ATLANTIC PROVINCES HOME GARDEN PRODUCTION OF PLUM

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Plum trees have been grown successfully throughout the southwestern part of Nova Scotia and on the South Shore into Halifax County. The reports of successful plantings throughout the remainder of Nova Scotia are scattered, but in protected, milder locations, plums could survive. The reports of successful plum production in the other Atlantic Provinces are very limited. Plums do not require as warm a growing season as the other stone fruit. Plums are hardier than sweet cherries and peaches and may grow in the warmer areas of these provinces. The selection of hardy varieties will help to ensure the successful production of plums.

SOIL REQUIREMENTS: The most important factor in the successful production of plums is the soil. Plum roots will not tolerate excessive water (poor drainage). Deep, well-drained, sandy-loam soils are best, but a heavy clay soil will be tolerated if it too is deep and well-drained. The soil pH should be within the range of 5.5 to 6.5.

PREPARATION FOR PLANTING: Start planning at least one year in advance of planting. Work the soil during the summer or at least the fall before planting. Soil with low phosphate and potash should have manure fertilizers containing these two nutrients applied at this time. Apply limestone at a rate of up to 1 kg/ m^2 and work into the top 7 or 10 cm of soil. Most Maritime soils are acidic and need to neutralized. Select the cultivars you want the fall before planting and place your order with a nursery. Many garden centres and farm markets sell fruit trees, in the spring and summer months.

PLANTING: Plum trees should be planted in the spring before the buds begin to grow. In the Annapolis Valley, this is prior to May 15. Dig a hole large enough to hold all roots in a spread-out position. Top roots should be at least 15 cm below the soil surface. Pack soil firmly around all roots to avoid air pockets. Tramp soil in around the tree until the tree is firmly in place, then water.

When planting leave adequate space between trees and away from buildings to accommodate the mature tree size. Note that the mature tree size will depend upon rootstock, variety and soil type. Excessive shading can have a detrimental effect on fruit production and quality.

PRUNING: Training plum trees to the modified leader system offers the advantages of early production, structurally sound trees and longer lived trees. A modified leader tree will have 4-6 permanent (scaffold) limbs which should be spaced 20-30 cm apart along the trunk in the 4 compass directions. The crotch angle of the limbs should be 60-70° from the vertical position.

When planting - Cut back the central leader to 1 m above ground. Remove any broken limbs or limbs with narrow crotch angles.

Years 2 to 4 - Select 4 to 6 limbs with wide-crotch angles which are evenly spaced around the trunk. No branch should be directly above a lower one. Remove limbs that have narrow crotch angles, broken or winter injured limbs, limbs that are crossing over limbs and limbs that are too close, i.e. less than 30 cm apart.

Maintenance Pruning: In general, the plum bears most of its fruit laterally on wood 2 to 8 years old. A thinning out of up to 10 percent of the bearing area every year will help to maintain strong fruit spurs throughout the tree. In the case of Japanese plums, many small cuts are more desirable than a few large ones. Remove dead, weak, broken, diseased (black knot) and crossover branches.

FERTILIZER: Apply 500 g of 6-12-12 per year of tree age up to a maximum of 7 kg per mature tree. The fertilizer should be applied in the spring prior to June. When applying fertilizer, distribute the fertilizer evenly under the branch spread. Manures and mulch can be used to replace mineral fertilizers. Because the composition of manures varies with source, age and storage, it is difficult to judge how much to use, and with richer manures, it is easy to over fertilize. The fertilizer needs of mature trees range from 27 kg/10 m^2 of cow manure stored outside to 4.5 kg/10 m^2 of fresh poultry droppings. Manures should not be spread around fruit trees from May 1 to November 1. Decomposable organic mulches can reduce fertilizer needs, and if rich enough, e.g., waste hay, can entirely replace mineral fertilizer. A mature tree will require 1 to 2 bales of hay for the first mulching, after which ½ to ¼ bale every other year should be sufficient. Growers using mulch should be cautioned that the mulch can provide an ideal habitat for rodents which can feed on the tree bark in times of food scarcity.

WEED CONTROL: Hoe or cultivate lightly to remove competition for the first three years. Seed down with good lawn seed and keep well mowed. Grass control may be achieved by using herbicides. A grass or straw mulch spread under the tree will also help to control weeds while retaining soil moisture and adding fertility to the soil.

STORING FRUIT: Mid-season and late-season varieties can be held from two to four weeks at - 1° to 0°. Plums stored at higher temperatures, such as 3 to 10°C, may keep approximately a week to two weeks. Old refrigerators or cold rooms are ideal for fruit storages. Warming in mid storage will prevent early onset of senescent browning.

CULTIVARS: For the most part plums can be placed into three general categories: European, Japanese and Hybrids. The European plums are slightly hardier than the Japanese type and are more noted for their processing quality. Grouped within the European plums are the Damson, Green Gage, Lombard, prune and yellow egg plums. The Japanese plums originated in China, but many of this group of plums now grown have originated from breeding work in North America. The Japanese plums tend to be large, juicy and not as hardy as the European types. They are not considered as being good processors. Hybrid plums have resulted from breeding Japanese plums with hardy native American plums. The fruit of many of the cultivars resembles their Japanese ancestors in quality but lack size. They are suited to hardiness zones of 4 to 6 and recommended for planting where hardiness is a concern.

European Types	Approximate Harvest Dates
California Blue	August 23
Voyageur	September 1
Mount Royal	September 10
Veeblue	September 16
Iroquois	September 17
Stanley	September 24
Shropshire Damson	September 26
Italian Prune	September 27
Valor	September 27
Bluefre	September 29

California Blue - An early ripening, large, round, unevenly shaped blue, freestone plum. The quality is good, although somewhat tart until fully ripe. The fruit is subject to pre-harvest drop and uneven maturity.

Voyageur - A clingstone, medium-sized, light-purple, yellow-fleshed, juicy and good quality plum. Tree is semi-vigorous, spreading and productive. A self-fruitful cultivar that will benefit from fruit thinning in heavy crop years.

Mount Royal - A chance seedling found near Montreal. Trees of medium vigor, hardy, productive. Fruits medium size, blue, juicy, mild, sub-acid and of good quality. Noted as an excellent canning cultivar. It has cropped consistently well for at least one Nova Scotia grower. Recommended as a European-type plum, where hardiness is a first consideration.

Veeblue - A medium-sized, blue, semi-freestone, production plum of fair quality. It ripens with Iroquois but is more productive. A self-unfruitful cultivar but sets well with pollen of 'Bluefre', 'California Blue', 'Iroquois'. 'Italian', 'Stanley' and 'Valor'.

Iroquois - A fair-quality, medium-sized, blue, firm freestone, with greenish-yellow flesh. It is productive, comes into bearing very early and ripens about one week before Stanley. Makes a high-quality canned product. Self-fruitful.

Stanley - A medium-dark blue, freestone, oval in shape with a fairly distinct neck. Flesh is yellow, juice and of good quality. Although classed as self-fruitful, better yields will be obtained as a result of cross pollination. Stanley ripens a week earlier than Italian. Some years it is inclined to overbear and will benefit from thinning. Stanley should be grafted on a compatible interstock to avoid plum decline.

Italian Prune - (Fellenberg) - A medium-sized freestone blue prune with good keeping qualities, much in demand by fruit buyers and more recently by canners. The tree is somewhat slow coming into bearing but is eventually a dependable bearer. Because of bearing all through the tree, the crop usually exceeds expectations. The fruit may drop badly when nearing maturity. It is a very reliable tree in the Kentville area.

Valor - A medium-sized, dark purple, semi-freestone plum of excellent quality. In Ontario, the fruit is large while the tree is more productive and bears earlier than 'Italian Prune'. A self-fruitful cultivar which sets fruit with pollen of 'Bluefre', 'California Blue', 'Iroquois', 'Italian', and 'Stanley'.

Bluefre - Large, blue, freestone plum with yellow flesh. It ripens two to three days after 'Stanley'. Trees are vigorous and come into bearing early. Fruit hangs well on the tree after ripening. Partially self-fruitful. Thinning is required most years.

Japanese Types	Approximate Harvest Dates
Early Golden	August 12
Methley	August 16
Shiro	August 22
Ozark Premier	September 8
Vanier	September 8

Early Golden - A chance seedling of Burbank or Shiro which originated in the Fonthill area of Ontario. A round, golden, freestone plum with high red blush, firm and of good quality. It resembles 'Shiro', but is smaller and ripens 10 to 14 days earlier. Trees are very vigorous, have a biennial fruiting habit and are self-unfruitful. Lack of hardiness can be a problem.

Methley - A medium sized, round, purple plum with a blush and red flesh. Quality fair to poor. The tree is vigorous. The fruit separates easily from the stem only when properly mature and requires several pickings. A self-unfruitful cultivar and a good pollenizer for Burbank and Shiro.

Shiro - A medium to large sized, round, yellow plum with a pink blush. It is one of the most popular Japanese cultivars because it matures when few other plums are on the market and is very attractive in appearance when properly mature. It is very juicy, clingstone plum of fair quality. 'Shiro' is productive and self-unfruitful setting fruit with pollen of 'Early Golden', 'Methley' and 'Vanier'.

Ozark Premier - A large, round, bright red, firm, aromatic, clingstone plum of excellent quality. Tree is hardy, productive and self-unfruitful and sets well with pollen of 'Vanier'. The fruit ripens unevenly and requires several pickings.

Burbank - A round, dark-red, medium-sized, juicy, aromatic, clingstone plum of good quality. The tree is hardy, low growing flat topped and somewhat drooping. A productive cultivar that benefits from fruit thinning. It is self-unfruitful and sets well with pollen of 'Early Golden', 'Methley', 'Ozark Premier', 'Shiro' and 'Vanier'. One of the main cultivars grown in the Valley. Demand for jam as well as fresh fruit.

Vanier - A bright red, clingstone medium-sized, yellow-fleshed plum of good quality. Fruit quality improves with storage. Trees are precocious, vigorous and have an upright growth habit. It is self-unfruitful and sets well with pollen of 'Burbank' and 'Ozark Premier'.

Hybrid Types	Approximate Harvest Dates
Pipestone	August 22
Underwood	August 24
Toka	August 26
South Dakota	September 10

Pipestone - The tree is vigorous and hardy. The fruit is large, deep red color, with a golden blush. The flesh is yellow, sweet, juicy and of excellent quality. Has sterile pollen.

Underwood - The tree is fairly vigorous, productive and hardy. The fruit is large, attractive, with a dull red skin. The flesh is golden yellow, juicy and of excellent quality.

Toka - The tree is medium in vigor and productive, but tends to have a short life span. The fruit is large, roundish with a medium light red skin. The flesh is yellow, firm , juicy with a good to very good quality.

South Dakota - The tree is very hardy and productive. The fruit is medium-sized, oval, freestone with a yellow and red blush skin. Quality is good. An excellent pollenizer for hybrid cultivars.

DISEASES:

Plum Pockets is a fungus disease that mainly attacks Japanese cultivars. It first appears as small white blisters on the fruit but these enlarge rapidly as the fruit develops. The fruit increases greatly in size, withers, becomes hollow and is covered with a grayish powder.

Brown Rot is a fungus disease of all stone fruits. In the blossom blight stage, infected blossoms will shrivel, die and become covered with a grayish mold. Brown rot on the fruit appears as a small, circular brown spot that increases rapidly in size and eventually includes the entire fruit in a soft rot.

Black Knot is a destructive fungus disease that causes conspicuous hard, black swellings on the twigs and branches. Infected trees become almost worthless after a few years as a result of limb death and stunting of trees. Infection can occur from the first appearance of young succulent shoots and can continue to occur throughout the spring and early summer until shoot growth stops. Knots should be cut out and burned every year before the start of the growing season. The cuts should be made about 15 cm below any visible swelling of the wood. Collect and burn all pruning wood bearing black knot cankers. Knots lying on the ground are a source of spores and will start new infection. Inspect the trees several times during the growing season for new knots and remove and burn those that were missed in dormant pruning. Fungicide application to control brown rot may help to protect shoots from black knot infections. For the best control, fungicide applications for black knot should be applied at the white bud, full bloom and petal fall stages of fruit bud development.

INSECTS:

Plum Curculio is a beetle pest of all stone fruits. The adults overwinter under debris or just beneath the surface of the soil. The fruit is attacked soon after it is formed. Feeding by the adults causes holes in the fruit while egg laying causes very distinctive crescent-shaped wounds. Egg laying takes place for several weeks following shuck-fall. The larvae feed to maturity within the fruit and the infested fruit usually falls prematurely.

Pear Slug is a slimy, dark-green to black larva that is swollen at the front end. It sometimes causes damage on plums. The larvae, seen in June and early July, feed on the upper surface of the leaves, skeletonizing them. Insecticides listed for plum curculio would also control pear slug if applied when larvae are present.

SAFE USE OF PESTICIDES: Always handle pesticides with care. This **includes** herbicides.

1. Before using any pesticide, read the label carefully. Take note of precautions to be followed when using a specific product.

2. Avoid spilling pesticides on yourself or where you are working. If this happens, wash yourself immediately with plenty of water to remove all traces of the pesticide. Do not get any pesticide in your eyes, nose or mouth.

3. Do not smoke or eat while you are applying pesticides. Wait until you have washed.

4. When applying a pesticide, do not permit material to blow back on you or on other people or pets.

RELATIVE SUSCEPTIBILITY OF PLUM CULTIVARS TO BLACK KNOT

Very Susceptible	**Moderately Susceptible**	**Slightly Susceptible**	**Resistant**
Bluefre	Bradshaw	Formosa	President
Damson	Early Italian	Sants Rosa	
Shropshire	Fellenberg	Shiro	
Stanley	Methley		
	Milton		

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HOME GARDEN SPRAY SCHEDULE (PLUMS)

Stage of Development	Disease or Insect	Remarks
DORMANT (before buds swell)	Plum pockets on Japanese varieties	
GREEN TIP	Black knot	During wet periods, infection can occur on new growth from GREEN TIP to after SHUCK FALL.
BLOOM (just before blossoms open; if weather is wet, repeat every 4-7 days)	Brown rot Black Knot	
SHUCK FALL (when the remaining base of flower drops off)	Black knot Brown rot Plum curculio	
FIRST COVER (10-14 days after SHUCK-FALL)	Black knot Brown rot Plum curculio	
PRE-HARVEST (14 and 7 days before harvest of each variety)	Brown rot	

Black Knot - Cut and burn all black knots before growing season. Make the cut at least 15 cm below any visible swelling of the wood. Destroy affected wild plums and cherries.

Brown Rot - Knock the plum mummies off at pruning time to help reduce brown rot.

Consult your local Garden Centre or Department of Agriculture for suitable pest control products.