus) commonly called Alaternus.

A large, ever-green ſhrub, of branchy, buſhy growth, eight, ten or twelve feet high, or more—unarmed or without thorns; the leaves *(ſmall, dark-green)* ovate, firm and ſhining, ſawed and intire, in different varieties; and ſmall, greeniſh, dioicous flowers, with a triple ſtigma; ſucceeded by ſmall, round berries. Native of the ſouthern parts of Europe. *(Any ſoil and ſituation.)*

This ſpecies *(Alaternus)* bears a great reſemblance to the *Phillyrea*, but differ in the ſituation of their leaves, which in the latter grow in pairs oppoſite, and in the Alaternus is placed alternate or one above another, ſingly.

Varieties.—Common green-leaved Alaternus.
Broad-leaved Alaternus.
Narrow-leaved Alaternus.
Jagged-leaved Alaternus.
Bloached-leaved Alaternus.
Silver-ſtriped-leaved Alaternus.
Gold-ſtriped-leaved Alaternus.
Sawed-leaved Alaternus.
Intire-leaved Alaternus.

8. RHAMNUS *lycioides*, Lycium-like Spaniſh Buckthorn.

A middling ever-green ſhrub, eight or ten feet high—thorny, armed with terminal thorns; the leaves *(ſmall, dark-green)* ovate linear.—Native of Spain. *(Warm, dry, ſituation.)*

9. RHAMNUS *Oleoides*—(Oleoides) or Olive-leaved Spaniſh Buckthorn.

A middling ever-green ſhrub, eight or ten feet high—thorny, armed with terminal thorns; leaves *(ſmall, dark-green)* oblong and intire.—Native of Spain. *(Warm, dry ſituation.)*

All the above hardy ſpecies of *Rhamnus* are employed in ſhrubbery plantations, to encreaſe the variety, in their different growths and foliage, and ſome to introduce as ornamental ſhrubs, particularly the *Alaternuſſes* as elegant ever-greens, more beautiful for decorative planting than moſt of the deciduous ſpecies of this Genus; though none of the ſpecies thereof are of the ornamental-flowering kind; at leaſt, the flowers, being ſmall and of a greeniſh colour, they do not make any conſpicuous appearance; but the plants, trained in buſhy ſtandards, ſerve to diverſify large ſhrubbery compartments, in aſſemblage with other ſhrubs and trees; or the Alaternus, however, in its different varieties, being very fine ever-greens, are deſirable ſhrubs to aſſiſt in adorning the principal ſhrubbery clumps, ſpacious borders, and other parts of pleaſure-grounds, for ornament; and the Common Buckthorn is ſometimes planted for outward hedges, but is inferior to the hawthorn for that purpoſe.

The above different ſpecies of *Rhamnus* are moſtly hardy to grow in any common ſoil and ſituation; are generally of a free growth, with branchy, full heads, cloſely garniſhed with leaves, and produce flowers in May and June, ſmall and greeniſh, moſtly hermaphrodite, or ſome dioicous, or male and female apart, on ſeparate trees; ſucceeded by plenty of berries in the Common Buckthorn, Berry-bearing Alders, and the Alaternus, but not ſo common in the others in this country; are of utility principally for ſowing, or ſome for medicine; and where the berries for ſowing are not attainable, all the ſorts are raiſed abundantly from layers.

They are trained principally in ſtandard ſhrubs, to branch out in full heads, either branchy from the bottom, or occaſionally pruned up below to a ſingle ſtem, one, two, or three feet, or more, and to branch out buſhy above.

Or the Alaternuſſes are alſo proper to plant in a ſpreading expanſion againſt walls or buildings, in fore-courts or other parts where required to have naked walls or palings, &c. covered therewith to appear green at all ſeaſons; and for which occaſion the Bloached and Striped-leaved kinds are generally preferred, though the common green ſort, in its ſtronger growth, will ſooner ſpread and effect the intended purpoſe; however, any or all the varieties may be employed, planted cloſe to the walls, &c. two or three feet aſunder, and the branches expanded and nailed to the wall or palings; and in their advancing growth, cut off all projecting ſhoots in ſummer and autumn.

Likewiſe the Alaternuſſes were formerly trained into ornamental, ever-green hedges, though are ſeldom uſed now for that purpoſe, as in the preſent ſtile of laying out gardens, moſt ſorts of internal hedges are rejected.

Moſt

Moſt or all the foregoing ſpecies of Rhamnus, may be obtained at the common nurſeries for planting, of two or three to four or five feet growth, and may be planted in the autumn or ſpring or any time from October to March or April, in open weather; or all the ſorts may be raiſed by the different methods of propagation.

They are propagated by ſeed, layers and cuttings; by ſeed, procure the ripe berries, or ſeed, in autumn or ſpring, of ſuch ſorts as ripen in this country, or can be obtained; ſow them in beds of light earth, each ſort ſeparate, about an inch deep; they will come up in the ſpring, or ſometimes not all freely till the ſecond year; and when the plants are one or two years old, tranſplant them in nurſery-beds, and trained to a proper ſize for final tranſplanting; or by layers of the young branches in autumn or ſpring, ſlit-layed, or cutting a ſmall gaſh on the under ſide, laying that part in the earth, raiſing the tops above ground, they will readily emit roots and be well rooted for planting off in autumn following; and by cuttings of the young twigs, in moſt of the ſorts, planted in the above ſeaſons, will put out roots and grow, though not all ſo freely as the layers; and generally obſerve of the Alaternuſſes, that the Bloached and Striped-leaved kinds, and other varieties, muſt be propagated principally by layers, or occaſionally by cuttings, or budding, &c. as they do not come with certainty the ſame from ſeed; and thus, in the above different methods of propagation, the young plants being planted in the nurſery, train them two or three years, or more, to a proper growth for final tranſplanting.

When the plants are advanced two, three, or four feet high, they are of proper ſizes for tranſplanting finally into the intended plantations of ſhrubberies, &c. where they are to remain; and in which permit them to branch out in full heads, either branchy from the bottom, in ſome, pruned up below, more or leſs, to branch out above; and in all of which, may advance in full growth, or only prune rampant, runaway, or other very irregular ſhoots and branches, to continue the heads in ſomewhat regular order.

Rhododendron, DWARF ROSE-BAY.

Claſs and Order.

Decandria, Monogynia,
Ten Males, One Female;

Or Plants with Flowers (Herm.) having ten Stamina, or Male Parts, and one Piſtillum, or Female

THE Rhododendrons conſiſt of ſeveral ſpecies of ſmall and middling, deciduous and ever-green fine ornamental flowering-ſhrubs, growing two or three to ſix or eight feet high, moſtly of buſhy growth; garniſhed with oval and ſpear-ſhape leaves; and rotate or wheel-form, funnel-ſhape flowers, in cluſters, and ſingly, at the ends and ſides of the branches; having monophyllous or one-leaved cups, cut into five parts, a monopetalous, wheel-funnel-ſhape, five-parted corolla, ten ſmall ſtamina, a five-cornered germen, ſupporting a ſingle ſtyle, crowned by an obtuſe ſtigma; and the germen becomes an oval, quinquelocular capſule, containing many ſmall ſeeds, by which the plants may be raiſed, alſo by layers and ſuckers.

1. Rhododendron *hirſutum*—Hairy-leaved Rhododendron.

A ſmall, deciduous under-ſhrub, two or three feet high—the leaves (*ſmall, ſhining*) ovate-ſpear-ſhape, hairy-ciliated, naked; and funnel-ſhape pale-red flowers, in bunches, at the ends of the branches; May and June.—Native of the Alps, Auſtria, and Stiria. (*Any dry ſoil.*)

2. Rhododendron *ferrugineum*—Ferrugineous, or Iron-coloured Rhododendron.

A ſmall, deciduous ſhrub, about three feet high—the leaves (*ſmall*) ſpear-ſhape, ſmooth, with the under ſide leproſy or ſcurfy iron-coloured; and funnel-ſhaped, roſe-coloured flowers, in bunches at the ends of the branches, in June.—Native of the Alps and Pyrenean mountains. (*Any moderately-dry ſoil.*)

3. Rhododendron *maximum*—Greater Laurel-leaved Rhododendron.

A middling-ſize, moſt beautiful ever-green ſhrub, ſix or eight feet high, of buſhy growth—the leaves (*moderately-large, light-green*) oval obtuſe, gloſſy-ſhining and veined, with the margins acute reflexed; and reddiſh flowers in corymbus bunches, the peduncles one-flowered.—Native of Virginia. (*Any moderately-dry ſoil.*)

4. Rhododendron *ponticum*—Pontic, Laurel-leaved Rhododendron.

A moderate ſize, very beautiful ever-green ſhrub, five or ſix feet high, of buſhy growth—the leaves (*middling, darker-green*) ſpear-ſhape, ſmooth on both ſides, gloſſy; and terminal racems of large, purple flowers, June, July, &c.—Native of the Eaſt and near Gibraltar. (*Any common ſoil.*)

5. RHODODENDRON *dauricum*—Daurian Dwarf Roſe-Bay.

A ſmall, deciduous under-ſhrub, two or three feet high—the leaves (*ſmall*) oval, ſmooth and naked on both ſides; and larger, wheel-ſhape, roſe-coloured flowers, in June.—Native of Dauria. (*Moderately-dry ſoil.*)

6. RHODODENDRON *Chamæciſtus*—(Chamæciſtus) or Dwarf-Ciſtus of Mount Baldi.

A ſmall, deciduous ſhrub, two or three feet high—the leaves (*ſmall, ſhining*) ovate-ſpear-ſhape, ciliatid hairy edged, and rotated or wheel-ſhape, purple flowers.—Native of Mount Baldi. (*Moderately-dry ſoil.*)

Of the foregoing ſix ſpecies of Rhododendron, the firſt four ſorts are the moſt generally known in the nurſeries and garden plantations, and of which the two latter are greatly eſteemed both as moſt beautiful ever-greens, and fine elegant flowering-ſhrubs; tho' all the ſorts are very ornamental in their flowering; proper to plant for variety and ornament, in the principal and moſt conſpicuous ſhrubbery-compartments, diſpoſed moſtly towards the front, in aſſemblage with other curious ſhrubs of ſimilar growth; and in which they will make an agreeable variety, beautiful in their flowers in ſummer, and the ever-green kinds particularly will both appear ornamental in the continuing leaves all the year, and alſo ſingularly delightful in their ſeaſon of flowering.

They ſhould have a moderately-dry ſoil, and ſomewhat ſheltered ſituation.

Moſt of the ſpecies are cultivated in the public nurſeries, where they may be obtained for planting, eſpecially the firſt four ſorts, before remarked; and may ſometimes be had in pots, in particular the ever-green kinds, to tranſplant with the ball of earth about the roots.

They may be planted in autumn or ſpring.

All the ſorts are propagated by ſeed, and occaſionally by layers, and ſometimes by ſuckers: ſow the ſeed in the ſpring, in a bed, or pots of light earth; make the ſurface ſmooth, ſow the ſeeds thereon, and cover them in with fine mold, a quarter or near half an inch deep; or pots with the ſeeds may be placed in a gentle, open hot-bed, to forward their germination, and juſt to bring up the plants ſooner in a free growth, then placed in an eaſt border all ſummer, and ſheltered in winter, and in ſpring tranſplanted; giving them protection for a year or two in winter, from froſt, till they attain a little ſtrength; likewiſe by layers of the young ſhoots both of the deciduous and ever-green kinds, in autumn or ſpring, or may try cuttings in the ſpring in pots, aſſiſted by a bark-bed or other hot-bed; or where any ſuckers occur, plant them off in the ſpring or autumn.

When the plants raiſed as above are advanced one or two feet high, they may be tranſplanted in the ſpring into the ſhrubbery, &c. where they are to remain.

RHUS, SUMACH, and Toxicodendron.

Claſs and Order.

Pentandria, Trigynia,
Five Males, Three Females.

Or Plants with Hermaphrodite Flowers, having five Stamina, or Males, and three Piſtillums, or Female Parts.

THIS Genus furniſhes ſeveral ſpecies of hardy, deciduous, moderate tree and ſhrub kinds, moſtly upright, and ſome of trailing growth; all principally to plant for variety and ornament in ſhrubberies, &c. growing three, four or five to ten, fifteen or twenty feet, in the different ſpecies; ſome garniſhed with long pinnated leaves, of many pairs of folioles, all terminated by an odd one, others with ſimple leaves, and ſome trifoliate, or compoſed of three lobes; and numerous ſmall, pentapetalous, purple and other coloured flowers, at the termination and ſides of the branches, in ſingular paniculated ſpikes, and ſome in cluſters; having ſmall, five-lobed, permanent calyxes, five ſmall, oval petals, containing five ſhort ſtamina, a roundiſh germen, very ſhort-ſtyle, or rather three ſmall ſtigmas; and the germens grow ſmall berries, furniſhed with roundiſh ſeeds, not generally ripening in this country, in all the ſpecies; and by which, obtained and ſowed in the ſpring, the plants are raiſed, alſo ſome by layers, cuttings, and ſuckers.

SUMACH *Kinds.*

1. RHUS *Coriaria*—(Coriaria) or Tanner's Sumach.

A ſmall, deciduous tree, eight or ten feet high, of irregular branchy growth—the leaves (*large*) pinnated, of ſeven or eight pair of oval-ſpear-ſhape lobes, obtuſely-ſawed, and the under-ſide hairy; and cloſe ſpikes of whitiſh-yellow flowers, in looſe panicles, at the end of the branches.—Native of Turky, Paleſtine, &c. where the branches and bark are uſed for tanning of leather. (*Any common ſoil.*)

2. RHUS

2. RHUS *typhinum*, Stag's Horn, Virginia Sumach.

A ſmall, deciduous tree, fifteen or eighteen feet high, with crooked, irregular branches and ſhoots, covered with a velvetty down—the leaves *(large, dark-green)* pinnated or winged, of ſix, ſeven, or more, pair of ſpear-ſhape lobes, ſharply-ſawed, and downy on the under-ſide; and cloſe tufty ſpikes of flowers at the ends of the branches, ſucceeded by large, woolly, purple ſpikes of ſeeds, remaining in autumn and winter.—Native of Virginia. *(Any common ſoil.)*

3. RHUS *glabrum*, Smooth or Scarlet Sumach.

A ſmall, deciduous tree, ten or twelve feet high, with irregular ſpreading branches—the leaves *(large)* pinnated, of many pair of ſpear-ſhape ſawed lobes; naked or ſmooth on both ſides; and large terminal paniculated ſpikes of a deep-red or ſcarlet colour.—Native of North America. *(Any common ſoil.)*

Variety.—Carolina Scarlet Sumach — with large compact panicles of bright-red flower-ſpikes.

4. RHUS *Copallinum*—(Copallinum) or Lentiſcus-leaved Sumach.

A deciduous ſhrub, ſix or eight feet high, with ſpreading branches—the leaves *(middling)* pinnated, of four or five pair of narrow ſpear-ſhape intire lobes, with the foot-ſtalks having membraneous borders, and jointed; and terminal looſe panicles of yelloviſh flowers.—Native of North America. *(Any common ſoil.)*

5. RHUS *Cotinus*—(Cotinus) Venice Sumach, or *Coccygria*.

A deciduous ſhrub, ten or twelve feet high, with irregular ſpreading branches—the leaves *(middling, light-green)* ſimple, or of one lobe, obverſe-oval; and bunches of purple and white flowers at the ends of the branches.—Native of Italy, Spain, &c. *(Any common ſoil.)*

Toxicodendrons, or *Poiſon Trees*.

6. RHUS *Toxicodendron*—(Toxicodendron) or Downy-leaved Poiſon Tree:

A deciduous ſhrub of five or ſix feet growth—the ſtem radicant or emitting roots; leaves *(large)* ternate or trifoliate, of three ovaliſh lobes, foot-ſtalked, angulated, indented and downy; and ſhort ſpikes of greeniſh flowers.—Native of Virginia and Canada; the wood poiſonous. *(Any common ſoil.)*

Varieties.—Indented Downy-leaved Poiſon Tree.
Intire-leaved Downy Poiſon Tree.
Greater Rough Downy-leaved Poiſon Tree.

7. RHUS *radicans*—Radicant Smooth-leaved Poiſon Tree.

A deciduous ſhrub, of trailing and upright growth, three or four, to five, ſix, or eight feet—the ſtem radicant, or emitting roots; leaves *(middling)* trifoliate, of three ovate intire lobes, foot-ſtalk naked or ſmooth, and looſe panicles of greeniſh flowers.—Native of Virginia and Canada. *(Any common ſoil.)*

Varieties.—Smaller trailing ſmooth Poiſon Tree.
Larger twining-ſtalked ſmooth Poiſon Tree.
Upright ſmooth Poiſon Tree.

8. RHUS *Vernix*—(Vernix) Varniſh Tree, or Poiſon Aſh.

A middling deciduous tree, growing twenty feet high, or more—the leaves *(large, dark-coloured)* pinnated, of three or four pair of oval-ſpear-ſhape intire lobes, with the foot-ſtalks intire and equal; and panicles of greeniſh flowers.—Native of North America and Japan; ſuppoſed the true Varniſh Tree from which the Varniſh is obtained. *(Any common ſoil, warm ſituation.)*

9. RHUS *ſuccedanum*—Succedanous, or ſpurious Varniſh Tree.

A moderate tree or ſhrub—the leaves *(middling, ſhining)* pinnated, of three or four pair of intire lobes, perennial.—Native of Japan and China. *(Any common ſoil.)*

Theſe eight or nine ſpecies of *Rhus* are cultivated principally for ornament and variety, in ſhrubberies, and other decorative plantations, in pleaſure-grounds, in aſſemblage with other ornamental ſhrubs and trees, in which they form a conſpicuous variety in their pinnated, and trifoliate, and ſimple leaves, in ſummer, when properly contraſted; and ſeveral of them alſo in their long paniculated ſpikes of flowers; and in ſome of the Sumach kinds, particularly, they diſtinguiſh themſelves agreeably at all ſeaſons: their elegant pinnated foliage and large panicles in ſummer and autumn, diſplay an entertaining diverſity, and appear ſingular in winter, in their large ſtag-horn-like, brown, velvetty ſhoots, terminated by the continuing large, red panicles of downy ſeeds: likewiſe the *Toxicodendrons* ſerve to encreaſe the variety in an agreeable manner, in their different growths, foliage, and flowers; though the latter being ſmall and greeniſh, are not conſpicuouſly ornamental.

All

All the ſorts flower in ſummer, about May, June, July, &c. continuing, in moſt of the Sumachs, conſpicuous till autumn, in their large red ſpikes, but are not generally ſucceeded by plenty of ſeeds in this country; but theſe, however, for ſowing, of the ſorts uſually or occaſionally raiſed thereſrom, may be obtained at the nurſeries and principal ſeed ſhops in the ſpring.

The plants of all the ſpecies are hardy to grow in the open ground, in any common ſoil and ſituation, in general with other hardy ſhrubs; and may all be obtained at moſt of the principal nurſeries, of proper growth, of two, three, or four feet, for planting in the proper ſeaſons of autumn or ſpring; or may be planted any time in open weather, from October till March or April; placing them in ſhrubberies, clumps, ſpacious borders, and any decorative plantations of ſhrubs in pleaſure-grounds, in which diſpoſe them in a diverſified order, and more or leſs towards the front, or backward, in their reſpective compartments, according to their different growths.

They are propagated or raiſed by ſeed, ſome by layers and ſuckers, and others by their radicant or rooting branches.

By ſeeds, all the ſorts may be raiſed, or of ſuch as the ſeeds are attainable, and by which, moſt of the Sumachs in particular, are occaſionally propagated; as may alſo any of the other ſpecies: ſow the ſeed generally in the ſpring, in a bed or border of light earth, or in pots of ſimilar ſoil, and covered in with earth, half an inch to an inch deep; or, if ſowed in pots, ſome might be plunged in a moderate tan or dung hot-bed, and the plants will ſooner come up, but ſhould be expoſed to the full air: give water in ſummer, and protection from ſevere froſt in winter; and when the plants are a year old, plant them in nurſery-rows, to advance in proper growth, two or three years, to an eligible ſize of two, three, or four feet, for final tranſplanting where intended, in ſhrubberies, &c.

By layers, any of the ſorts with pliant branches may be propagated in autumn or ſpring, chuſing the lower young wood, ſlit-lay or gaſh the under ſide a little, laying that part in the earth; they will root freely, for planting off from the parent plant, the following autumn.

And by ſuckers and rooting branches, the Sumachs and ſome of the others, often ſend up many ſuckers from the roots, which may be planted off in the autumn or ſpring, either in the ſhrubbery, &c. to remain, or in the nurſery for a year or two; and in ſeveral of the Toxicodendrons, they propagating both by the rooting ſtems and branches, and by ſuckers, may be ſeparated with roots, and planted in nurſery-rows, or ſome at once where they are to remain.

In the above different methods of raiſing theſe plants, generally in the tree kinds, run them with a ſingle ſtem, two or three feet, or more, to branch out above; and the others of more ſhrubby growth, may branch out below, or quite from the bottom; and, in all of which, when of ſome advanced growth, two or three feet, are proper for the ſhrubbery; permit them to branch out in full heads, according to their natural order; only prune occaſional rambling or very irregular ſhoots and branches; and clear off ſuckers from the roots.

RIBES, CURRANT TREE, and GOOSEBERRY BUSH.

Claſs and Order.

Pentandria	Monogynia.
Five Males,	*One Female;*

Or Plants with Hermaphrodite Flowers, having five Stamina, or Males, and one Piſtillum, or Female.

THIS Genus, *Ribes*, by the laws of Botany, compriſe the Currants as the original, and the *Groſſularia* or Gooſeberry as ſpecies of that family, conſiſting of ſeveral ſpecies of each; moſtly valuable for their large production of berries, excellent both as culinary and table fruit; are all of the deciduous ſhrubby kind, of buſhy growth, garniſhed with middling and ſmall ſimple tri-lobated leaves, and very ſmall pentapetalous greeniſh flowers, produced in ſmall cluſters along the ſides of the branches; having in each flower a monophyllous or one-leaved, bellied, five-lobed calyx; a corolla of five ſmall obtuſe petals, attached to the border of the cup; including five ſhort ſtamina, a roundiſh germen under the flower, ſupporting a bifid internal ſtyle, and the germens grow globular and oval, umbilicated berries, ſmaller and larger in different ſpecies, of one cell, full of a juicy pulp and many ſmall ſeeds, by which the plants may be raiſed, but more generally propagated by cuttings and ſuckers.

They conſiſt of ſeveral ſpecies, furniſhing many varieties of the fruit.

1. Currant Kinds;

Having ſmooth or thornleſs Branches, largeſt Leaves, and the Flowers and Fruit in longeſt pendulous Cluſters.

1. RIBES *rubrum*, Red-fruited, or Common Currant Tree.

A middling deciduous ſhrub, of buſhy growth, four, five, or ſix feet high, or more—unarmed or thornleſs; the leaves (*middling*) tri-lobated or cut in three lobes; and ſmooth pendulous cluſters of plane flowers, ſucceeded by bunches of ſmall berries.—Native of England

England and other parts of Europe, in woods and hedges. (*Any ſoil and ſituation.*)

Varieties of the Fruit.—Common ſmall Red Currant; *June, July, Auguſt, &c.*
Large Red Dutch Currant; *June, July, Auguſt, &c.*
Long-bunched Red Currant; *June, July, Auguſt, &c.*
Pale-red, or Champaign Currant; *June, July, Auguſt, &c.*
White Currant; *June, July, Auguſt, &c.*
Large Dutch White Currant; *June, July, Auguſt, &c.*

The above different varieties ripen in June, July, and Auguſt, continuing to September or October.

Varieties of the Tree.—Yellow-bloached-leaved Currant Tree.
Silver-ſtriped-leaved Currant Tree.
Gold-ſtriped-leaved Currant Tree.

2. RIBES *nigrum*, Black Currant Tree.

A middling or largiſh deciduous ſhrub, growing five or ſix feet high, or more, of buſhy growth, with ſtrong brown ſhoots—unarmed or thornleſs; the leaves (*larger*) tri-lobated; and hairy cluſters of oblong flowers, ſucceeded by bunches of larger black berries, of a ſtrong flavour; and the whole plant of a ſtrong rank ſcent.—Native of Sweden, Switzerland, &c. (*Any ſoil and ſituation.*)

Variety.—Pennſylvanian Black Currant Tree, with ſmaller ſhoots, leaves, and fruit; not ſo rank-ſcented.

3. RIBES *alpinum*, Alpine erect-flowered Currant Tree, or Sweet Alpine Currant.

A ſmall deciduous ſhrub—unarmed or thornleſs; the leaves lobated; and erect flower-cluſters, with the bractea longer than the flower, and ſmall ſweet-fruit.—Native of Sweden, Helvetia, and England, in hedges. (*Any ſoil.*)

GOOSEBERRY TRIBE;

Having prickly Branches, ſmaller Leaves; and the Flowers and Fruit in ſmaller Cluſters, ſitting cloſer, and the Fruit larger, round, and oval.

4. RIBES *Groſſularia*—(Groſſularia) Groſſar or Common Gooſeberry.

A deciduous buſhy ſhrub, four or five feet high—the branches prickly; the leaves (*ſmaller*) tri-lobated, with petioles or foot-ſtalks ciliated hairy, and large hairy berries.—Native of England, and moſt parts of Europe. (*Any ſoil and ſituation.*)

5. RIBES (*Groſſularia*) reclinatum, Reclining-branched Gooſeberry.

A deciduous buſhy ſhrub, four or five feet high—branches ſomewhat prickly and reclining; the leaves (*broader*) tri-lobated; peduncles or flower-ſtalks three-leaved, and large fruit.—Native of Germany, Switzerland, &c. (*Any common ſoil.*)

6. RIBES (*Groſſularia*) *oxyacanthoides*, Hawthorn-like, moſt prickly Gooſeberry Tree.

A larger deciduous ſhrub, five or ſix feet high—branches prickly on all ſides; leaves (*larger*) tri-lobated.—Native of Canada, Hudſon's Bay, &c. (*Any ſoil.*)

7. RIBES (*Groſſularia*) *Uva criſpa*—(Uva criſpa) or ſmooth-fruited Gooſeberry Buſh.

A deciduous buſhy ſhrub, four or five feet high—branches erect, prickly; the leaves (*ſmall*) tri-lobated; ſmooth berries, with the pedicles one-leaved.—Native of the northern parts of Europe. (*Any ſoil.*)

8. RIBES (*Groſſularia*) *cynoſbati*—Prickly-fruited Gooſeberry.

A deciduous ſhrub, three or four feet high—the branches prickly, moſtly at the axillas or angles; leaves (*ſmall*) tri-lobated; berries prickly, growing in cluſters.—Native of Canada. (*Any ſoil.*)

Of the cultivated Gooſeberry Trees, are numerous varieties of the fruit, of round and oval berries, ſmaller and larger; conſiſting of reds, greens, yellows, and whites, and of ſmooth and hairy kinds. viz.

Reds.

Small Early-Red Gooſeberry; *June.*
Early Black-Red Gooſeberry; *June.*
Hairy-Red Gooſeberry; *June and July.*
Smooth-Red Gooſeberry; *June and July.*
Deep-Red Gooſeberry; *June and July.*
Large Black-Red Gooſeberry; *June and July.*
Damſon Black-Red Gooſeberry; *June and July.*
Red Raſpberry Gooſeberry; *June and July.*
Mogul, or Large Tawney Gooſeberry; *June and July.*

Warrington Large-Red Gooſeberry; *June and July.*
Red Globe Gooſeberry; *June and July.*
Long-Red Gooſeberry; *June and July.*
Red-Oval Gooſeberry; *June and July.*
Rough-Red Gooſeberry; *June and July.*
Smooth-Scarlet Gooſeberry; *June and July.*

Greens.

Early-Green Gooſeberry; *June.*
Hairy-Green Gooſeberry; *June.*
Smooth-Green Gooſeberry; *June and July.*
Green Gaſcoign Gooſeberry; *June and July.*
Green Walnut Gooſeberry; *June and July.*
Green-Gage Gooſeberry; *June and July.*
Green Globe Gooſeberry; *June and July.*
Green Dorington Gooſeberry; *June and July.*

Yellows.

Early-Yellow Gooſeberry; *June.*
Yellow Globe Gooſeberry; *June and July.*
Great Oval-Yellow Gooſeberry; *June and July.*
Long-Yellow Gooſeberry; *June and July.*
Great Amber-Yellow Gooſeberry; *June and July.*
Golden Gooſeberry; *June and July.*
Hairy-Amber Gooſeberry; *June and July.*

Whites.

Common White Gooſeberry; *June, July, and Auguſt.*
Large Globe-White Gooſeberry; *June, July, and Auguſt.*
Large Oval-White Gooſeberry; *June, July, and Auguſt.*
Great White Cryſtal Gooſeberry; *June, July, and Auguſt.*
White-Veined Cryſtal Gooſeberry; *June, July, and Auguſt.*
White Alabaſter Gooſeberry; *June, July, and Auguſt.*
White Walnut Gooſeberry; *June, July, and Auguſt.*
White Mogul Gooſeberry; *June, July, and Auguſt.*

Other varieties of different colours, as above, known by the following names—

Rumbullion Gooſeberry; *June, July, and Auguſt.*
Great Ironmonger Gooſeberry; *June, July, and Auguſt.*
Smooth Ironmonger Gooſeberry; *June, July, and Auguſt.*
Hunt's Gooſeberry; *June, July, and Auguſt.*
Hairy-Globe Gooſeberry; *June, July, and Auguſt.*
Lancaſhire Gooſeberry — (many ſorts) *June, July, and Auguſt.*
Large Champaign Gooſeberry; *June, July, and Auguſt.*

In the different varieties of Gooſeberries the early ſorts ripen in June and beginning of July; the others from the end of June and beginning of July to the end of Auguſt.

The above being the general principal varieties of Gooſeberries, there are many others of the ſame colours, ſhapes, &c. which of late years have been raiſed from ſeed in Lancaſhire, and other parts, differing only principally in regard to ſize, and darker and lighter colours, &c. and are encreaſing annually, and denominated either by the names of the perſons or places where raiſed, or various fancy names.

The different varieties of Currants and Gooſeberries ripen their fruit in June, July, and Auguſt; and if, when ripening, ſome are defended with nets, or garden-matts, from the birds, and ſhaded from the ſun, they will continue longer in perfection; or Currants planted in different ſituations, and ſome againſt walls of different aſpects, will be obtained early and late, in ſucceſſion, for two or three months; or, if protected from birds, and ſhaded from the ſun, as above, they may be continued in good maturity till October or November.

The plants of all the ſpecies and varieties of the Currant and Gooſeberry, are hardy ſhrubs, of buſhy growth, generally branchy from the bottom, and moſtly very productive of ſuckers advancing from the roots, but which ſhould be cleared away, kept to clean ſhort ſtems below, and regular buſhy heads above; produce their fruit both on the young ſhoots, and on the older wood upon ſmall natural ſpurs and ſnags along the ſides of the branches; and the ſame branches and ſpurs continue ſeveral years in good fruitfulneſs; and according as they become very old or worn-out, they being pruned out, retaining young wood to ſupply the place, the buſhes may be continued long in plentiful bearing, and the fruit large; keeping the branches moderately-thin and regular, and not too greatly ſhortened or cut down in a ſtumpy manner, or only juſt to prune long rambling ſhoots, to preſerve the head regular, as hereafter more fully explained.

They

They are trained principally in ſtandard-buſhes, for the general plantation, with a ſhort ſtem, ſix, to twelve or fifteen inches, to ſhoot out branchy above, in buſhy heads, and planted in rows in the open quarters of a kitchen-garden, or where required; and ſome trained in a ſpreading growth, againſt walls, palings, and eſpaliers, more eſpecially Currants, to produce early, larger, and late fruit; or likewiſe a few Gooſeberries againſt walls, &c. both to furniſh ſome early green fruit for tarts, and ſome for early ripening.

Theſe buſhes have general merit to cultivate plentifully in every garden, for the great uſefulneſs of their abundant production of berries, proper for uſe ſeveral months in ſummer, in their young green growth and ripe ſtate together; more eſpecially the Red and White Currants, and the Gooſeberries; but not ſo valuable in the Black Currants, which, on account of its peculiar ſtrong flavour, is not in general eſteem as a table fruit; it being more valuable to prepare in a medicinal way, particularly for ſore throats or the quinſey, in which they are eſteemed of great efficacy; and hence are often called Squinancy Berries.

But the Red and White Currants, and the Gooſeberry, aforeſaid, are valuable family fruit, excellent both when young and green, eſpecially the Gooſeberries, as ſome of the firſt uſeful green fruit for tarts, pies, ſauces, &c. in April, May, and June; alſo in their full-grown and green ſtate, for bottling, to keep for autumn and winter; and when ripe in June, July, and Auguſt, are moſt agreeable and wholeſome eating fruit; and the Currants likewiſe, of the Red and White kinds particularly, are ſometimes uſed occaſionally, while green, for tarts, &c. but in their mature ripe growth, are fine and refreſhing to eat raw; and the Red kinds, in their ripe ſtate, are alſo exceedingly uſeful for tarts, pies, currant jelly, &c. and both Red and White ſorts are eſteemed for Currant wine; and for which occaſions, are in perfection from June to September; or ſome may be continued, in good maturity, on the trees till October or November, if ſhaded from the ſun in autumn, and defended from the birds.

So that in conſideration of the great utility of theſe fruit, both of the Red and White Currants and Gooſeberries, for the ſervice of a family, and profitable to raiſe for market, great plenty of the buſhes ſhould be admitted in every garden, both of large and ſmall extent; having the principal ſupply in ſtandard-buſhes, as before intimated, for the general production, planted in a row round the quarters of a kitchen-garden, ſix or eight feet aſunder; or ſome in croſs rows to divide large quarters of ground into breaks of twenty or thirty, to forty or fifty feet wide; likewiſe, in extenſive grounds, are planted in continued cloſe plantations, in rows, ſix, eight, or ten feet aſunder, by ſix feet in each row, as commonly practiſed in many of the large kitchen-grounds round London, to furniſh conſiderable quantities of fruit for the markets of that metropolis: ſhould likewiſe allot a portion for training againſt walls, particularly the Currants, to improve the ſize and flavour of the fruit; or alſo a few Gooſeberries for early fruit; and likewiſe may train ſome in eſpaliers, both of Currants and Gooſeberries.

The Black Currant ſhould alſo be admitted in the collection, in a ſmaller portion, or as may be required, either principally in ſtandard-buſhes, or ſome againſt walls.

Young trees for planting, may be obtained, of all the ſorts, at the public nurſeries, of proper growth, of two or three feet, furniſhed with handſome full heads for immediate bearing, plentifully the firſt year, if planted in the proper ſeaſon, either in autumn about October or November, or any time in winter in open weather, or in the ſpring in February or March, before they begin to bud or ſhoot conſiderably; or all the ſorts may be raiſed expeditiouſly and plentiful by the following methods.

They are propagated or raiſed principally by cuttings of the young ſhoots; or may alſo be raiſed abundantly by ſuckers riſing from the roots; or alſo by layers of the branches; or by ſeeds, to obtain new varieties, eſpecially the Gooſeberries, which run into different varieties very abundantly, but not in the Currants: however, the principal propagation of both Currants and Gooſeberries is generally effected by cuttings and ſuckers, in the autumn or ſpring. The cuttings muſt be young ſhoots of the laſt ſummer; chuſe thoſe of middling-ſtrong growth, cut off about ten or twelve, to fifteen or eighteen inches long; prune the weak, bending tops, if any, and plant them by dibble in rows, a foot aſunder, inſerted about one third or half into the ground; they will emit roots freely below, and ſhoots at top; and by ſuckers from the roots, theſe are proper when of one or two years growth; dig them up any time in open weather, from October to March, with roots to each; cut away ſide-ſhoots, and prune weak, long, or crooked tops; or any ſuckers with full heads may have them continued, or only cut off irregular ſhoots thereof; and thus plant them, either in a nurſery for training, eſpecially the ſmaller; or ſtrong ſuckers may be planted at once where they are intended to remain.

Obſerve, generally in planting the cuttings and ſuckers, or particularly the latter, that in thoſe deſigned for upright ſtandard-buſhes particularly, ſhould not cut them very ſhort, but retain ſome of proper length, to form a ſtem above ground of ſix, eight, or ten inches, or more, according to their ſtrength, to branch out at ſome diſtance from the ground, to form the head.

Or, in the propagation by ſuckers, that where any trees have been permitted to run up in ſuckers from the bottom, in ſeveral ſtems, two, three, or ſeveral years growth, advancing quite from the root, and ſometimes furniſhed with branchy heads above; the trees may either be wholly digged up, and divided into as many ſeparate plants as they admit, with roots to each, or only the encreaſed ſtems detached from the parent trees, as they ſtand; and may all be planted at once where they are to continue; and which, being ſometimes of advanced branchy growth, forming at once handſome plants, will commence immediate bearers.

But the propagation by ſuckers, is by ſome rejected, as ſuppoſing the trees raiſed by that method are apt to run more to ſuckers, and not form bearers ſo ſoon, nor plentiful, as trees from cuttings, though I never obſerved any very material difference, for raiſed in any method, all the tribe of Currants and Gooſeberries are much diſpoſed to produce many ſuckers from the roots.

Layers, either of the young wood or bearing branches, in autumn, winter, or ſpring, will moſt readily root, to tranſplant in autumn following, though this method is ſeldom practiſed.

To raiſe new varieties of Gooſeberries from ſeed, this is obtained from the ripe fruits in autumn; ſow it either the ſame ſeaſon or the ſpring, in a border or bed of light earth; and when the plants are come up about one year's growth, tranſplant them in a nurſery to advance to a proper ſize for bearing, when, if any produce fruit of ſuperior property in ſize, &c. they may be marked for culture, to propagate from by cuttings, ſuckers, &c. as in the common method.

In the advancing growth of the young trees in general, raiſed from cuttings, ſuckers, &c. thoſe deſigned for ſtandard-buſhes, ſhould commonly be trained with a ſingle ſtem below, of ſix or eight, to twelve or fifteen inches, by cutting off all collateral under-ſhoots from the main one, and then permitted to branch out freely above in full heads, cutting out irregular, croſs-placed, and ſuperfluous ſhoots, leaving the others at equal moderate diſtances; or if theſe firſt ſhoots are not ſufficient in number to form the head in the beginning, they may be pruned down low to promote their ſhooting out full and ſtocky; but after which, do not ſhorten the general retained ſhoots before they advance of ſome tolerable growth in height, except very long rambling or ſtraggling ſhoots, which may prune, more or leſs, equal to the extent of the general branches.

Thoſe intended for walls and eſpaliers may generally be trained with ſhort ſtems, of only half a foot, or leſs, to branch out from or near the bottom, in a ſpreading expanſion, cutting off the projecting ſhoots, and have the others range in a line to the right and left.

The ſtandard-buſhes, trained as before adviſed, with a ſingle ſtem, ſix or eight, to ten or twelve inches, or more, is neceſſary, that they may branch out above at ſome diſtance from the ground, in which they will both appear of handſomer growth, and not incommode any under-crops, as when they branch out immediately from the bottom, and which alſo renders it troubleſome to dig or perform other neceſſary culture to the ground or crops thereon, near the buſhes, as well as more detrimental to the ſaid crops.

When the trees, raiſed and trained as above, are of two or three feet growth in height, they are proper for final planting, which may be performed any time from October to March, in open weather.

Plant the ſtandard-buſhes principally in the kitchen-garden, or round any main quarters or diviſions, or in the ſurrounding borders thereof, in a ſingle row, ſix or eight aſunder feet; or ſome alſo planted in croſs-rows to divide the large quarters of ground into breaks, as before obſerved; which will both appear regular, afford ſome ſhelter to the ground in winter, and encreaſe the quantity of fruit; or ſome may likewiſe be planted in continued cloſe plantations, where large quantities of the fruit are required, planted in rows eight or ten feet aſunder, by five or ſix feet in the rows, as formerly intimated.

And in all the above different orders of planting the ſtandard-buſhes, generally keep them ſtill trained in a ſingle ſtem below, by clearing away all root-ſuckers and lateral ſhoots from the ſtem; and let them branch above in full heads, but keep the heads regular by requiſite pruning, to cut out any diſorderly croſs-placed growths, and thin others where ſuperfluous or crouded, whereby to have the general principal branches five or ſix inches aſunder; forming the head either concave or hollowed in the middle, by cutting out the central branches, to admit the ſun and air more effectually to the fruit; or permitted to run up branchy in the middle, the branches kept thin, as above: and, in either method, they may be permitted to advance in full growth, in large heads; or only ſhorten any ramblers; or if required to keep the heads down, or within ſmaller compaſs, they may be ſhortened more in proportion, but by no means cut the ſhoots down ſtumpy, or ſhorten them conſiderably, which would occaſion their running into numerous uſeleſs ſhoots in ſummer, in a diſorderly thicket.

But as theſe buſhes generally ſend out many unneceſſary ſhoots annually, from the ſides and ends of the mother branches or main bearers, they will require ſome pruning every year, to retrench the ſuperfluous growths; performing the principal pruning in winter, or any time from October to March, in which, cut out all the unneceſſary and improper lateral ſhoots cloſe to the main branches, whence they originate; retaining

good

good ſhoots in any vacant parts, and preſerving a terminating or leading young ſhoot to each branch, either naturally placed at the termination thereof, or where any branches and terminating ſhoots advance conſiderably too long, the branches may be occaſionally pruned down, more or leſs, to ſome convenient lateral ſhoot, ſituated lower on the branch, to remain for a leader, leaving but one to each branch; the retained ſhoots but moderately ſhortened, or not at all, in the Gooſeberries particularly, except where any extend too long, or is of a crooked or inclining growth, and which may be ſhortened diſcretionally.

At the ſame time, in this pruning, if any old branches aſſume a bad habit of growth, worn-out ſtate, or are become of a barren nature, or any growing in an irregular manner, prune them out either to their origin, or cut down to ſome eligible lower-ſhoot or young branch; or retaining young wood to ſupply the place of the unſerviceable old, where it may ſeem requiſite; or alſo where the general branches of any tree are too much crouded, prune out ſome of the worſt in a thinning manner, leaving the others at proper diſtances, in ſomewhat regular order.

Being alſo careful, in this pruning, to retain good ſhoots occaſionally below, or where requiſite, in caſual vacant parts, moſtly at their full length, eſpecially thoſe below, till advanced to a proper growth in height or length, conſiſtent with the extent of the general branches; and each main branch terminating generally in a young moderate ſhoot for a leader, agreeable to the intimations before mentioned; and which, and the retained ſhoots in general, may either, in ſome, be ſhortened moderately, or principally only any extreme ſhoots that are of longeſt extenſion, or the others of leſs or moderate extent, continuing within regular bounds, may either be generally left intire, or ſome longeſt extreme ſhoots ſhortened a little, retaining the others at their full length; or in the Gooſeberries particularly, I would adviſe to ſhorten but very ſparingly, or not at all, except only to reduce any rambling extreme ſhoots that extend beyond the general expanſion of the others, or that ſtraggle in any diſorderly direction, and ſuch as recline ſtragglingly downwards, &c. as too ſevere ſhortening in theſe buſhes, both of the Currants and Gooſeberries, forces out numerous lateral ſhoots the following ſummer, filling the trees with a thicket of uſeleſs wood, excludes the benefit of the ſun and free air, and the conſequence is, they produce ſmall ill-nouriſhed fruit, not ripening with a full flavour.

But the general branches being continued moderately thin and ſomewhat regular, and the ſhoots not ſtumped or cut very ſhort, to occaſion a thicket of ſummer wood, but remain open to the action of the ſun, air, &c. the fruit will be large and ripen in ſuperior maturity.

Obſerve, in pruning, that as theſe ſhrubs produce their fruit both on the year-old wood, and branches of ſeveral years growth, upon ſmall ſpurs and ſnags riſing along the ſides of the branches, the ſame branches muſt be preſerved as long as they continue fruitful; or in old trees, where any of the fruit-ſpurs or bearing ſnags become of a decayed, worn-out, or cankery ſtate, cut them off cloſe, new ones will ſometimes riſe in or near the ſame places, eſpecially the Currants.

Sometimes Currant and Gooſeberry Buſhes are trained in fanned dwarf-ſtandards, with the branches ranging only two ways, in a line to the right and left, both that they may take up leſs room, and to admit the full power of the ſun and air to both ſides, and the branches being fewer than in the common buſhy ſtandards, the fruit will generally be ſuperior; they are trained with ſhort ſtems branching out near the bottom, cutting off thoſe projecting in front and behind, and make the ſide-branches extend the way of the row; and they will produce abundance of large fine fruit in a very agreeable manner.

Likewiſe for the walls ſhould have a good portion of the red and white currants, trained with ſhort ſtems, to branch out low, and the branches extended in a fanned expanſion; planting ſome againſt ſouth walls to produce earlieſt fruit, others on weſt and eaſt walls or palings, to produce fruit in ſucceſſion; and ſome on north walls to ripen fruit late in the ſeaſon; and by having them on walls of different aſpects will obtain ripe fruit from the beginning or middle of June till September, or of thoſe on north walls, or others defended with nets or mats from the birds and ſhaded from the ſun, when ripening, will continue good on the trees till October or November; they ſhould be planted eight or ten to twelve feet diſtance, and the branches arranged horizontally, and nailed to the wall four, five, or ſix inches aſunder, extended at their full length, to the extent of the allotted ſpace of walling for each tree; and will require pruning every ſummer and winter, to keep them in proper regularity, and to have them bear plentifully in ſuperior perfection.

Some may alſo be trained in eſpaliers in the ſame manner as thoſe againſt walls, and will produce large, fine fruit.

In the culture of thoſe againſt walls and eſpaliers train the branches horizontally, or upright, according as the ſpace of walling admits, and generally extend the branches at their whole length, as far as the limited bounds of the wall and eſpalier allows; and as the branches will ſend out many ſuperfluous and uſeleſs ſhoots in ſummer, they muſt be pruned in that ſeaſon, in June, July, &c. cutting off the fore-right ſhoots, and ſuch as appear unneceſſary or not wanted for training, retaining only ſome good, ſide, lateral ſhoots, in the moſt vacant ſpaces, where further ſupplies of branches are neceſſary; and nail them in cloſe, at their

full length, till winter-pruning; when, any time from October to March, examine the general branches, retaining all those of former training that are good, and if more are still wanted to complete the expansion, leave some proper shoots of last summer; or if any old branches appear of a bad growth or decayed, cut them out, leaving young shoots to supply their place; and all shoots which were trained in last summer, not now wanted for the above occasions, or not required in any vacant part, prune off close, generally retaining a leading shoot to each mother branch, and extended in length as far as their extreme bounds, and only shortened when they exceed their allotted limits at sides or top; and having finished the pruning, nail each tree accordingly in regular order to the wall, &c.

Some best Gooseberries are also proper to plant against south walls to obtain early fruit, both to gather green for tarts, and for ripening in early perfection of improved size and flavour: the trees trained and managed as advised for the Currants in the same order of training.

Observe in the general culture of Currants and Gooseberries, in the foregoing different orders of training, it is advisable to keep the trees constantly cleared from all root suckers, which commonly rise every year, eradicating them clean out to the bottom.

In the Red and White Currants, when ripe, in July, August, &c. some trees may be defended with nets or mats from the birds; or those in sunny situations, covered with mats from the full sun, during the hot, dry weather; and the fruit may thus be preserved in good perfection, on the trees, till September, October, and November.

Currants and Gooseberries may be forwarded to early fruiting, by introducing some of the trees in forcing houses; having full bearing plants, either planted in the borders within, in autumn, or some growing in pots, introduced in that season, or in due time for forcing, in January or beginning or middle of February.

ROBINIA, FALSE ACACIA.

Class and Order.

Diadelphia Decandria,
Two Brotherhoods, Ten Males;

Or Plants with Papilionaceous Flowers, (Herm.) having two Sets of Stamina, or ten Stamina, or Males, in two Sets, or Brotherhoods.

THE Robinias consist of several species of hardy, deciduous, ornamental tree and shrub kinds, for adorning the shrubbery and other decorative plantations; are of large, middling, and small growth; some thirty or forty feet high, or more, others half or quarter that height, and some not exceeding three or four feet; garnished mostly with long, winged, or pinnated leaves, of many pairs of folioles; and some with quaternate or foured leaves, or placed four together; and papilionaceous or butterfly-shape white, red, and yellow flowers, in long, pendulous bunches, of ornamental appearance in June; having monophyllous, four-lobed calyxes or cups; a corolla of four unequal petals, consisting of a spreading vexillum or standard, two oval wings, and a roundish carina below; ten diadelphous stamina, an oblong, cylindric germen, supporting a bent style, and is succeeded by oblong, compressed pods, containing kidney-shape seeds, ripe in autumn; and by which the plants are raised; also by suckers, layers, and cuttings.

The hardy Species of ROBINIA are,

1. Robinia *Pseud-Acacia*—(Pseud-Acacia) False or Bastard-Acacia, or Locust Tree.

A large, deciduous tree, growing thirty or forty feet, or more, making strong shoots—the branches thorny; leaves (*large, light-green*) complete pinnated, of nine or ten pairs of oval lobes, terminated by an odd one; and long clusters of papilionaceous, white flowers, in June, one flower on each pedicle; and prickly stipula.—Native of Virginia. (*Light or any common soil.*)

Varieties.—Common False-Acacia, as above, with oblong compressed pods.
(*Pseud-Acacia echinata*) or Prickly, Short-podded, False Acacia.

(*Pseud-Acacia hispida*; *flora rosea*) hispid-stalked, or Rose Acacia.

A smaller tree, of shrub-like growth, ten to fifteen feet high—the branches and flower-stalks hispid, in small, bristly spines; large, pinnated leaves; and bunches of large, most-beautiful, deep, rose-coloured or scarlet flowers; in June or July.—Native of North America. (*Light or any common soil.*)

2. ROBINIA *Caragana*—(Caragana *siberica*) Siberian Caragana.

A deciduous shrub, growing eight or ten feet high, or more—the leaves (*middling, dark-green*) abrupt-pinnated, of five or six pair of oblong lobes, not terminated by an odd one; and simple peduncles or flower-stalks, with yellow flowers, in May or June.—Native of Siberia and Tartary. (*Any soil.*)

3. ROBINIA *frutescens*—Shrubby, Four-leaved, Siberian Robinia.

A deciduous shrub, eight or ten feet high, with erect branches and golden-coloured bark—the leaves (*middling,*

(*middling, deeper-green*) quaternate, or placed by fours, on very ſhort foot-ſtalks; and moſt ſimple peduncles, with yellow flowers, May or June.—Native of Siberia and Tartary. (*Any ſoil.*)

4. ROBINIA *pygmæa*—Dwarf, Four-leaved Shrubby Robinia.

A ſmall, deciduous ſhrub, three or four feet high—the leaves (*ſmaller*) quaternate, or placed by fours, ſitting cloſe, narrow wedge ſhape; and moſt ſimple peduncles, or flower-ſtalks, with yellow flowers, May or June.—Native of Siberia. (*Any ſoil.*)

Theſe four ſpecies of Robinia are deſirable furniture to aſſiſt in decorating ſhrubberies and other plantations in pleaſure-grounds, as ornamental flowering-trees and ſhrubs: they appear conſpicuouſly beautiful in ſummer in their elegant long, pinnated, and ſingular quaternate leaves, in the different ſpecies; and produce their flowers in May and June very agreeably; which in the Roſe Acacia in particular, is of ſuperior beauty in their ſcarlet or roſe colour, and for which the ſhrubs merit a place in the principal ſhrubbery clumps or ſpacious borders, eſpecially as they generally begin flowering when but of ſmall young growth, very ornamentally; however, all the others alſo deſerve admittance, and will effect a pleaſing variety, in aſſemblage with other decorative trees and ſhrubs, diſpoſed in a diverſified order.

All the ſorts are cultivated for ſale in the nurſeries, and may be obtained of proper growth for planting in autumn or ſpring.

They are propagated by ſeed, ſuckers, layers, and cuttings; or ſome varieties occaſionally by grafting.

The ſeeds may be ſowed in the ſpring, any time in March or beginning of April, in a bed or borders of light earth, the plants will moſtly come up the ſame ſpring: keep them clean from weeds till the autumn or ſpring following, then tranſplanted in the nurſery in rows, to encreaſe in growth, two or three years, and then will be of proper ſizes for final tranſplanting into the ſhrubbery or where they are to remain in the intended plantations.

By ſuckers, layers and cuttings, the Common Falſe Acacia, and ſome others, ſend up ſuckers from the roots occaſionally, which may be taken up in autumn or ſpring with roots to each, and planted as above; and layers and cuttings of young ſhoots, in the ſpring or autumn, will be rooted by autumn following, or of the Common Falſe Acacias, cuttings of roots in the ſpring are ſometimes planted in pots, plunged in an open hot-bed, will put out ſhoots above and form plants.

Or any particular variety, ſuch as the Roſe Acacia, &c. may be propagated by grafting it in the ſpring upon ſtocks of any of the other kinds.

When the plants, raiſed by the different methods, are two or three to four or five feet growth, according to that of the different ſpecies, they are of proper ſizes for the ſeveral plantations in which they may be intended; may be tranſplanted in the autumn or ſpring or any time in mild weather, from October to March or April; and in performing which diſpoſe them according to their reſpective ſizes they attain in full growth; the larger kinds place towards the back part, thoſe of lower growth plant more or leſs forward; and being thus finally planted, let them advance in full growth, or only prune caſual, ſtrolling, diſorderly ſhoots, to preſerve the heads a little regular.

ROSA, ROSE TREE.

Claſs and Order.

Icoſandria, *Twenty or more Males,* Polygynia, *Many Females;*

Or Plants with Hermaphrodite Flowers, having twenty, or more, Stamina, or Males, and numerous Piſtillums, or Females.

THIS Genus comprizes many ſpecies, and numerous varieties, of the Roſe tribe, forming a grand collection of thoſe moſt eminent ornamental flowering-ſhrubs, moſtly of the deciduous kind, and one evergreen; all of great merit for adorning the pleaſure-ground in ſhrubberies, flower-borders, &c. in their moſt beautiful, large, odoriferous flowers, ſeveral months in ſummer; are generally of buſhy growth, two or three to ſix or eight feet high; moſtly armed, more or leſs, with thorny prickles, and garniſhed with middling and ſmall, pinnated or winged leaves, of two or three pair of oblong-oval folioles, terminated by an odd lobe; and many large, delightful flowers, of five petals, in the common ſingle kinds, but numerous in the doubles; conſiſting of reds, whites, yellows, &c. in vaſt variety; having to each flower a monophyllous or one-leaved bellied, fleſhy, calyx, divided into five long narrow ſegments above, but globular and fleſhy at the baſe and permanent; a corolla, of five obverſe-heart-ſhape petals, increaſing numerouſly in the double varieties, in many ſeries, one within another to the centre; twenty or more hair-like ſtamina, and many ſmall germina in the bottom of the calyx, ſupporting numerous ſtyles; the continuing fleſhy baſe of the calyx becomes a turbinated-oval fleſhy, unilocular red berry, filled with many oblong, hairy ſeeds, ripe in autumn, and by which the plants may be raiſed, for new varieties; but moſt of the ſorts propagate abundantly by ſuckers riſing plentifully from the roots every year

year; and ſome curious ſorts, not very productive of ſuckers, are propagated by layers, budding, &c.

Many ſpecies, moſtly furniſhing varieties, more or leſs.

1. Rosa *canina*—Canine or Dog-Roſe; or Wild Roſe of the Hedges.

A deciduous ſhrub, ſix or eight feet growth—the ſtems armed with thorny prickles; leaves (*middling*) pinnated, with prickly foot-ſtalks; and ovate germina, and ſmooth peduncles or flower-ſtalks; and ſmall ſingle flower.—Native of England and moſt parts of Europe, in hedges, &c. (*Any ſoil.*)

Varieties.—White-flowered Dog Roſe.
Red-flowered Dog Roſe.

2. Rosa *arvenſis*, Field or Corn Roſe.

A deciduous ſhrub, five or ſix feet—the ſtem and leaf petioles prickly; pinnated leaves, globoſe germina, ſmooth peduncles, with ſmall flowers in a corymbus.—Native of England, &c. (*Any ſoil.*)

Varieties.—White Field Roſe.
Red Field Roſe.

3. Rosa *alba*—White Roſe Tree.

A deciduous ſhrub, of ſtrong, branchy growth, ſix or ſeven feet high—prickly ſtems and petioles; leaves (*middling, light-green*) pinnated; and ovate ſmooth germina; hiſpid peduncles, with a large white flower; June and July.—Native of Europe. (*Any ſoil.*)

Varieties.—Double White Roſe.
Large double White Roſe.
Semi-double White Roſe.
Dwarf ſingle White Roſe.
Maidens-bluſh White Roſe.

4. Rosa *gallica*—Gallican, or Common Red Roſe.

A various deciduous ſhrub, three or four to five or ſix feet high, or more, in the different varieties—the ſtems, and petioles or leaf foot-ſtalks, hiſpid-prickly; leaves (*largiſh and middling*) pinnated, of three to five oval lobes; and oval, hiſpid germina, and hiſpid peduncles, with large, red flowers.—Native of the ſouth of Europe. (*Any common ſoil.*)

Varieties.—Suppoſed to conſiſt of the following—

Common deep Red Roſe.
Double-flowered Red Roſe.
Semi-double Red Roſe,
Roſa Mundi, or ſtriped Red Roſe.
York and Lancaſter, or variegated Red Roſe.
Belgic Red Roſe.
Bluſh Belgic Red Roſe.
Red Monthly Roſe.
Striped Monthly Roſe.
White Monthly Roſe.
Red Damaſk Roſe (*pale red.*)
White Damaſk Roſe.
Velvet Red Roſe.
Marbled Red Roſe.
Double Virgin Roſe.
Red and Yellow Auſtrian Roſe; *red or copper colour, on the outſide, yellow within.*
Yellow Roſe (Common ſingle.)
Double Yellow Roſe.
Frankfort Roſe—of large, ſtrong growth; with red flowers, but often irregular, and not ſo odorous as moſt of the others.

5. Rosa *centifolia*—Hundred-leaved Roſe.

A various deciduous ſhrub, three to four or five feet high—the ſtems hiſpid-prickly; ſmooth petioles or leaf-ſtalks; the leaves (*middling, dark-green*) pinnated of three or five ovate lobes; oval hiſpid germina, and hiſpid peduncles, with large, very double red flowers.—Native of Europe. (*Any common ſoil.*)

Varieties—ſuppoſed the following—

Dutch Hundred-leaved Roſe—(*deep-red.*)
Bluſh Hundred-leaved Roſe.
Provence Roſe—very large, deep red.
Cabbage Provence Roſe—large, full double; the petals involving one another like a cabbage.
Pale Provence Roſe.
Childing Provence Roſe; ſmaller Roſes, growing from the ſide of the larger.
Bluſh Provence Roſe.
Moſs Provence Roſe—moſt curious in the peduncles or flower-ſtalks and calyx; being covered with a ſhaggy-like kind of moſs; the ſtems brown and very cloſely armed with ſpines.
Singleton's Bluſh Hundred-leaved Roſe.
Pompone Roſe; delicately beautiful.

6. Rosa *cinnamomea*—Cinnamon Roſe.

A deciduous ſhrub, three or four feet high—the ſtems

ſtems having ſpines only principally at the joints and ſtipula, under the leaves; the leaves (*middling*) pinnated, of five or ſeven folioles, petioles almoſt ſmooth; globoſe, ſmooth germina, and ſmooth peduncles with ſmall, double, reddiſh flowers, imparting an odour like Cinnamon.—Native of the ſouth of Europe. (*Any common ſoil.*)

7. ROSA *carolina*—Carolina Roſe Tree.

A larger deciduous ſhrub, five to ſix or ſeven feet high—the ſtems ſmooth, purple, prickles, in pairs, at the ſtipula of the leaves; the leaves (*middling*) pinnated, of ſeven oval folioles, ſmooth ſhining, ſawed, the petioles prickly; globoſe, hiſpid germina, and peduncles ſomewhat hiſpid; with ſmall, livid-red flowers, moſtly in cluſters.—Native of Carolina. (*Any common ſoil.*)

Varieties.—Common Single-flowered Carolina Roſe.
Pennſylvania Roſe; Double-flowered; very beautiful.
Pale-red-flowered Pennſylvania Roſe.

8. ROSA *villoſa*—Villoſe-leaved, or Apple-bearing Roſe.

A larger deciduous ſhrub, ſeven or eight feet high, with ſtrong ſtems—the ſtems armed with ſcattered ſpines; leaves pinnated (*large, woolly*) of five or ſeven folioles, downy on both ſides, petioles prickly; globoſe, prickly germina, peduncles hiſpid, and large red flowers, ſucceeded by large, roundiſh, apple-ſhape, eatable heps; ſometimes uſed for ſweetmeats, &c.—Native of England, in hedges. (*Any ſoil.*)

Varieties.—Common ſingle-flowered Apple Roſe.
Double-flowered Apple Roſe.
Semi-double-flowered Apple Roſe.

9. ROSA *pimpinellifolia*—Pimpinella-leaved, or Burnet-leaved Roſe.

A ſmall deciduous ſhrub, three or four feet high—the ſtems ſlender, cloſely armed with ſtrait ſcattered ſpines; leaves (*ſmall*) pinnated, of ſeven ſmall, roundiſh folioles, petioles rough; globoſe, ſmooth germina, and ſmooth peduncles, with ſmall, ſingle flowers.—Native of England, &c. (*Any ſoil.*)

Varieties.—White-flowered Burnet-leaved Roſe.
Red-flowered Burnet-leaved Roſe.

10. ROSA *alpina*—Alpine Thornleſs Roſe.

A ſmall deciduous ſhrub, three or four feet high—the ſtems unarmed or without prickles; leaves (*middling*) pinnated ſmooth; ovate germina, and peduncles ſomewhat hiſpid, with deep-red ſingle flowers. Native of the Helvetian Alps. (*Any ſoil.*)

11. ROSA *ſpinoſiſſima*—Moſt-ſpinous, or Dwarf Scotch Roſe.

A dwarf deciduous under-ſhrub, one, two, or three feet high—the ſtems very cloſely armed with ſpines; leaves (*moſt ſmall*) pinnated, petioles very prickly; ovate ſmooth germina, and prickly peduncles with ſmall white odorous flowers.—Native of Scotland and ſome other parts of Europe. (*Any ſoil.*)

Varieties.—Common White-flowered Scotch Roſe.
Red-flowered Scotch Roſe.
Yellow-flowered Scotch Roſe.
Stripe-flowered Scotch Roſe.
Marble-flowered Scotch Roſe.

12. ROSA *pendula*—Pendulous-fruited Roſe.

A deciduous ſhrub, four feet high—the ſtems hiſpid; leaves (*middling*) pinnated, of five or ſeven folioles; ovate ſmooth germina, peduncles hiſpid, red flowers, and long pendulous or hanging fruit.—Native of Europe. (*Any ſoil.*)

13. ROSA *rubiginoſa*—Rubiginous, or Ruſty-leaved Roſe.

14. ROSA *ſempervirens*—Ever-green Muſk Roſe.

A middling, ever-green, ſhrubby plant, of ſlender, ſomewhat inclining or trailing growth, five or ſix feet—the ſtems armed with ſpines; leaves (*middling ſhining-green*) pinnated of five or ſeven oval acute-pointed folioles, petioles prickly; ovate hiſpid germina, and hiſpid peduncles, with white muſky flowers in cluſters.—Native of Germany. (*Any ſoil.*)

Varieties.—Single-flowered Muſk Roſe.
Double-flowered Muſk Roſe.
Deciduous Muſk Roſe.

15. ROSA *eglanteria*—Eglantine Roſe, or Sweet-Briar.

A deciduous ſhrub, ſix or ſeven feet high, of ſtrong growth—the ſtems armed with ſtrong, erect, ſcattered ſpines; leaves (*ſmall*) pinnated, of five or ſeven ſmall acute folioles, of a ſweet odour, petioles rough; globoſe ſmooth germina, and ſmooth peduncles with ſmall flowers.—Native of England, Switzerland, &c. (*Any ſoil.*)

Varieties.

Varieties.—Common ſingle-flowered Sweet-briar.
Double Red-flowered Sweet-briar.
Semi-double-flowered Sweet-briar.
Bluſh-red double Sweet-briar.
Yellow-flowered double Sweet-briar.

16. Rosa *indica*—Indian, or Smooth China Roſe.

A ſmall deciduous ſhrub—the ſtems almoſt with thorns; leaves (*middling*) pinnated, of five folioles, the end one largeſt, petioles prickly; ovate ſmooth germina, and ſmooth peduncles.—Native of China. (*Any ſoil, warm ſituation.*)

Other varieties of different ſpecies, viz.

Burgundy Dwarf Roſe.
Thornleſs Roſe.
Roſe de Meux—a delicate Bluſh-red Roſe.
Stepney Roſe.
Portland Roſe.
St. Francis's Roſe.
Double Velvet Roſe.
Bluſh Velvet Roſe.

In the numerous different varieties of Roſes, it is rather difficult, in many of them, to determine exactly to which ſpecies they belong, eſpecially as many of them which are ranged under ſome of the reſpective ſpecies, as in the Gallican Roſe, differ very conſiderably in the appearance of their general growth, and the ſizes of the plants, as alſo in the appearance of their flowers in ſize and colour; they, however, agreeable to the ſpecific diſtinction, are ranged as near as could be poſſibly judged, under their proper ſpecies.

They are all moſt deſirable flowering-ſhrubs, eminent as general ornaments in every garden, in their numerous beautiful flowers, large, elegant, and odorous, and ſingularly ornamental in flower-borders, ſhrubberies, &c. and the plants moſt hardy to grow in any ſoil and ſituation; and peculiarly adapted to all gardens, both of large and ſmall extent, and any expoſure, as moſt of the ſorts will grow freely any where without trouble, or require but little culture, flower abundantly every ſummer, and multiply exceedingly by ſuckers riſing from the roots; and the ſuckers being planted off in autumn, will flower the firſt or ſecond year, and continue encreaſing many years in a floriferous growth.

Moſt of the Roſes growing in a buſhy order, branching out low, often advancing with ſeveral ſtems from near the bottom, and many ſuckers from the root, they may either accordingly, on ſome occaſions, be permitted to grow in their natural buſhy manner, or all ſuckers riſing immediately from the root cleared off, leaving only one, or more, principal ſtems to ſhoot out in a natural branchy growth; and ſome may alſo be trained with only a ſingle ſtem, and this pruned up below, from all lateral branches, to a clean ſtraight growth, one, two, to three or four feet high; and to branch out above at theſe heights, and form buſhy heads; or ſome may be trained ſpreading with ſeveral bottom ſtems, againſt walls, palings, or rails; and alſo to form Roſe hedges along the front or back part of particular borders, or other compartments, to produce large quantities of flowers, where required.

Roſes, in their mode of flowering, produce the flowers principally upon the young ſhoots of the ſame year, in May, June, July, &c. ariſing at the ends and ſides of the ſhoots, often ſeveral together, in different ſtages of growth, full flowers, and buds advancing in ſucceſſion.

The principal ſeaſon of Roſes flowering, is June, July, and Auguſt, in the different ſpecies and varieties; or ſome, as the monthly Roſes, in a warm ſituation, or againſt a ſouth wall, ſometimes flower in May; and which, and ſome other ſorts, as the Muſk Roſes, likewiſe flower late in the ſeaſon, or till the end of ſummer and autumn; the laſt-mentioned ſorts in particular, generally flower principally in the autumn, after moſt of the other kinds are done flowering.

Or when required to have ſome of any ſorts of Roſes flower late, to obtain a longer ſucceſſion of flowers, it may be effected occaſionally, either by tranſplanting ſome late in the ſpring, about April or beginning of May, well watered, and by checking their firſt growth, by the late tranſplanting, they will ſhoot later in the ſeaſon, and flower in the latter-part of ſummer; or in others, not tranſplanted as above, but by pruning the tops of the young ſhoots of the ſame year, in May and beginning of June, it retards the firſt flowering, and they emitting freſh ſhoots the ſame ſeaſon, will produce Roſes late in ſummer and autumn.

Sweet-briar is eſteemed for planting principally for the odorous ſcent of its leaves; and occaſionally, in the different ſorts, to effect variety, in aſſemblage with any of the Roſe tribe.

Roſes for planting, may be had in collections, or as required, at the common nurſeries, in proper plants for immediate flowering the firſt year; and, in the greater part, may be propagated plentifully by ſuckers, riſing from the roots annually in ſummer, to plant off the autumn, winter, or ſpring following; the larger ones planted at once where they are to remain; or the ſmaller plants, if wanted, ſet in a nurſery for a year or two.

The ſeaſon for planting Roſes is any time in open weather, from October or November, to March or April.

All

All the different ſpecies and varieties of Roſes may be planted any where as principal ſummer ornaments to every garden, proper to adorn borders, ſhrubberies, and other compartments, where thought eligible, in almoſt any ſoil, ſituation, and expoſure, planted either in ſingle ſtems, cutting or clearing away all lateral and bottom ſhoots and branches therefrom, and ſhorten long, ſtraggling tops and rambling ſhoots; or others, growing branchy from the bottom, cutting out any very irregular growths, may be planted in that order, to grow at once more buſhy, if required; and, in planting, diſpoſe them generally in ſome front or conſpicuous ſituations next the walks, lawns, &c. where they may appear ornamental when flowering.

In their advancing growth, either trained ſome with ſingle ſtems, as above intimated, of one or two feet, or more, by clearing away all ſide-ſhoots and ſuckers from the roots, in which they will form the handſomeſt plants, with regular heads, and produce larger flowers; or others may be permitted to branch out from the bottom in a more full and buſhy manner; and in all of which, as they will ſometimes run out in rambling ſhoots, they ſhould have occaſional pruning, either ſometimes in ſummer, in very rude ſhoots, or principally in autumn, winter, or ſpring, to regulate general diſorderly growths, and to cut out decayed wood, alſo to eradicate ſuckers from the roots.

As ſome ſorts have ſlender, ſtraggling branches, as in the ever-green and Muſk Roſes, and ſome others, it is proper to give them ſupport of ſtakes, to keep them in an upright growth; or ſome of theſe ſorts trained to walls.

Likewiſe, Roſes are ſometimes planted and trained in low hedges, two or three feet high, both for ornament and to produce large quantities of flowers, to gather either for bocquets or œconomical occaſions; and, for which purpoſe, having a quantity of ſuckers or full plants, they may be planted in a ſingle row, either along the back or front of a border, a foot aſunder; and when all are planted, cut the tops even to an equal height, of half a yard or two or three feet; and as they will annually ſhoot out ſtrongly at ſides and tops, they ſhould be cut in regular with a knife or garden ſhears, either in autumn, when done flowering, or in winter or ſpring.

The Eglanteria or Sweet-briar, for its ſweet ſcent, is alſo formed into ſmall hedges occaſionally, either by ſowing the ſeed in a drill where the hedge is intended, and the plants to remain; or by planting young ſeedling plants from a nurſery, when of one or two years old, as they do not ſucceed well when tranſplanted of large growth; the roots are apt to be woody and naked of fibres, that will not ſtrike freely, like young plants.

Or Roſes may alſo be planted againſt walls or palings, and the branches nailed thereto in regular order, in which they will flower very agreeably; or ſome monthly roſes, or any principal or more deſirable ſorts planted againſt ſouth walls, it will promote their early flowering; and as ſome ſorts are of ſtraggling growth, as in the ever-green and Muſk Roſes, &c. it would be eligible to plant ſome againſt walls or rails, in which to train the branches regularly.

Some principal ſorts may alſo be planted in pots, for moving therein, when in flower, to adorn any particular parts.

Alſo, where any are required for forcing, they ſhould be planted in pots, ready to introduce in hot-houſes or forcing-frames, &c. of artificial heat, in the proper ſeaſon, winter or early in the ſpring; and in which they may be forwarded to an early bloom, in February, March, and April, two or three months before their natural ſeaſon in the open ground.

The general propagation or method of increaſing and raiſing moſt of the different kinds of Roſes, is principally by ſuckers from the root, ſent up very abundantly every ſummer, fit to plant off next autumn or winter, &c. or alſo occaſionally by layers, or eſpecially where any do not furniſh ſuckers freely, ſuch as in the Moſs Provence Roſe, which is generally ſparing in ſuckers; and, in default thereof, this and any other curious ſorts of ſimilar nature are either raiſed by layers of the young branches, or by budding them upon any common Roſe ſtocks.

However, the propagation by ſuckers obtain more or leſs in all the ſorts; they being produced in ſpring and ſummer, may be ſeparated or digged up, when of one or two years growth, in autumn, winter, or ſpring, with roots to each; prune long, ſtraggling parts of the root, and ſhorten the weak tops; and may be planted, either ſome in a nurſery for training to a proper growth, or ſtrong ones may be planted at once where they are to continue for flowering.

As Roſes often, in their natural ſtate, run up with ſeveral ſuckers, which, permitted to remain, become ſo many ſtems in a large, buſhy growth, in which caſe the whole plant may occaſionally be taken up, and the encreaſed parts divided into ſeparate ſtems, with roots to each, and planted, each forming a diſtinct plant.

Layers, where intended, muſt be of the young ſhoots, laying them in the autumn or ſpring, and they will be rooted in one ſummer for planting in the autumn following.

Or may raiſe Roſes from the ſeed to obtain new varieties; and may be ſowed in the autumn or ſpring, in

a bed or border of light earth; and the ſeedling-plants, when a year old, tranſplanted in a nurſery.

But the Sweet-briars are generally raiſed or propagated from ſeed in the common ſort; or the different varieties of double kinds, &c. by ſuckers and layers, though the Briars are very reluctant in ſuckers: ſow the ſeed in autumn or ſpring, either broad-caſt and raked in, or covered in with earth half an inch to an inch deep, or ſowed in drills that depth, both in drills a foot aſunder, for occaſional tranſplanting; and ſome may be ſowed in a ſingle drill, along the edge of a border in the fore or back part, or of any other compartment, to form a ſort of hedge, if required, either to remain, or ſome tranſplanted while of young growth, for they will not tranſplant ſucceſsfully when large.

Or the double and other varieties of the Sweet-briars, if they do not afford ſuckers for propagation, they may be raiſed by layers of the young wood in the ſpring or autumn, or budded, in ſummer, upon any of the Briar or Roſe ſtocks.

RUBUS, BRAMBLE and RASPBERRY.

Claſs and Order.

Icoſandria, Polygynia,
Twenty, or more, Males, Many Females;

Or Plants with Hermaphrodite Flowers, having twenty, or more, Stamina, or Male Fructifications, and many Piſtillums or Females.

THIS Genus, *Rubus*, furniſhes ſix or ſeven ſpecies, and many varieties of under-ſhrubby, trailing, and upright, ſhrubby plants, cultivated for variety, ornament, and ſome for their production of fruit; all of ſlender growth, with trailing and upright ſtalks in the different ſpecies, garniſhed with pinnate and ternate, digitated leaves, compoſed of five and three lobes; and pentapetalous, white and purple flowers, in cluſters, at the ſides and ends of the ſhoots, in June and July, having, to each flower, a one-leaved, five-parted, permanent cup; five roundiſh petals, containing twenty, or more, ſhort ſtamina, and numerous germina and ſtyles; ſucceeded by cluſters of compound, roundiſh, ſucculent berries, of many ſmall acini, furniſhed each with one ſeed; the berries and ſeed ripening in autumn, in Auguſt and September, ſome for eating, others not; and the ſeeds are ſeldom uſed for ſowing, as the plants propagate abundantly by cuttings, layers, and ſuckers.

Several Species, viz.

Conſiſting of trailing kinds, with long, trailing ſtalks, of ſeveral years duration, and upright kinds, with the ſtems of but one year's continuance, but renewed annually every ſpring or ſummer from the root.

BRAMBLE KINDS.

Having moſtly long, trailing, durable Stems.

1. RUBUS *fruticoſus*—(Shrubby Rubus) Common Bramble or Black-berry Plant.

A trailing, deciduous, ſhrubby plant, with long, ſlender, trailing ſtems, extending ten or twelve feet—the ſtems armed with prickly ſpines; leaves quinate and ternate, hand-ſhape, (*middling, dark-green*) of five and three lobes; and white and purple flowers, ſucceeded by black-berries.—Native of England and all parts of Europe, in hedges.—(*Any ſoil and ſituation.*)

Varieties.—Common Black-fruited Bramble.
White-fruited Bramble.
Double-bloſſom Bramble.
Unarmed or ſmooth Bramble.
Cut-leaved Bramble.
Striped-leaved Bramble.

2. RUBUS *cæſius*, Blue-berried Bramble or Dew-berry.

A ſmaller, weak, trailing, deciduous, under-ſhrub, with trailing ſtalks, extending four or five feet—the ſtem round and prickly; leaves ternate, (*middling*) of three larger, almoſt naked, lobes; the lateral ones bilobated; and ſmaller, bluiſh-black fruit.—Native of England, &c. among buſhes. (*Any ſoil.*)

3. RUBUS *hiſpidus*—Hiſpid Canada Bramble.

A trailing, deciduous, under-ſhrub—the ſtems long, trailing, hiſpid or briſtly; leaves ternate, (*middling*) of three naked, ſmooth lobes, petioles hiſpid; and ſmall berries.—Native of Canada. (*Any ſoil.*)

RASPBERRY KINDS.

Having the Stems upright, ſeveral riſing from each root, ſome laſting but one year, and renewed every ſpring.

4. RUBUS *idæus*—(Rubus of Mount Ida) or Common Raſpberry Plant.

An upright, under-ſhrubby, deciduous plant, riſing with ſeveral ſtems, four or five, to ſix or eight feet high—

high—the ſtems prickly; leaves quinate-pinnated and ternate, (*middling, light-green*) of five and three folioles; petioles or foot-ſtalks channelled; purple and white flowers, ſucceeded by cluſters of fine, large, eatable berries; July, Auguſt, and September.—Native of England, &c. in woods. (*Any common, fertile ſoil.*)

Varieties.—Purple-flowered Raſpberry.
White-flowered Raſpberry.
Red-fruited Raſpberry.
White-fruited Raſpberry.
Twice-bearing White and Red Raſpberry, producing two crops of fruit annually; the firſt in July and Auguſt, the ſecond in September.
Black-fruited Raſpberry.
Prickly-ſtalked Raſpberry.
Smooth-ſtalked or Cane Raſpberry, of ſtronger and taller growth.
Great, Yellow, Antwerp Raſpberry, growing with very tall, ſtrong, ſtems; and large, yellowiſh fruit.

This ſpecies, *Rubus idæus*, and different varieties, are the principal ſorts of the Rubus family, to cultivate for their fruit; and for which, they demand culture in every garden, the berries being large and agreeable to eat both in their natural growth, and for tarts, Raſpberry-jamm, and for making the diſtilled liquor, called Raſpberry, &c.

5. RUBUS *odoratus*—Odoriferous or Virginia Flowering Raſpberry.

An upright, larger, deciduous, ſhrubby plant, with ſtrong ſtems, five, to ſix or ſeven feet high—the ſtem unarmed or ſmooth, with numerous, ſimple leaves, (*large, light-green*) palmated or hand-ſhape; and many large, purple, ornamental flowers, and ſmaller, black fruit, of but little flavour.—Native of Virginia and Canada. (*Any common ſoil.*)

6. RUBUS *occidentalis*—Occidental or Weſtern American Raſpberry.

An upright, deciduous, ſhrubby plant—the ſtems prickly, with ternate leaves, (*middling*) of three, or ſometimes five lobes, downy on the under ſide; petioles or foot-ſtalks round; and ſmall, black fruit.—Native of America. (*Any ſoil.*)

7. RUBUS *canadenſis*—Canada, ſmooth Raſpberry.

An upright, deciduous, ſhrubby plant, with purple ſtems—the ſtems unarmed or ſmooth, digitated or fingered leaves, (*middling*) of ten, five, and three ſmall, ſpear-ſhape lobes.—Native of Canada. (*Any common ſoil.*)

All theſe ſpecies of Rubus are hardy, ſhrubby plants, that will grow in any common ſoil and ſituation; are cultivated in gardens, ſome, or all the ſorts, for variety and ornament in ſhrubberies, borders, &c. and one ſort, Common Raſpberry, and its ſeveral varieties, is in the moſt general eſteem and cultivation for their production of fine eatable fruit, being larger and more agreeably-flavoured than that of any of the other ſpecies; though the fruit of all the ſpecies of Rubus, both of the Bramble and Raſpberry kinds, is alſo eatable, even the Common Wild Bramble, or Black-berries of the hedges; but all greatly inferior to the Common Raſpberries, ſo that the other ſorts are principally admitted for variety, to diverſify ſhrubberies, &c. as alſo ſome varieties, or all the ſorts of the Common Raſpberry occaſionally.

But the RUBUS *idæus*, or Common Raſpberry, and moſt of its varieties, are the moſt valuable in culture for their abundant crops of excellent berries, both of the Red and White ſorts; ripening in July and Auguſt; and the twice-bearing ſort produces both in that ſeaſon and a ſecond ſmall crop in September; and the great Yellow Antwerp Raſpberry, introduced within theſe few years in the Engliſh gardens, grows much ſtronger and taller than any of the other varieties of the ſame ſpecies, and the fruit moſt large and fine, ripening about the ſame time as the others; all of which are hardy to grow in any common, fertile ſoil of a garden: ſhould have an open ſituation in the full ſun; are commonly planted in rows, four and a half or five feet aſunder, for full plantations, and occaſionally planted ſingly in borders, &c.

All the Raſpberry kinds grow with upright ſtems; generally ſeveral from each root, riſing annually in the ſpring or ſummer, produce fruit the following ſummer, and decay the enſuing winter, for the ſame individual ſtems never bear but once, and always die in the winter after, being previouſly ſucceeded by a production of freſh ſtems in the preceding ſummer, for ſucceſſional bearers the enſuing year; as they always bear the fruit on the young or year-old ſhoots of the former ſummer's production, which, riſing abundantly in ſuckers immediately from the continuing roots, in the ſpring, attain full growth the ſame year, bear fruit the ſummer following, principally upon ſmall, lateral ſhoots of the ſame year, ariſing from the ſides of the main ſtems; and the whole decaying down to the root in winter, as before obſerved, a proper ſucceſſion of young ſtems being produced in ſummer, the old ones muſt be cut out to the bottom, in winter or ſpring, to make room for young ſupply, leaving

leaving three, four, or five of the ſtrongeſt upon each root, cutting the others away cloſe to the ground, together with the decayed ſtems aforeſaid; and the remaining ſucceſſion ſhoots pruned at top, or ſhortened about one-third or fourth of their length.

The other ſpecies of *Rubus* are valued principally to introduce as flowering-ſhrubs and for variety, in diverſifying ſhrubbery plantations or any decorative compartments in pleaſure-grounds, flower-gardens, borders, &c. or, likewiſe, may introduce all or any deſirable varieties of the Common Raſpberry for the ſame occaſion, in aſſemblage with the others, or any principal ſorts thereof, ſuch as the *Rubus odoratus*, or Odorous, Virginia Flowering-Raſpberry, and the occidental kind, or any curious ſorts of the Bramble tribe; though the Common Bramble is rarely admitted, or only ſometimes a plant or two in thickets or any rough plantations, for obſervation; but the White-fruited, Double-flowered, and other varieties thereof, together with the other two Bramble ſpecies, are proper to admit in curious ſhrubbery collections.

For the above occaſions of planting in decorative compartments, ſhrubberies, ſpacious borders, &c. all or any deſirable ſpecies and varieties of the Rubus family, being eligible, and if diſpoſed in a varied order, they will diſplay a very agreeable variety in their general growth, flowering and fruiting in ſummer and autumn.

But the Flowering Raſpberry in particular, being very multifolious in its large, palmated, ſimple leaves, and producing numerous, large, conſpicuous flowers, make a very ornamental appearance.

All the principal ſorts may be procured at the general nurſeries, for planting, which may be performed in the autumn or ſpring, or any time, when ſettled, open, weather, from October to March; and will multiply or encreaſe plentifully in their different or reſpective ways of propagation.

The propagation of the Brambles is effected abundantly by layers at any ſeaſon of the year, and by cuttings in the ſpring or autumn.

But the Raſpberries are propagated moſtly by ſuckers, riſing annually from the roots in many ſtrong, upright ſtems, in the ſpring and ſummer, of proper growth for tranſplanting in autumn, &c. or ſpring following, with roots to each, and either generally planted at once where they are to remain, or ſome in a nurſery, till wanted for future occaſions; and will all flower and fruit the enſuing ſummer; or may likewiſe be propagated by layers and cuttings of the ſhoots in the autumn or ſpring ſeaſon; but ſuckers, forming immediate rooted plants, of proper growth, are moſt eligible for general planting.

The Common Raſpberries, when cultivated for their fruit, ſhould have an open ſituation to the full ſun, in any good ſoil of a garden; are generally planted in kitchen gardens, but may be planted where thought convenient, either in full plantations, in continual, wide rows, a yard and a half, or five feet aſunder, to admit of proper room for their full growth in ſummer, and free acceſs of the ſun and air between the rows, to promote the growth and flavour of the fruit in full perfection; or ſome may alſo be planted in a ſingle row, along the back part or front of a border, or on the ſides or along the edges of any large quarters, and in ſingle, croſs rows, in the diviſions of the latter; or, likewiſe, may diſpoſe ſome in ſingle plants, or two or three together, in borders, &c. to grow in diſtinct, ſingle branches.

Likewiſe, ſome may be occaſionally planted againſt ſouth and other walls, and in eſpaliers, and the ſtems trained thereto, whereby to obtain the fruit of ſuperior growth and flavour.

In all the above methods have the ground prepared for their reception, by proper digging or trenching.

Provide for planting, as above, proper ſupplies of young ſuckers, of ſome good bearing plants, in autumn, or any time from September or October, to March or beginning of April, in open weather, digging them up with good roots to each plant; and, of which, prefer thoſe of ſtrong, ſtraight growth, with the moſt fibroſy roots, as the roots of ſome are apt to be woody and naked; and obſerving, that where ſometimes ſmall, advancing, buds appear on the roots, near or at a ſmall diſtance from the ſtem, the plants are deſirably eligible, as the buds are rudiments of future ſhoots for the following ſummer; prune any long, very ſtraggling, and naked, woody part of the roots, and ſhorten the weak, bending tops; and then, the ground where they are to be planted being digged, plant thoſe deſigned for a full plantation, in wide rows, four feet and a half, or five feet aſunder, and two or three feet diſtance in each row; or, for the larger kinds, five or ſix feet, or more, between the rows, would be eligible, to allow ſufficient room for their ſpreading growth in ſummer, and to admit the free air and ſun, in that ſeaſon, to the fruit, as alſo to have good room to paſs between the rows, to gather the produce.

Others may be planted in ſingle rows, in particular parts, as before intimated, or ſome diſpoſed in patches, in borders, &c. ſingly, or two or three plants together,

ther, in a ſort of clump, and ſome againſt walls, palings, rails, and eſpaliers.

They will moſtly or all produce fruit the firſt year, but more abundantly and in full perfection the ſecond ſummer, and continue ſeveral years in a plentiful, bearing ſtate; though, as ſometimes after four or five years production, the fruit will be ſmaller and leſs abundant, it would be adviſeable to make a new plantation of young plants, once in three, four or five years.

The Raſpberry fruit, attaining maturity in July and Auguſt, in the principal production, when ripe, it will not continue good on the plants above two or three days, and ſhould be gathered accordingly, in ſmall baſkets, to contain only a ſmall quantity together, that they may not bruiſe; and, likewiſe, after being gathered, they require to be almoſt immediately uſed for the purpoſes intended, as they ſoon ſpoil, or in a day or two become mouldy, and full of maggots, peculiar to this ſort of fruit.

With regard to general culture of the plantations of fruiting Raſpberries, they will require an annual dreſſing of pruning and digging the ground between, &c. every autumn, winter, or ſpring; generally keep them clear from large weeds all ſummer, by occaſional hoeing, and, at the ſame time, clear out all ſtrolling ſuckers ariſing in the ſpaces between the main plants, which permit to advance in full growth during the ſummer; and muſt have a general pruning, &c. in autumn, or any time from October or November, to March; and in which operation, it muſt be remembered, that as theſe plants always bear only on the young ſtems or ſuckers of a year old, and as the ſame ſtems or ſhoots never bear but once, they decaying in the winter following, young ones having been produced from the roots in the preceding ſummer, to ſucceed them in bearing, the old ſtems muſt therefore be cut away in autumn or winter, &c. aforeſaid, cloſe down to the ground, and, at the ſame time, ſelecting three or four of the ſtrongeſt, young ſtems, of the laſt ſummer, on each ſtool, cut away the weak or ſuperabundant clean to the bottom; and, in thoſe retained, prune or ſhorten the tops, or only cutting off the weak, bending part thereof; and when thus pruned, clearing away the cuttings, &c. dig the ground between the rows, eradicating any ſtraggling ſuckers that are produced between or at a diſtance from the main ſtools, ſtirring and levelling the ground cloſe about the bottom of the continuing plants, and in the intervals.

After pruning, if, where the ſtems are long, they ſtraggle much aſunder, they may either be tied or plaited two or three together, to preſerve them in upright growth, or occaſionally thoſe of the ſame or of different ſtools may be faſtened archways together, above.

In old plantations of two or three years growth, or more, it would be of advantage to manure the ground with rotten dung, applied and digged in any time in winter, &c. after pruning the plants, as above; it will revive and give freſh vigour to the roots, promote a ſtrong, free growth in the ſtems, and the fruit will be large and full-flavoured accordingly.

SAMBUCUS, ELDER TREE.

Claſs and Order.

Pentandria,	Trigynia,
Five Males,	*Three Females*;

Or Plants with Hermaphrodite Flowers, having five Stamina or Male Parts, and three Piſtillums or Females.

THIS Genus, SAMBUCUS, furniſhes three hardy ſpecies of deciduous tree and ſhrub kinds, of the berry-bearing tribe, to cultivate for uſe and variety, and the berries for Elder Wine; are of moderate growth in regard to general ſize, producing ſtrong ſhoots, full of a white pith, garniſhed with large, pinnated, or winged leaves, of two or three pair of oblong lobes, terminated by an odd or end foliole; and ſmall, monopetalous, wheel-ſhape, white flowers, in large, cymoſe-umbellate bunches, having, to each plant, a a ſmall, five-parted, permanent calyx, a corolla of one ſmall, rotated petal, cut into five obtuſe ſegments, containing five awl-ſhape ſtamina, terminated by roundiſh anthera; an oval germen, crowned with three obtuſe ſtigmas; and the germen grows a ſmall, roundiſh, unilocular berry, many together in a bunch, each furniſhed with three ſeeds; ripe in autumn; and by which the trees may be raiſed; but are more generally propagated by cuttings.

The Species are—

1. SAMBUCUS *nigra*—Black-berried or Common Elder Tree.

A ſmall, deciduous tree, eighteen or twenty feet high, with jointed, ſtrong ſhoots, full of pith—the ſtem tree like; leaves *(largiſh, dark-green)* pinnated, of two pair of lobes and an odd one; and large, five-parted, cymoſe umbels of white flowers, ſucceeded by large, umbellate bunches of black-berries, valuable for making Elder Wine.—Native of England, Germany, &c. in hedges, banks, old walls. &c. *(Any ſoil and ſituation.)*

Varieties.—Common Black-berried Elder.
White-berried Elder.
Green-berried Elder.
(Laciniata) Laciniated or Jagged-leaved, called Parſley-leaved Elder—the leaves cut into narrow ſegments.

Gold-

Gold-ſtriped-leaved Elder.
Silver-ſtriped-leaved Elder.
Silver-duſted-leaved Elder.

2. SAMBUCUS *racemoſa*—Racemoſe-flowering, or Red-berried Elder.

A ſmaller, deciduous tree, of ſhrub-like growth, ten to fifteen feet high—the ſtems arboreous; leaves *(ſmaller, dark-green)* pinnated, of two and one pair of lobes, terminated by an odd one; flowers in compound, oval cluſters, ſucceeded by bunches of red berries.—Native of the ſouthern parts of Europe. *(Any ſoil.)*

3. SAMBUCUS *canadenſis*—Canada, under-ſhrubby Elder.

A deciduous, under-ſhrubby plant—the ſtem ſhrubby; leaves *(middling)* ſub-bipinnated, or doubly-winged, and ternate; and cymoſe, five-parted umbellate bunches of flowers.—Native of Canada. (*Any ſoil.*)

Of theſe three ſpecies of *Sambucus*, the Common Elder is that the moſt generally known and cultivated; planted principally in out-parts, both in ſtandards for their berries, and in hedges for outward fences, either to run up rough to afford plenty of berries for Elder Wine, or the hedge kept down low and cloſe, by annual clipping, &c. though this, and its varieties, are alſo admitted in large ornamental tree plantations, to diverſify the collection; as likewiſe the other two ſpecies are introduced for the ſame occaſion; all of which, however, are admitted in ſuch plantations more for variety than ornament; and as Elders in general, when in flower, impart a ſtrong, diſagreeable, unwholeſome ſcent, they are not proper to plant near habitations, or much-frequented walks, &c.

They are all very hardy to grow in any ſoil and ſituation; and the Common Black Elder grows any where, in ſhady or open expoſures, moiſt or dry places, ſides of ditches, or tops of dry banks, and often grow out of crevices of old walls, from ſcattered ſeeds; and which, and all the other ſorts, are raiſed plentifully by cuttings of the young ſhoots, thruſt into the ground in autumn or ſpring, which will readily ſtrike root below, and ſhoot above.

But in regard to the Common Elder, when deſigned to cultivate the trees, either in ſtandards or hedges, the black-berried ſort ſhould be principally uſed, and is the proper ſort to cultivate for its berries for Elder Wine; and which may be trained, both in detached ſingle ſtandards, in hedge-rows, or along the ſides of ditches and banks, or in any bye or waſte grounds, or planted for hedges for outward fences; and, if in which it is required for a production of berries, ſhould be permitted to run up rough at ſides and top: and in all of which, the trees will produce abundant annual crops of berries, ripening in Auguſt and September, and are then valuable to gather, with which to make that moſt excellent cordial called Elder Wine, being a very agreeable beverage in winter and cold weather, when made warm and properly ſweetened.

Or Elder Trees may alſo be admitted in timber or foreſt-tree plantations, or places by themſelves, to grow large for that purpoſe; as, when old, the wood is hard, and is ſometimes ſubſtituted inſtead of box-wood, for ſome occaſions.

The Common Elder is alſo employed occaſionally, in forming fencible hedges expeditiouſly in outward boundaries, along the tops or ſides of banks, or ſides of ditches, &c. is effected by planting cuttings of the ſtrong young ſhoots in the autumn or ſpring, planted in the place where the hedge is intended; either in ſhort cuttings, half a yard or two feet length, thruſt down or introduced into the earth half-way, a foot aſunder; or, if larger ſtrong ſets of a yard or two long, inſert them either into the top or ſide of a bank, ſlanting or upright, or on level ground, as may be required, planted the diſtance as above; or alſo ſtrong cuttings of three, four, or five feet, may be planted ſlanting, the way of the row, acroſs one another, chequer ways, to form an immediate fence; they will all readily ſtrike root, and ſhoot ſtrongly at top; obſerving, as theſe hedges will ſhoot vigorouſly, they ſhould be kept regular by clipping them every year, that they may grow cloſe and thick from the bottom upward, to render them effectual fences.

The propagation of Elders for general uſes, is principally by cuttings of the ſtrong ſhoots, as already intimated; and occaſionally by the ſeed or berries; but as cuttings is conſiderably the moſt expeditious, that method of propagation ſhould be generally practiſed; and they may be planted any time in open weather, from September to March.

Chuſe always cuttings of the young ſhoots of laſt ſummer, one, two, or three feet, of ſtraight, clean growth, or occaſionally longer ſets of four or five feet length, or more; all planted either in the places where they are to remain, or ſmall ones in a nurſery, to raiſe rooted plants of a year or two old, for particular occaſions, inſerting the cuttings in general, ſix or eight to ten or twelve inches, or more, according to their length: may either be planted with a dibble, or the ends ſharpened and thruſt into the ground; they will all root freely and ſhoot at top in ſtrong growth in the ſpring and ſummer.

Likewiſe by ſeed or berries, theſe ripening in autumn,

tumn, bruiſe them to ſeparate the ſeeds, and may be ſowed in any bed or border, raked or covered in with earth, half an inch deep; and when the plants are of three or four, to five or ſix inches growth, in the end of ſummer, or in autumn or ſpring, tranſplant them in a nurſery to obtain ſtrength.

VITIS, VINE, or GRAPE VINE.

Claſs and Order.

Pentandria Monogynia,
Five Males, One Female;

Or Plants with Herm. Flowers, having five Stamina, or Male Fructifications, and one Piſtillum, or Female.

THE VITIS affords ſeveral hardy ſpecies, moſtly of long, trailing, climbing, ſhrubby growth, ſome moſt valuable for their fruit, others for variety; but for the former, one ſpecies in particular, the Common Vine, furniſhing many fine varieties, is of great eſtimation and value to rank in the collection of fruit-trees, for the production of their moſt excellent fruit the Grape; are all of the deciduous tribe, grow with very long flexible branches and ſhoots, requiring ſupport of walls, &c. by which they aſcend or extend to a conſiderable height or length; producing numerous long, trailing, jointed ſhoots, annually, extending many feet in one ſummer; garniſhed at the joints with large, ſimple, lobated leaves, divided into three or five lobes, and in ſome pinnated; attended by oppoſite climbing tendrils or claſpers, and ſmall cluſters of minute, greeniſh, quinquepetalous flowers at the eyes of the ſame year's ſhoots; having to each flower a ſmall quinquedented cup, five ſmall deciduous petals, containing five ſhort ſtamina, an oval germen, no ſtyle, only an obtuſe ſtigma; and each germen grows a roundiſh and oval, unilocular, five-ſeeded berry; many together in oblong cluſtered bunches, black, white, red, &c. ripening in autumn, from July to October, rich and delicious; the ſeed ſeldom uſed for ſowing, as the plants propagate plentifully by layers and cuttings.

The principal Species are—

1. VITIS *vinifera*—(Wine-bearing Vitis) or Common Vine, or Grape-Vine.

A trailing-climbing deciduous tree, extending twenty feet length, or more—the leaves *(large)* lobated, of three or five lobes, ſinuated, naked; and flowers ſucceeded by large bunches of roundiſh and oval berries, or Grapes, black, white, red, &c. rich and delicious for eating and making wine.—Native of the four quarters of the world, in warm, temperate parts. *(Dry, rich, or any common fertile ſoil.)*

Varieties of the Fruit.

Early Black July Grape—ſmall, roundiſh, black berries, in cloſe ſhort bunches; *ripe ſometimes in the end of July, or moſtly in the beginning or middle of Auguſt.*

Early Black Sweet-water Grape—ſmall, roundiſh black berries, in cloſe ſhort bunches; ſweet juice; *ripe the beginning or middle, to the end of Auguſt, &c.*

Early White Sweet-water Grape—larger, round, whitiſh-green berries; often irregular in ſize, growing in oblongiſh bunches; ſweet juice; *beginning and middle, to the end of Auguſt.*

Black Muſcadine Grape—middle-ſize, round, blackiſh berries in longiſh bunches; rich juice; *September.*

White Muſcadine Grape—middle-ſize, round, whitiſh berries, in long looſe bunches; ſweet and rich flavoured; *end of Auguſt and September.*

Royal White Muſcadine—larger round berries, whitiſh-amber-coloured, growing in large oblong bunches, dividing above into ſide-ſhoulders; moſt rich and excellent; *ripening in September.*

Black Cluſter Grape—ſmall, roundiſh-oval, black berries, growing in very cloſe, ſhort, roundiſh bunches; juicy and rich; the tree remarkable in its hoary downy leaves; *fruit ripe in September.*

Frankindal Grape—large, round whitiſh berries, in large oblong bunches; rich and ſomewhat muſky-flowered; *ripe in September.*

Red Chaſſelas Grape—largiſh round berries, growing in oblong bunches, of a dark-red colour; *middle of September.*

White Chaſſelas Grape; *September and October.*

Black Burgundy Grape—largiſh oval berries, black-red colour, growing in roundiſh-oblong bunches, more valuable for making wine than for the table; *ripe in September.*

Black Corinth Grape—ſmaller, roundiſh, deep-black berries, in ſhort bunches; ſweet juice; *end of September and in October.*

Black Frontignac Grape—largiſh, round, black berries, in ſhortiſh bunches; very rich ſweet juice; *end of September and in October.*

Griſly, or Red Frontignac Grape—large round berries, of a brick-red colour, in longer bunches; *September and October.*

White Frontignac Grape—large, round, whitiſh

whitiſh berries, in large cloſe bunches; *September and October.*

black Hamburgh Grape—middling, roundiſh-oval berries, in large oblong bunches; *October.*

Red Hamburgh Grape—roundiſh, tawney-red berries, in large bunches; *October.*

Alexandrian White Muſcat Grape—large oval white berries in long bunches; moſt rich; ripens the moſt effectually by artificial heat, or under glaſſes; *October, or, by forcing, June, July, and Auguſt.*

Red Alexandrian Muſcat—large, oval, red berries, in long looſe bunches; ripens, more fully, by artificial heat, or under glaſſes, &c.—*October, or, by forcing, June, July, and Auguſt.*

Violet Muſcat Grape—large berries, in long bunches; *October, or earlier, by forcing, or under glaſſes.*

St. Peter's Grape—largeſt oval berries, of a deep-black colour, in remarkably large long bunches; ripens, more effectually, under glaſſes, &c.—*October, or, by forcing, June, July, or Auguſt, &c.*

Red Raiſin Grape—large blackiſh-red berries, in large long bunches; ripening in beſt perfection, by artificial heat, &c.—*October, or, by forcing, July, Auguſt, September, &c.*

White Raiſin Grape—large white berries, in large looſe bunches; *September or October, or, by forcing, July and Auguſt.*

Syrian Grape—large roundiſh-oval white berries, in exceeding large bunches; ripening, by artificial heat, under glaſſes, &c. *in July, Auguſt, or September.*

Tokay Grape—large white berries, in oblong bunches; *October, or, by forcing, July, Auguſt, &c. (Moſt rich.)*

Red Tokay Grape—large bunches and red berries.

Gibraltar Grape—large berries and bunches, tawney or blackiſh-red; *September or October, or earlier, by forcing.*

Paſſe Muſque Grape—large white berries, very rich; *October, or earlier, by forcing.*

Red Muſque Grape; *September or October.*

Chaſſelas d'Ore—large yellow berries, in oblong bunches; *September or October.*

Chaſſelas Violet Grape; *September and October.*

Chaſſelat de Fontainbleau; *end of September, &c.*

The foregoing being the principal varieties of the fruit of the Common Grape-Vine; the trees of which are hardy to grow in any common ſoil and ſituation; but ſhould generally have a dry, warm ſunny expoſure, againſt ſouth walls, to have the fruit ripen in good perfection; and ſome require aſſiſtance of artificial heat, or protection of glaſſes, &c. in order to obtain the fruit in full maturity, as intimated under the names, &c. of the reſpective ſorts.

All the varieties of Vines bear on the young ſhoots of the ſame year, ariſing from the laſt year's wood; ſo that a general ſupply of the young ſhoots muſt be preſerved every year, in ſummer and winter-pruning, for ſucceſſional bearers.

They are propagated or raiſed by layers and cuttings of the young ſhoots and branches, in autumn or ſpring, which will be well rooted in one ſeaſon.

Vines, being of long extending, trailing, or climbing growth, require the ſupport of walls, &c. on which to train their branches; and allotted ſome beſt ſouth walls, or of a ſoutherly aſpect, to enjoy all poſſible benefit of the ſun to forward the growth and ripening of the fruit, in good perfection; may be planted in autumn or ſpring, or any time from October to March, or beginning of April, ſet ten to twelve or fifteen feet diſtance; and the branches trained to the wall, either horizontally, or more or leſs upright, according as the allotted ſpace of walling admits, arranged ſix or eight, to ten or twelve inches aſunder.

The Vines require a dreſſing or pruning every year in ſummer and winter.

The ſummer-pruning conſiſts of a general regulation of the young ſhoots of the ſame year only, commencing it in the latter end of April, or in May or beginning of June; and diſplace all weakly ſhoots advancing from the old wood, except in vacancies, being careful to preſerve all the immediate fruit ſhoots, and others as are ſtrong and well-placed in all parts, for future mother bearers or ſupply of branches; and nail the whole regular to the wall all ſummer, and, when conſiderably extended, may be ſhortened diſcretionally.

The winter-pruning compriſes a general operation both among the old branches and young wood, any time from October till March, obſerving, in which, to ſelect a general ſupply of the beſt ſhoots of laſt ſummer, in all parts, for next year's mother bearers, &c. ſix or eight to ten or twelve inches diſtance, cutting out the ſuper-abundant, with part of the laſt year's bearers and naked, old wood, to make room for the ſucceſſional young, which ſhorten, more or leſs, by cutting each to three, four, five, or ſix eyes, or joints, according to their ſtrength; then nail the whole, both young and old branches, regularly to the wall, eight, ten, or twelve inches diſtance.