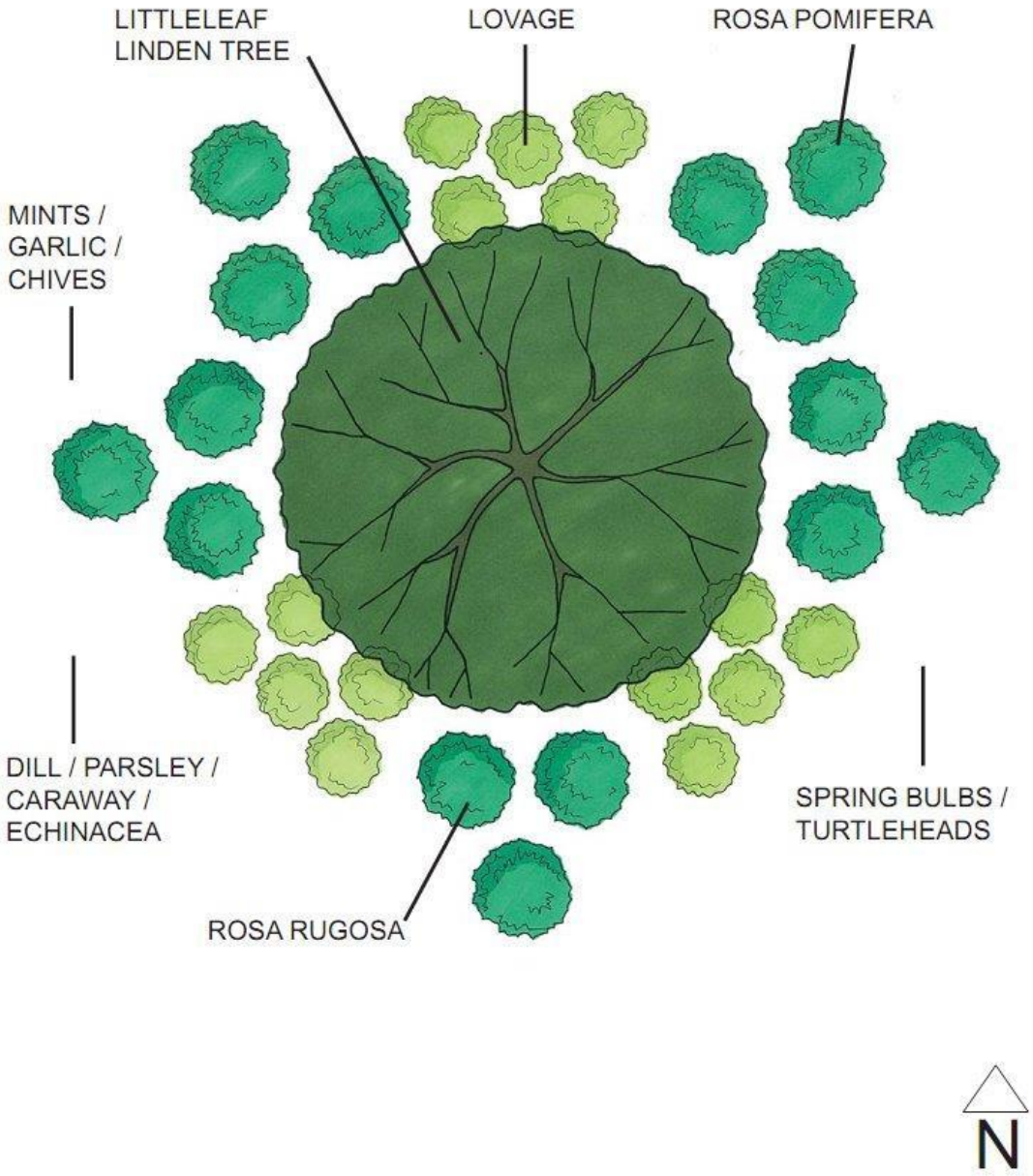
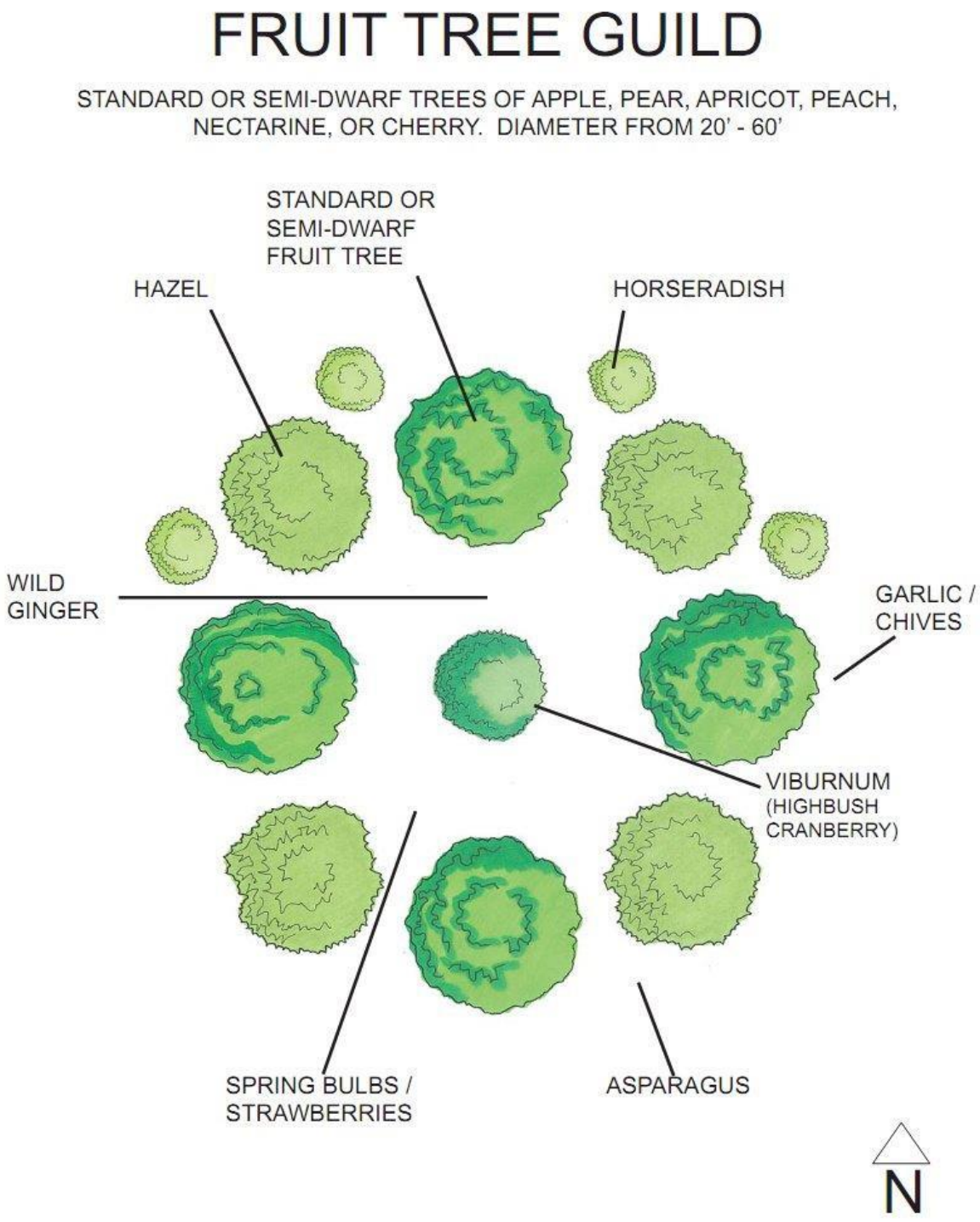
Plant Guilds

BEE GUILD

DIAMETER TO 30'





Fruit Tree Guild

There are at least two plant species to use at the center of this fruit tree guild. One is to use a shade tolerant Viburnum species such as highbush cranberry (*Viburnum trilobum*). It grows to 12 feet with an 8 foot spread and is shade tolerant. Its fruit are used similarly to the common cranberry but the plant can grow in ordinary garden soil instead of a bog. The other option is to use a standard size fruit tree at the center of this guild, which can grow to as much as 50 feet tall. Surrounding either of these are dwarf or semi-dwarf fruit trees of varying species such as apple (*Malus domestica*), pear (*Pyrus spp.*), apricot (*Prunus armeniaca*), peach (*Prunus persica*), nectarine (*Prunus persica* var. *nucipersica*), plums (*Prunus*

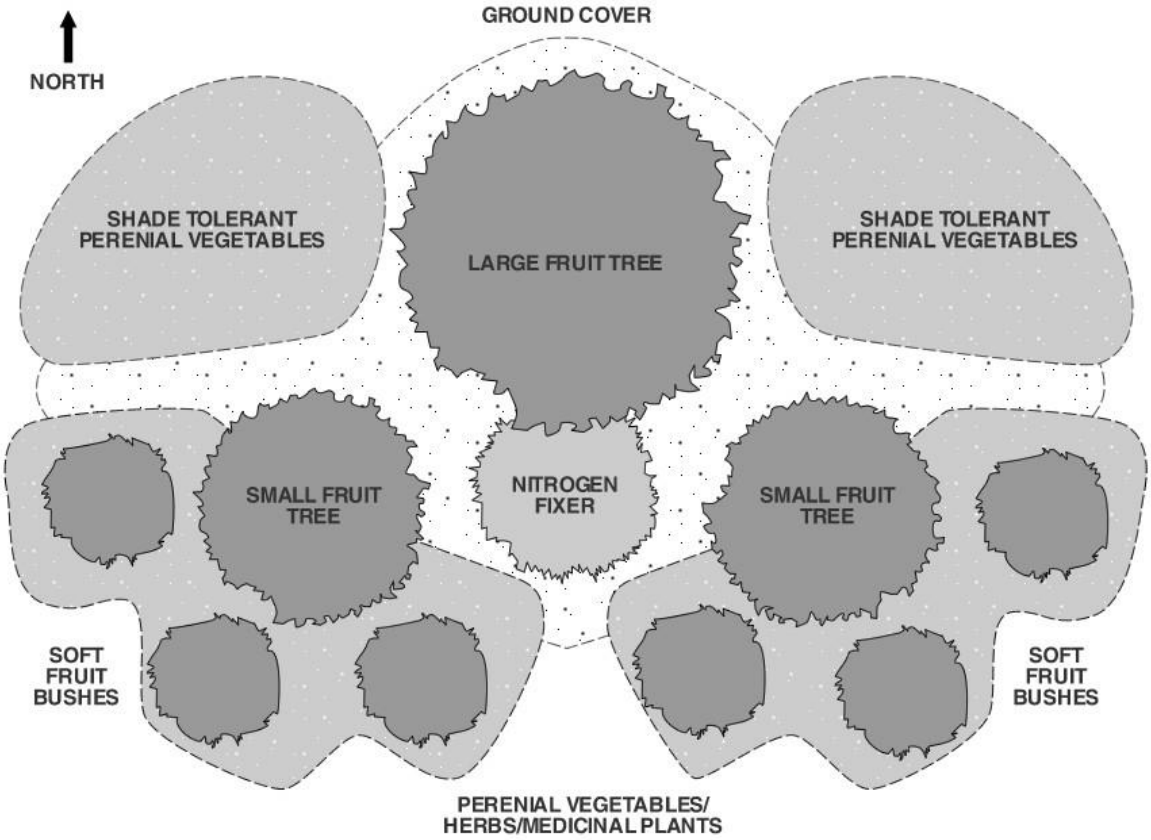
domestica) or cherry (*Prunus avium*). Using a diversity of fruit tree species can minimize insect predation and disease in the orchard.

Hazels (*Corylus spp.)* produce edible nuts rich in oil and provide a rich source of nutrients for wildlife such as squirrels, chipmunks and pheasant. They can be coppiced after eight years to stimulate higher nut yields and for a yield of coppiced wood for everything from charcoal to garden fencing.

Spring bulbs (see appendix I), especially trout lilies (*Erythronium americanum*), can hold nutrients that would otherwise wash away during spring runoff. Tap rooted plants, such as horseradish (*Armoracia rusticana*), comfrey (*Symphytum officinale*), evening primrose (*Oenothera biennis*), and milk vetch (*Astragalus spp.*), all dredge subsoil minerals from the soil making them available for uptake by the fruit trees. Garlic (*Allium sativum*) and chives (*Allium schoenoprasum*) can be used as culinary herbs or as insect repellant sprays in the orchard.

Strawberries (*Fragaria x ananassa*) can be used in sunny areas while wild ginger (*Asarum canadense*) can be planted in shady spots. Wild ginger can be used as a common ginger substitute. Asparagus (*Asparagus officinalis*) at the edges brings a delicious spring harvest of its shoots. Shallow rooted, it can allow for planting of some less dense later yielding herbs such as lemon balm (*Melissa officinalis*) and even garden greens like lettuce (*Lactuca sativa*), mustard (*Brassica nigra*) and kale (*Brassica oleracea*).

Including flowering herbs such as dill (*Anethum graveolens*), coriander (*Coriandrum sativum*), fennel (*Foeniculum vulgare*), and yarrow (*Achillea millefolium*) along the sunny edge can attract pollinators and insect predators.



FOREST GARDEN PLANTS

Trees and large shrubs for sunny areas

Standard cherry – needs two to fruit, and is very attractive to birds. Cherries generally need to be netted in order to obtain a good crop.

Standard Apple – needs two in same pollination group to fruit. Apples flower slightly later than most other fruiting trees, and can be given a slightly less favourable spot unless other tenderer trees are not being planted.

Standard Pear – needs two in the same pollination group to fruit. Pears flower two weeks earlier than apples and so should be given a warm, sunny spot where they are sheltered from the wind and protected from frost.

Standard Plum – All plums blossom early, so they should be planted in areas where there is little chance of a late frost.

Walnut – Very large tree when mature. Frost tender, they need full sun and a warm, sheltered micro-

climate. Sweet Chestnut – Need two to fruit well. Very large tree when mature.

Medlars – Self fertile.

Large shrubs for semi-shade

Elderberry – Edible flowers and berries, leaves can be used as an insecticide and to remove heat from sprains and bruises. Flowers are an ingredient in quick return compost.

Hawthorn – Edible leaves and berries, medicinal uses as a heart tonic.

Hazel – Needs two to fruit well. Leaf litter is unusually high in plant

nutrients. Darwin's Bayberry – Edible berries

Heavy Shade

Morello Cherry – can fruit happily without direct sunlight. Self fertile.

Eleagnus – Nitrogen fixing evergreen shrub with edible berries.

Smaller shrubs for sunny areas

Rose

Rosemary

Sage

Lavender

Thyme

Raspberries – don't like being dripped on, so need to be out from under trees.

Shrubs for semi-shade

Blackberry

Blackcurrant – need at least half a day of full sun

Redcurrant

Whitecurrant

Gooseberries

Edible Honeysuckle – not a climber! Edible flowers and

Berries

Ramanas Rose

Nitrogen Fixers

Alder – Can be planted in between fruit trees to help in their establishment, and then coppiced to control its size and eventually removed once it starts to compete with the maturing trees.

Gorse – Nitrogen fixing shrub with edible flowers that also makes good animal fodder. Bees love the flowers. Will eventually be shaded out by maturing fruit trees.

Eleagnus – Evergreen, shade tolerant and with edible berries.

Larger plants for sunny areas

Borage – Edible flowers and great bee plant. Can be used medicinally as a hormone balancer

Globe Artichoke

Cardoon – similar to an artichoke but the stems are the parts eaten

Fennel – edible leaves, flowers and seeds.

Nine Star Perennial Broccoli – short lived perennial with edible leaves and flowers.

Perennial Kale – Edible leaves. These plants hardly ever flower so seeds can be hard to come by! Take cuttings from established plants.

Red Valerian – Edible leaves, and roots if cooked

Wild Cabbage – can be picked all year round

Smaller plants for sunny areas

Chives – Edible leaves, flowers and bulbs. Good companion plant. Can help to prevent scab in fruit trees. Anti-bacterial properties.

Daffodil Garlic – Edible leaves, flowers, and bulbs.

Everlasting Onion – Edible leaves, flowers and bulbs. Gives a moderate winter harvest.

Good King Henry – Edible leaves, flower buds, seeds and shoots.

Hyssop – Edible leaves and flowers can be used as a flavouring. Good companion plant.

Marigolds – Edible flowers, and very good companion plant to help keep away pests. Can make medicinal balms from the flowers – good for healing scar tissue and the skin generally.

Nasturtium – Edible leaves, flowers and seeds with a peppery taste. Makes great pesto! Can help to protect fruit trees from pests, and attract predator insects.

Rocket – Edible leaves, flowers and seeds.

Strawberry – also makes a good ground cover

Taller plants for semi-shade

Alexanders - Stems can be eaten like asparagus. All parts of the plant, including the flowers, can be used in salads. Does all of it's growing between autumn and May, when it either flowers and dies or retreats underground, making it an ideal forest garden plant for growing under deciduous trees.

Comfrey - Common comfrey is a native perennial plant which can be mildly invasive. It has many medicinal uses, it's main usage being in aiding wound healing and bone knitting. Russian comfrey is a hybrid, bred for it's uses as a dynamic accumulator. It is not as invasive as common comfrey, and contains higher levels of potassium and other plant nutrients than common comfrey, starts growing earlier and stands cutting better. Comfrey leaves can be used as mulch or compost material, and make an excellent plant feed, often combined with nettles. Both types of comfrey are excellent bee plants, and can be planted round the edges of the forest garden to keep out perennial weeds. Comfrey leaves can also be eaten and make good fritters, though can be a bit hairy for use as a salad vegetable for some palates. It can also be used as animal fodder.

Horseradish – Edible roots.

Jerusalem Artichoke – Edible tubers. Leave some tubers in the ground for a crop every year.

Lovage – Edible leaves, seeds and roots.

Rhubarb – Very deep rooted so do not plant near the base of young trees.

Stinging Nettles - These will probably turn up on their own and attempt to colonise the garden - they will out compete most vegetables, so may bring some weeding work but they do not need to be seen as a problem. They are an excellent source of mulch or compost material, and combined with comfrey make a nutritious (although smelly) liquid plant feed. They provide overwinter shelter for pest predators, and are an excellent wildlife plant. They also yield a green dye and can be used to make fibre for cordage or can be spun and woven into cloth. They are an excellent spring food plant, with the leaves being doused in boiling water to remove the sting and then used like spinach, or as an excellent soup, and the leaves can also be used to make leaf curd which is a highly nutritious source of protein. They have a cleansing action on the blood and are a tonic for the urinary tract, having a slight diuretic effect. The stings are also helpful for rheumatism.

Smaller Plants for Semi-shade

Alpine Strawberry – great ground cover

Daylily – Edible leaves, flowers and tuberous roots.

Sorrel – contains oxalic acid which gives it a lovely lemony taste, but eat in small quantities. Aggravates arthritis.

Hairy Bitter Cress – Not bitter or hairy! Has a lovely cress-like taste. Can be a ground cover

Jack-by-the-Hedge – Edible leaves with a garlic-mustard taste.

Lamb’s Lettuce – Seeds germinate in autumn and grows steadily throughout winter. Mild tasting salad leaves.

Mints (various) – Can be mildly invasive and deplete the soil, but make great bee plants and ground covers.

Salad Burnett – Edible leaves.

Sweet Cicely – edible leaves and flowers. Can be cooked with rhubarb to reduce the tartness.

Smaller plants for heavy shade

Claytonia – Edible leaves

Dog Violet – edible leaves and flowers

Self-heal – Edibles flowers and young shoots. Good bee plant. Medicinal properties.

Wild Garlic (Ramsons) – Edible leaves and flowers with a strong garlictaste.

Groundcovers

Chamomile – makes a fragrant lawn.

Clover – Nitrogen fixing, edible flowers which bees love. Roots make a tight matt which will suppress weeds.

Yarrow – can be mown if needed, or be left to grow knee high. Edible leaves though strong tasting leaves.

All above ground parts can be used medicinally. Bees love the flowers.

ROOTSTOCKS

Apples

Rootstock	Habit	Size (in metres)	First Fruit	Main uses	Notes
MM111, M2, M25	Vigorous	6-8	7-8 years (standard 8-10	Standard, half standard, espalier	Large on good soil, medium on poor
MM106	Semi-dwarfing	4-6	3-4	Bush, cordon, espalier, fan	Bush needs staking for first 4-5 years
M26	Dwarfing	2.5-4	3-4	Bush, cordon	Bush needs staking for first 4-5 years. Good on average soil
M9	Very dwarfing	2-3	2-3	Dwarf bush, dwarf pyramid, cordon	Needs good soil, and staking throughout it's life
M27	Extremely dwarfing	1.2-1.8	2-3	For very vigorous varieties, or very small gardens	Needs good soil, and staking throughout it's life

Pears

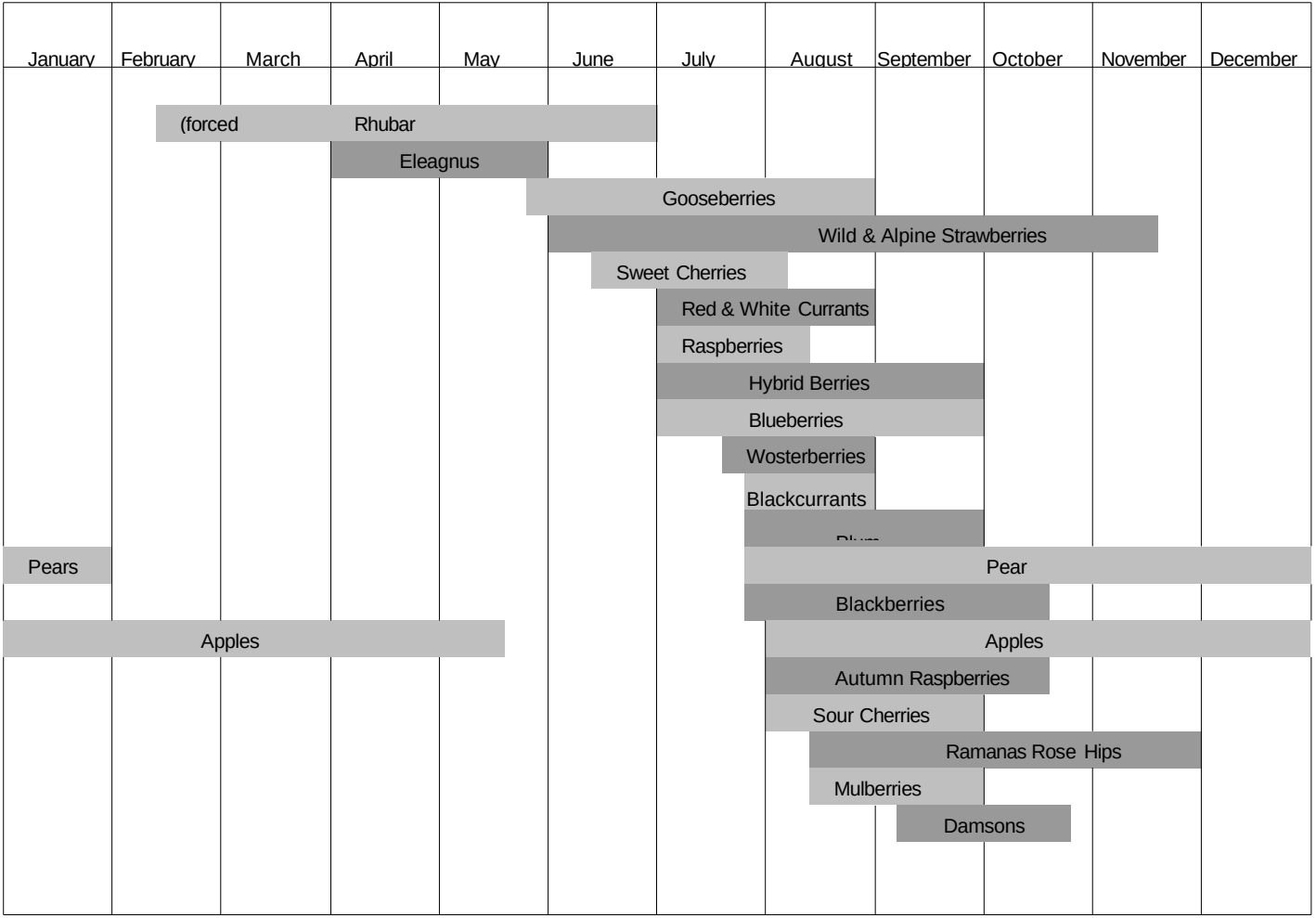
Rootstock	Habit	Size (in metres)	First Fruit	Main uses	Notes
Pear	Very vigorous	20	10-20	standard (other forms on poor soil)	The only one for poor soils
Quince A	Medium vigour	3-7	4-8 years from planting	Bush, cordon, dwarf pyramid, espalier	If in doubt, use it. Needs good soil
Quince C	Moderately vigorous	2.5-6	3-7 years from planting	Bush, cordon, dwarf pyramid, espalier	Only on the best soil

Plums

Rootstock	Habit	Size (in metres)	First Fruit	Main uses	Notes
Brompton, Myrobalan B	Vigorous	5.5-6.5		Standard, half standard	Too big for most gardens
St.Julien A	Semi-vigorous	3.5-4.5	3-6 years	Half standard, bush, fan	The usual choice for gardens

Pixy	Dwarfing	2.5-3	3-6 years	Bush, dwarf pyramid	Needs good soil and heavy feeding

FRUITING CALENDAR


January
February
March
April
May
June
July
August
September
October
November
December
(forced
Rhubar
Eleagnus
Gooseberries
Wild & Alpine Strawberries
Sweet Cherries
Red & White Currants
Raspberries
Hybrid Berries
Blueberries
Wosterberries
Blackcurrants
Pears
Pear
Blackberries
Apples
Apples
Autumn Raspberries
Sour Cherries
Ramanas Rose Hips
Mulberries
Damsons

Alley Cropping and Agroforestry

Some trees may take years before they bear fruit, but cereals and other crops can be grown between them in the earlier stages. It has been found that with ‘alley cropping' using leguminous trees, there is a considerable increase in the yield of the plants grown between them.

Agroforestry schemes in which a wide variety of food trees, bushes and vegetable crops are grown in association, are being widely used. Unfortunately livestock are being introduced into some of them with the tree leaves being used as fodder. As with all livestock feeding, most of the nutrients are used up for the animals own needs, only a small percentage are made available as meat and milk. (See fig. 4)

All the while the trees are growing they are helping the environment in ways described in the next section. They should be grown for that reason alone, but when species are selected preference should be given to those that also yield food. This means oaks and beeches in England. They will bear abundant food for future generations when we have stopped importing half our food, much of it from countries where people go hungry. Freed from human interference the land would revert to beech and oak forest!

The table in figure 6 (next page) gives some idea of the value of giving land worldwide to food bearing trees instead of to animal farming or even to arable crops. Yields vary greatly according to area, soil, climate, season, variety, and husbandry. Very little attention has been given to the value of tree crops and hence little research has been done on them