

minaretteTM

CULTURAL INSTRUCTIONS FOR APPLES, CHERRIES, DAMSONS, GAGES, PEARS & PLUMS

Minarettes are tall, slender columnar trees. They are not genetic mutations, but selections from proven varieties of apple and pear chosen for their particular suitability for growing in a columnar form and the flavour of their fruit. Their upright, non-spreading shape is achieved by us with skill and careful management rather than relying on mutated genes. They can be planted as close as 60cm (2ft) apart (90cm [3ft] in the case of damsons, gages and plums). There are a few simple steps you will need to take to ensure that a Minarette thrives and maintains its columnar habit.

CHOOSING THE BEST SITE AND SOIL

Select a well drained, fertile soil with good depth and if possible, a place where the tree can grow in full sunlight throughout the summer. Make sure that the soil around the Minarette is not too dry. If it is, other plants round about may be competing for the available moisture. Make sure it is not exposed to strong winds – no tree will do well in the wind. Minarettes prefer to grow in a slightly acid soil – they will not thrive in ground that is excessively acid or alkaline. Check the pH with a meter or soil testing kit. It should read between 6.5 and 7.0. If it is too acid (reading below 6.5), incorporate into the top 15cm (6in) a little carbonate of lime. If it is too alkaline (reading above 7.0), incorporate Flowers of Sulphur (available by mail order from Chempak, Hoddesdon, Herts EN11 0LR [Tel: 01992-890770]). Contact us if you are not sure how much lime or sulphur to apply.

PLANTING

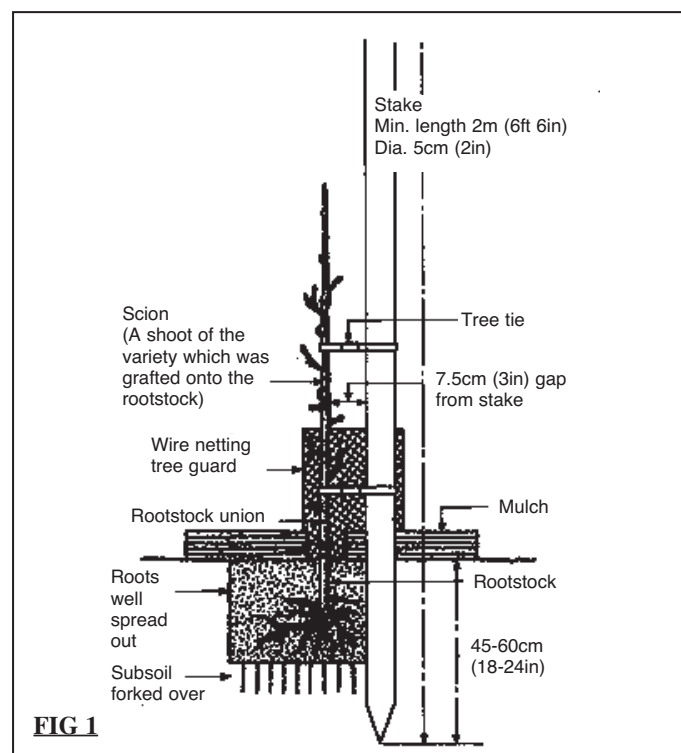
When dispatched, a Minarette will either be one or two years old. At this age it is easy to plant and manage and almost bound to do well. When it comes to planting, it is important to be able to identify the union where the variety was budded onto the rootstock. Care must be taken not to cover the union with soil otherwise it is possible that the scion itself will take root and produce a tree of unpredictable size and vigour. The depth of the planting hole should be large enough to contain the rootstock but not deep enough to cover the union (*see fig 1*).

It will help the tree to thrive by forking over the subsoil when digging the planting hole and incorporating a generous amount of well rotted farmyard manure or garden compost into the top 15-22cm (6-9in) of soil excavated. All Minarettes require staking from the time they are planted.

Choose a stake of minimum length 2 metres (6ft 6in) and 5cm (2in) in diameter (or flat side of square). Ideally obtain a pressure treated post otherwise paint it with preservative and drive it 45-60cm (18-24in) into the ground. Place the Minarette in an upright position in the planting hole so that the stem is about 7.5cm (3in) from the stake and making sure that the roots are well spread out. When infilling the hole around the roots with loose soil, work in about 100g (3oz) Vitax Q4 fertilizer. Use the heel of the boot to press the soil down firmly between the roots.

Tie the tree to the stake at two points using 'figure of eight' plastic tree ties. Use one tie at the top of the tree and another half way down.

As the tree grows older and fills out, more ties will be needed and the original ties should be checked to ensure that they do not become too tight – slacken them if necessary. Sprinkle Osmocote slow release fertilizer over the square metre (yard) of surface around the base of the tree at the recommended rate. It may be necessary to provide a plastic spiral tree guard or wire netting around the main stem where cats, rabbits or hares are likely to damage the bark.



PRUNING OF MINARETTES

Minarettes are dispatched from our nursery already pruned, so further pruning will not be required before the late spring in the case of damsons, cherries, gages and plums (referred to as 'stone fruits' from now on) and mid-summer with apples and pears. With proper management a Minarette will continue to grow as a single column to about 1.8-2.5m (approx. 6-8ft) high with short fruit bearing spurs up and down its length. A certain amount of trimming and pruning to make sure it keeps to the desired size and shape will be necessary during the summer as well as a minimum amount of pruning in the winter or early spring in the case of apples and pears and possibly late spring with stone fruits. This will help to ensure that the tree bears well-coloured, good sized, ripe fruit every year. With traditional forms of apples and pears, e.g. bush and half standards, it is the normal practice to prune them annually in the winter throughout their life. This is done to promote



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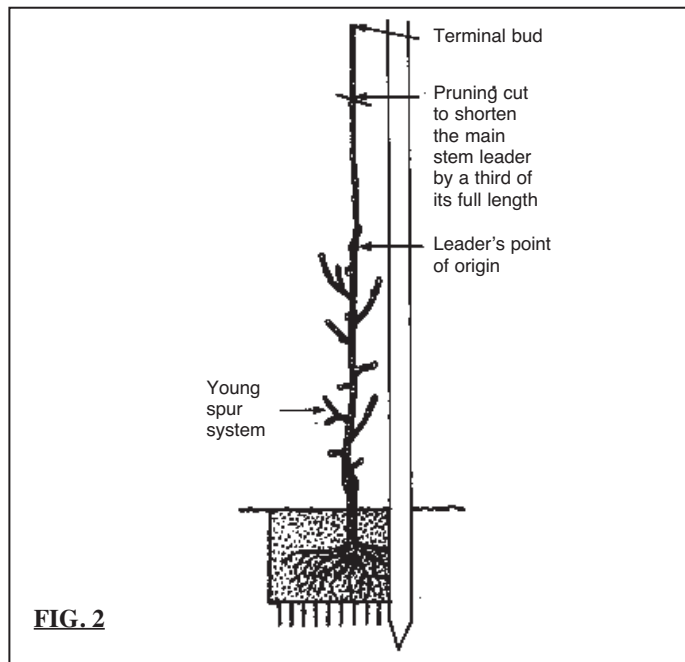
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strong growth and good shape. With Minarettes, practically all the pruning is carried out in the summer with the purpose of retarding their growth and encouraging the formation of fruit buds.

PRUNING THE MAIN STEM LEADER

The term 'main stem leader' refers to the new growth which leads a Minarette upwards at the top of the tree (*see fig. 2*).



Apples & Pears

The leader of each Minarette should be tied to a stake or cane at frequent intervals throughout the summer months whilst it is soft and pliable and still growing, to keep it upright and from growing out at an angle to the main stem. This leader is only pruned in the winter or early spring and involves the removal of one third to one half of the growth it made during the previous summer. It should be cut to a bud on the opposite side to the stake. Once the tree has reached the required height, the leader should be shortened during winter or early spring to about 1cm (1/2 in) from the point of origin. The leader is not pruned during the summer months. Pruning of the leader encourages the furnishment of side shoots along its length from which fruiting spurs are made.

Stone Fruits

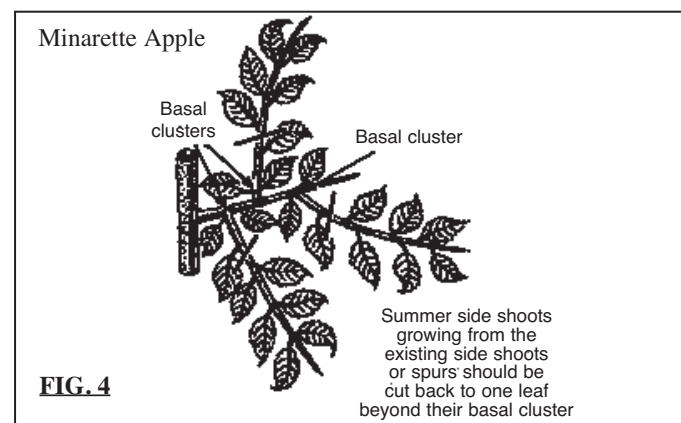
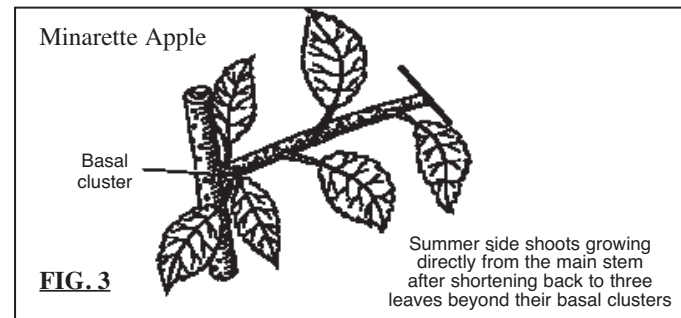
The main stem leaders of stone fruits grow very rapidly and must therefore have their respective growing points pinched out *when they have reached a length of 30cm (12in)*. A new leader will grow from the point where the initial leader was pinched out and this in turn should have its growing point similarly pinched out *as soon as it also has attained a length of 30cm (12in)*. This pinching out of the leader is repeated until the late summer but is not pruned back to 30cm (12in) *until May of the following year*. The reason for the delay in pruning the final leader is to help avoid the risk of Silver Leaf or Bacterial Canker gaining entry to the tree through a pruning cut made in the autumn or winter. The risk is minimal when pruning of stone fruits is delayed until the late spring or summer. Once a Minarette has reached its full height, the leader should be pruned in the same way as if it were a side shoot (*see opposite*).

PRUNING THE SIDE SHOOTS

Apples & Pears

This is a pleasant task and is carried out in the summer. A Minarette will start to produce these side shoots from May onwards. The side shoot from a Minarette apple tree will have matured by early to mid-August in the south of England and ten days or so later in the north. With pears, the shoots will have matured a week or so earlier. When this stage has been reached, summer pruning should commence. The shoots will have woody bases with a basal cluster of leaves and then light green leaves from the young shoots. Any shoots which are less than 20cm (8in) in length should not be pruned. New shoots growing

directly from the main stem which are more than 20cm (8in) in length should be cut back to about 3 leaves above the basal cluster (*see fig. 3*). Any shoots growing *from existing side shoots or spurs* which are similarly in excess of 20cm (8in) in length should be cut back to *one leaf*, about 2.5cm (1in) or more beyond their basal cluster (*see fig. 4*). The basal cluster is easy to recognise – it is a small cluster of two to four closely spaced leaves at the base of a shoot.



Stone Fruits

In the case of stone fruits, all current season's shoots *emanating directly from the main stem* should have their growing points pinched out *once they have made six leaves*; This is likely to be some time during May. Secondary growths will appear and as soon as they have made six leaves they too should be pinched or cut back but this time to *one leaf from their respective points of origin*. Any further secondary growths should be dealt with similarly. Any secondary growth occurring in the late summer should be shortened to one leaf *the following spring*. Spring pruning (March-April) should only ever be carried out to stone fruits if a tree is making too much secondary growth or to renovate a neglected tree.

GENERAL CULTIVATION

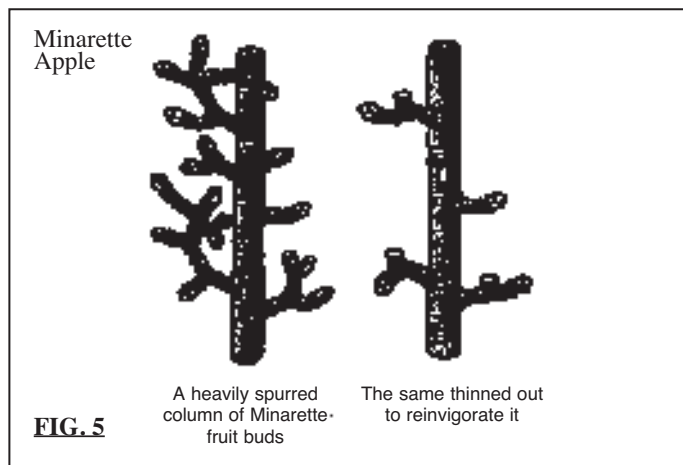
Minarettes should be fed every year in late February by either broadcasting a compound fertilizer or Osmocote slow release fertilizer onto the square meter (yard) around the base of each tree at the manufacturer's recommended rate. For the first three years the ground around the base of the tree should be kept free of weeds and grass. The area may be mulched with bulky organic materials such as well rotted farmyard manure, compost or straw. A Minarette should not be planted directly into a lawn without first creating a small circular bed about 60cm (2ft) in diameter. The turf that has been removed should be inverted and buried at the bottom of the hole; it is the most fertile portion of the soil for the tree to grow in. Then the area may be allowed to return to grass after three years. The grass must be kept cut short at all times during the spring and summer.

WATERING

A Minarette will respond to receiving 25 litres (4 1/2 gal) of water per square metre (yard) every ten days during the summer months. Older trees (at least in southern districts of the U.K.), will need twice this amount every fourteen days between early July and mid-September. Watering will help ensure that the fruit develops to its full size and the initiation of fruit buds for the following year's crop is satisfactory. It also helps to prevent the tree adopting a biennial habit of cropping.

THINNING THE FRUIT SPURS

As the tree gets older, it may be necessary to thin out the number of fruiting spurs, if there are too many (*see fig. 5*). They should be thinned out during the winter months. In the case of stone fruits, this should be done in the spring (March to April). Reducing the number of fruit buds increases the size of fruit but it must not be overdone.



THINNING THE FRUIT

Minarettes bearing a heavy set of fruit should have the crop thinned out. By reducing the number of fruitlets, the remaining fruitlets become larger and of better quality. Trees carrying heavy crops which are left unthinned are likely to bear no fruit in the following year. The fruits on vigorous growing trees can be left closer together than those on weaker growing trees. As a rough guide, dessert apples should be thinned to 10-15cm (4-6in), whilst cooking apples should be thinned to 15-22cm (6-9in). Pears should be thinned to one fruit or, where the leaf cover is good, to two fruits per cluster. Plums and gages should be thinned to one fruit 7.5cm (3in) apart. Damsons seldom require thinning.

GROWING MINARETTES IN CONTAINERS

Minarettes can be grown successfully in containers. To start with, the tree will need a pot of about 30cm (12in) in diameter. If the roots of the tree are a little too large for this size pot, they may be trimmed back so that they sit freely in the pot without curling up. A proprietary loam based compost e.g. John Innes No. 3 is an ideal medium in which to grow a Minarette but the tree will need to be repotted annually in the winter, changing the compost at the same time. On each occasion, the tree should be grown on in a larger sized container until a maximum size of 50cm (20in) diameter container is reached. The tree still needs to be caned. Thereafter, it should be kept in the same container but the compost changed each winter. The thicker, thong-like roots should be trimmed by one tenth and up to 10% of the secondary roots should be teased out and trimmed. This will prevent the tree from becoming potbound. A container grown Minarette will benefit from being fed with a slow release fertilizer such as Osmocote applied in late February as a top dressing. This will obviate the need for liquid feeding during the summer months. The tree will need regular watering during the growing season if it is to thrive. It should never be allowed to dry out.

During periods of severe frosts which can occur during winter, Minarettes may be killed by freezing winds which penetrate the wall of the container and kill the roots. The tree should be moved to the side of the house, away from the prevailing wind. For extra root protection, the container should be lagged with sacking or other suitable insulation.

HARVESTING THE FRUIT

When the first Minarette fruits begin to ripen it is as well to remember that the early varieties do not keep well and are for eating straight from the tree. If left on the tree too long they may go 'mealy'. An indication that picking time is close is when windfalls start to occur. At this stage one should test both apples and pears for ripeness by lifting a fruit in the palm of the hand, carefully pinching the stalk between the thumb and index finger. If the fruit is then given a slight twist it should part

from the spur, in which case harvesting can commence. Pears should always be picked before they have a chance to ripen fully on the tree and whilst they are still firm. Care must be taken when handling the fruit or bruising may result. It should be stored in a cool place out of the sun. The late varieties of apples and pears on the other hand, are at their best some time after they have been picked and benefit from a period of storage, during which time their flavour develops to its fullest. They are picked from September to October.

Stone fruits should be picked when fully ripe (or slightly under-ripe for preserving) and used soon after picking.

STORING THE LATE VARIETIES

After having been picked, the fruit should be allowed to cool overnight. Apples should then be individually wrapped in newspaper squares and packed in shallow trays. Alternatively 2kg (4½lb) or so of apples can be packed into a polythene bag with a few holes in it to allow for ventilation. The bag should then be folded over at the opening and stored in a frost free place where the temperature remains cool. Pears are best not wrapped. Apples and pears should be inspected regularly for 'rots' which should be removed before the disease spreads to others.

PESTS & DISEASES

With the aid of a magnifying glass x 20 check at least once a week in spring and summer for pests and diseases. Take whatever action may be necessary to control them. If you are in any doubt what the pest or disease is or what you should do about it, get in touch with us. We will be only too happy to assist.

Aphids – Small winged or wingless insects found clustered together in large numbers on leaves and shoots. Often coloured green (greenfly) but also black as in the 'cherry blackfly' and other colours. They cause destructive curling and distortion of leaves and growing tips. Sometimes, especially in the case of plums, 'honeydew' is excreted and 'sooty' type moulds then form on the leaves and shoots. The eggs may be killed by spraying with tar-oil during the winter before bud break. However, they are best dealt with by spraying with a suitable insecticide in the spring after they have hatched out.

Codling Moth – Codling moth affects apples and to a lesser extent pears. The caterpillars are not easily seen as they live inside the fruit, but as the fruit develops, a conspicuous red ring often encircles the pest's point of entry and dry brown frass may also be seen extruding. On cutting an affected fruit open, the small pinkish maggot with a brown head may be seen amongst the internal damage. A suitable insecticide should be used after petal fall to kill the maggots which have hatched out from eggs deposited on the surface of the developing fruitlets, before they have started to burrow in to them. Codling moth traps should be installed soon after the middle of May.

Pear Leaf Blister Mite – Characteristic pustules in the leaves appear in May and severe attacks can cause premature leaf drop. If there is a heavy infestation, affected leaves should be hand picked and destroyed during the summer.

Pear Midge – This can be a localised problem, attacking the same tree year after year. Small orange-white maggots feed on the young fruitlets which become distorted and discoloured and drop prematurely. Collection and destruction of infested fruitlets reduces the numbers of maggots carried over from one season to the next. Spray with fenitrothion in the spring before the tree comes into blossom or after petal fall.

Plum Fruit Moth – This is a similar pest to the codling moth. The maggots are creamy white with a brown head and feed on fruits from the middle of June onwards. It can sometimes be a problem, particularly in the south of England, attacking plums, gages and damsons. Spray with a suitable insecticide before blossom and again after petal fall. Plum fruit moth traps should be installed by the end of May.

Red Spider Mite – These mites are almost microscopic and can cause serious damage to the foliage of apples and plums. In such cases the leaves may be bronzed and fall prematurely. The mites live within a

whitish web on the underside of the leaves, feeding on the sap. The mites overwinter as winter eggs laid in crevices on the bark. Fortunately natural predators usually give adequate control in gardens but it can become a problem where a lot of chemicals have been applied which may kill the predators. If necessary spray with a suitable insecticide.

Sawfly – Apples are particularly affected. Other top fruits can also be attacked by species of sawfly but generally to a lesser extent. Sawfly caterpillars burrow into the fruitlets, emitting a sticky frass. Affected fruitlets drop off in June and July. Sawfly attack earlier in the season than codling moth. Trees should be sprayed with a suitable insecticide one week after 80% petal fall.

Winter Moth – The small greenish caterpillars have a dark stripe along their backs and three stripes on each side and arch their backs ('loopers') when moving. They feed on young leaves, flowers and fruitlets in the spring, sometimes causing almost total loss of leaves. Insect barrier glue or greasebands should be applied to each tree trunk during the autumn. Newly hatched caterpillars can be sprayed with a suitable insecticide.

Apple Canker – This is the most serious of the diseases which affects apples because it will kill the tree if left unattended for long. The canker first appears as sunken bark close to buds or wounds but as it develops it becomes elliptical, extending lengthwise along the stem. Distortion and swelling occurs and the wood beneath the bark is killed. Eventually the canker encircles the whole branch, killing it. Established cankers produce spores which infect new parts of the tree. Pears also suffer from a related pear canker but to a lesser extent. Cankered branches should be removed and burnt and the cuts painted with a protective paint.

Apple Mildew – This is a major problem for apples particularly in the warmer, drier parts of the country. Shoots which are infected with

Apple Mildew bear very small narrow curled leaves which are covered with grey-white felty powder. Badly infected shoots are often leafless and can be recognised and removed in winter when they appear shrivelled and whitish brown all over. Spray with a suitable fungicide.

Bacterial Canker – This affects stone fruits. It produces flattened cankers which ooze gum. Leaves on affected branches either do not develop or are small and yellow. Cankered branches should be removed and burnt and the wounds painted with protective paint.

Brown Rot – This disease occurs as brown decaying patches (which later bear white concentric rings of spores) on ripening fruits of all top fruits. Infected fruit usually drop off but sometimes they remain attached to the tree and become mummified. These mummified fruits should be removed as soon as possible. Fruit thinning reduces the spread of Brown Rot by contact from one fruit to another.

Scab (Black Spot) – Scab infection attacks both leaves and fruit of apple and pear. Small olive green to dark spots appear which then increase in size. These spots soon produce more infectious spores which are released to start new infection. Often one large spot is encircled by numerous small spots. The disease is worse in wet humid seasons and the fruit can be severely cracked, marked and distorted. In bad cases some defoliation can take place and can spread to the wood. It is a particular problem in wetter parts of the country. Spray with a suitable fungicide.

Silver Leaf – This particularly affects stone fruits. It causes dieback of a tree, branch by branch. Leaves appear silvery and a brown stain is produced in the inner tissue. Affected branches should be removed at least 15cm (6in) behind where the stain ceases. All wounds should be sealed with a protective paint. To lessen the risk of Silver Leaf infection, stone fruits should never be pruned during the dormant season.

CALENDAR OF CARE

NOVEMBER

1. Planting season commences.
2. Check condition of stakes, ties, and permanent labels.
3. Check over stored fruit.

DECEMBER & JANUARY

1. Planting season continues.
2. Winter prune main stem leaders of apples & pears, and cut back any secondary growth that may have occurred.
3. Spray trees with winter wash to control aphids, suckers, and scale insects.
4. Check over stored fruit.

FEBRUARY & MARCH

1. Planting season continues.
2. Winter prune main stem leaders of apples & pears, and cut back any secondary growth that may have occurred (if not done in December or January).
3. Check trees for canker; clean wounds and treat with canker paint.
4. Spread fertilizer around the base of each tree at the rate recommended by the manufacturer.
5. Apply traditional mulch if required.
6. Control grass and weeds.

APRIL

1. Spray trees with a suitable insecticide if aphids or caterpillars are seen. N.B. Do not spray trees in blossom. Read the manufacturer's instructions carefully.
2. Control grass and weeds.

MAY

1. Summer prune side shoots and leaders of stone fruits.
2. Tie leaders to stakes. Continue throughout summer.
3. Spray with insecticide as for April if necessary.
4. Spray with systemic fungicide. Start now and repeat fortnightly to control scab and mildew.
5. Install plum fruit moth traps and codling moth traps.
6. Water newly planted trees, and others if weather dry. Apply 25l/m² (5gal/yd²).
7. Control grass and weeds.

JUNE

1. Summer prune side shoots and leaders of stone fruits.
2. Tie leaders to stakes.
3. Continue spraying systemic fungicide as for May.
4. In mid-month, spray with insecticide to control codling moth.
5. Lightly thin out fruits if too many. Use scissors.
6. Continue watering. Remember that older trees will need twice as much as younger ones.
7. Control grass and weeds.

JULY

1. Summer prune side shoots and leaders of stone fruits.
2. Summer prune side shoots of pears.
3. Tie leaders to stakes.
4. Continue spraying systemic fungicide as for May.
5. Check stakes and ties, and also tree guards.
6. Use netting to protect fruit from birds.
7. Harvest cherries as required.
8. Continue watering.
9. Control grass and weeds.

AUGUST

1. Summer prune side shoots of apples.
2. Summer prune side shoots and leaders of stone fruits.
3. Pick early apples, gages, pears and plums as required.
4. Continue watering as necessary at least until middle of month.
5. Control grass and weeds.

SEPTEMBER

1. Harvest apples, damsons, gages and plums as ready.
2. Remove and store nets after picking.
3. Control grass and weeds.
4. Continue watering as necessary at least until middle of month.

OCTOBER

1. Complete picking.
2. Prepare late keeping apples and pears for storage and store as per instructions.
3. Apply insect barrier glue or greaseband trees to prevent winter moth by trapping wingless females.
4. Check over apples and pears already picked and stored.