

# Ussurian or Harbin Pear



# Ussurian or Harbin Pear (*Pyrus ussuriensis*)

## General Description

The hardiest of all pears, introduced from northeastern Asia. White flowers, semi-glossy foliage and dense, variably-rounded forms are of particular interest. The largest tree in North Dakota is 29 feet tall with a canopy spread of 24 feet.

### Leaves and Buds

Bud Arrangement - Alternate.

Bud Color - Buds with overlapping scales, blackish-brown.

Bud Size - 1/8 to 1/4 inch.

Leaf Type and Shape - Simple, ovate.

Leaf Margins - Setosely-serrate.

Leaf Surface - Smooth or nearly so, leathery.

Leaf Length - 2 to 4 inches.

Leaf Width - 1½ to 2½ inches.

Leaf Color - Semi-glossy, dark green; orange to yellow fall color.

### Flowers and Fruits

Flower Type - Umbel-like racemes.

Flower Color - Faintly pink in bud, finally white.

Fruit Type - Subglobose 1-inch pome, short-stalked.

Fruit Color - Fruits are greenish-yellow.

### Form

Growth Habit - The habit is dense and upright, becoming rounded, with conspicuous spurs.

Texture - Medium, summer; medium, winter.

Crown Height - 15 to 30 feet.

Crown Width - 15 to 20 feet.

Bark Color - Older branches yellow-gray or yellowish-brown.

Root System - Medium in depth.

## Environmental Requirements

### Soils

Soil Texture - Prefers clay loam to sandy loam soils.

Soil pH 5.0 to 7.5. Does not tolerate saline soils.

Windbreak Suitability Group - 1, 3, 5.

### Cold Hardiness

USDA Zone 3.

### Water

Medium, requires well-drained soils.

### Light

Full sun.

## Uses

### Conservation/Windbreaks

Small to medium tree for farmstead and field windbreaks and riparian plantings.

### Wildlife

Used for food by a wide variety of birds and mammals.

Nesting site for songbirds.

### Agroforestry Products

Food - The fruit is hard, but may have use for jams and jellies. Sweeter after a frost.

Medicinal - *Pyrus* species are a source of phloretin, an antibiotic.

### Urban/Recreational

Use in home landscapes and parks as a specimen tree, or in borders or screens.

## Cultivated Varieties

McDermard Pear (*Pyrus ussuriensis* 'McDermard') - Released by USDA-NRCS, Plant Materials Center, Bismarck, North Dakota as a cultivar seed strain.

Prairie Gem® Flowering Pear (*P. ussuriensis* 'MorDak') - Introduced by NDSU, Fargo, North Dakota. Superior in density, form and foliage qualities. Good replacement for Callery Pear (*P. calleryana*) cultivars which lack hardiness in northern climates.

## Related Species

Fruiting Pears (*Pyrus* x hybrids - 'Gourmet', 'Luscious', 'Patten', 'Sodak', and 'Ure') - Need two cultivars for pollination and good fruit set.

## Pests

Pears may be injured by rabbits, mice and deer and should be protected from girdling and browsing.



# American Plum



# American Plum (*Prunus americana*)

## General Description

The wild plum is a native tall shrub to small tree which is thorny, winter-hardy, and thicket-forming. Edible fruit used to make preserves and jellies.

### Leaves and Buds

Bud Arrangement - Alternate.

Bud Color - Brown to dark brown.

Bud Size - 1/8 to 1/4 inch.

Leaf Type and Shape - Simple leaves, elliptical to oblong-ovate.

Leaf Margins - Margins are sharply and often doubly-serrate.

Leaf Surface - Smooth to slightly hairy along the midrib beneath.

Leaf Length - 2 to 4 inches.

Leaf Width - 1 to 2 inches.

Leaf Color - Medium green, changing to yellow or reddish in autumn.

### Flowers and Fruits

Flower Type - Cross-pollinating, fascicles.

Flower Color - White.

Fruit Type - Drupe, seed is a compressed stone.

Fruit Color - Fruits are subglobose, red to yellow when mature.

### Form

Growth Habit - Round-headed crown, suckers freely.

Texture - Medium, summer; medium, winter.

Crown Height - 8 to 10 feet.

Crown Width - 8 to 10 feet.

Bark Color - Grayish-black and becomes quite scaly on older plants.

Root System - Somewhat shallow, wider than crown spread.

## Environmental Requirements

### Soils

Soil Texture - Adapted to a wide variety of soil types.

Soil pH - 5.5 to 7.5.

Windbreak Suitability Group - 1, 3, 4, 4C, 5.

### Cold Hardiness

USDA Zone 3.

### Water

Fair to good drought tolerance.

### Light

Full sun to partial shade.

## Uses

### Conservation/Windbreaks

Medium to tall shrub for farmstead windbreaks, highway and riparian plantings.

### Wildlife

Important to songbirds and animals for nesting, loafing, and bedding area. Fruit is not a preferred food for songbirds and game birds. Twigs and foliage browsed by deer.

### Agroforestry Products

Food - Fruit eaten fresh and processed as preserves and jellies.

Medicinal - Used by Native Americans to treat skin abrasions.

### Urban/Recreational

Used for naturalizing and border plantings. Suckers profusely which is objectionable in home landscapes.

## Cultivated Varieties

*Prunus* x 'Alderman', 'Pipestone', 'Tecumseh', 'Toka', 'Underwood', and 'Waneta' are fruiting cultivars of plums.

## Related Species

Beach Plum (*P. maritima*)

Princess Kay Plum (*P. nigra* 'Princess Kay') - Double white flowers, not very drought tolerant.

## Pests

Common diseases include stem decay, branch cankers, black knot, and plum pockets. Extracts of leaves and flowers are toxic to various insects.

## AMERICAN PLUM *Prunus americana* Marsh.

Plant Symbol = PRAM

Contributed by: USDA NRCS Plant Materials  
Program



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### Uses

**Windbreaks:** Plant American plum in the central or outside rows where adequate water is available. It may also be planted in single-row windbreaks.

**Wildlife:** American plum is highly important as wildlife cover and food. The thorny, suckering growth, when protected, forms a thicket valuable for bird nesting, loafing, and roosting, and animal loafing and bedding. Twigs and foliage provide a highly preferred browse for whitetail and mule deer.

**Recreation and Beautification:** The thorny growth and suckering characteristics should be considered before planting this species near a recreation area. It can be used for screening and natural barriers. The fruit is used widely for making jams and jellies.

**Ethnobotanic:** American plum was and still is used as a source of food and medicine by Native Americans in the Midwest and West.

### Status

Please consult the PLANTS Web site and your State Department of Natural Resources for this plant's

current status (e.g. threatened or endangered species, state noxious status, and wetland indicator values).

### Description

*Prunus americana* Marsh., American plum, is a deciduous large shrub or small tree with a broad crown, reaching heights up to 15 feet. Fruits are red to yellow, almost globular edible plums about 1 inch in diameter. Flowers are white, 5-petaled, about 1 inch across, and borne singly or in clusters at the juncture of a stem and leaf. Leaves are alternate, broadly oval in shape with a sharply tapering tip, and sharply, often doubly toothed edges; they are generally 2 to 4 inches long on slender stalks, dark green above, pale and smooth below. The plant's numerous stems are grayish and become scaly with age; its branches are more or less spiny with sharp-tipped twigs. The roots of American plum are shallow, widely spreading, and readily sprouting.

### Adaptation and Distribution

Widely distributed over the eastern two thirds of central North America, American plum grows in prairies, woodlands, pastures, and along roadsides and riverbanks. The shrub is winter-hardy, but intolerant of shade and drought; it requires the equivalent of 22 to 25 inches of precipitation.

For a current distribution map, please consult the Plant Profile page for this species on the PLANTS Web site.

### Establishment

American plum can be planted from seed and is relatively easy to transplant. Plant in well-drained soil.

### Management

Plantings in dry areas must have supplemental water or available ground moisture. Traditional resource managers used burning as a management tool, which eliminated plant competition and provided nutrient enrichment for increased fruit production; branch pruning was also used to increase production.

### Pests and Potential Problems

There are no known serious insect problems; plum pocket and black knot are common diseases, but are generally not serious.



**Cultivars, Improved, and Selected Materials (and area of origin)**

There are many different cultivars of *Prunus* species that have been developed for ornamental flowers and edible fruit.

**Prepared By & Species Coordinator:**  
*USDA NRCS Plant Materials Program*

Edited: 05Feb2002 JLK; 060809 jsp

For more information about this and other plants, please contact your local NRCS field office or Conservation District, and visit the PLANTS Web site <<http://plants.usda.gov>> or the Plant Materials Program Web site <<http://Plant-Materials.nrcs.usda.gov>>

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## Native plum

*Prunus americana*

**Growth Form:** irregular

**Crown Density:** open

**Size:** to 8 feet high  
to 8 foot spread

**Drought Resistance:** good

**Cold Hardiness:** excellent

**Growth Rate:** rapid

**Life Span:** moderate

**Elevational Range:** to 8,000 feet

**Soil Conditions:** good alkaline tolerance

**Possible Insect Problems:** pear-slug sawfly

**Possible Disease Problems:** fireblight, powdery mildew

**Wildlife Value:** excellent: hoofed browsers; nesting cover and  
food value

**Seasonal Color:** large white flowers in May

**Miscellany:** native; delicious edible fruit for jellies and  
canning; forms a thicket



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Taken from: Trees for Conservation, a buyer's guide, Colorado State Forest Service

# Hybrid Poplar





# Hybrid Poplar (*Populus* hybrids)

## General Description

Many hybrid clones between *Populus* species have been planted in the Northern Great Plains. Most hybrids grow very fast but often lack the cold and drought hardiness of the native cottonwood. The most common parent species of these hybrids are Cottonwood (*Populus deltoides*) and Black Poplar (*Populus nigra*). These hybrids are referred to as the *P. x euramericana* hybrids. Other species that have been crossed with Cottonwood include Balsam Poplar, Japanese Poplar and Russian Poplar.

### Leaves and Buds

Bud arrangement - Alternate.

Bud Color - Varies between hybrids.

Bud Size - Varies between hybrids.

Leaf Type and Shape - Simple leaves, deltoid to lanceolate, petioles are generally flattened.

Leaf Margins - Coarsely-dentate to entire.

Leaf Surface - Glabrous, to lightly pubescent beneath.

Leaf Length - 2 to 5 inches.

Leaf Width - 2 to 5 inches.

Leaf Color - Green to dark green; yellow fall color.

### Flowers and Fruits

Flower Type - Unisexual catkins; dioecious.

Flower Color - Tiny brownish-red flowers early in spring.

Fruit Type - Dehiscent capsule.

Fruit Color - Light brown, seeds in a mass of "cotton". Many clones are vegetatively propagated male plants and produce no seeds or "cotton."

### Form

Growth Habit - Upright-spreading branches but not as spreading as cottonwood. Many clones exhibit pyramidal or columnar forms.

Texture - Medium-coarse to coarse, both summer and winter, depending upon hybrid.

Crown Height - 40 to 60 feet.

Crown Width - 20 to 35 feet.

Bark Color - Gray-green when young, turning ash-gray and forming darker gray, furrowed bark at maturity.

Root System - Shallow and wide-spreading, equal to or greater than the height of the tree.

## Environmental Requirements

### Soils

Soil Texture - Clay loams to sandy loams.

Soil pH - 5.5 to 7.5. Less tolerant of high pH or salinity than is cottonwood.

Windbreak Suitability Groups - 1, 2.

### Cold Hardiness

USDA Zone 3.

### Water

Requires a moist site. Will not tolerate drought on upland sites. Less tolerant of moisture stress than is cottonwood. High water table required on coarse-textured soils.

Light

Requires full sun.

## Uses

### Conservation/Windbreaks

Narrow-crowned, fast-growing tree in field and farmstead windbreaks, and riparian plantings.

### Wildlife

Cover and snow protection. Buds provide a source of food to birds. Twigs and young branches make good browse. Young trees are used for food by deer, rabbits, mice and beaver.

### Agroforestry Products

Wood - Firewood, energy production biomass, pulp.

Filter Strips - Roots, stems and leaves are effective nutrient sinks.

Medicinal - *Populus* species are a source of salicin, used for fevers and headaches.

### Urban/Recreational

Used in windbreaks, riparian areas, as visual screens and to provide quick tree cover.

## Cultivated Varieties

Assiniboine Poplar (*Populus x 'Assiniboine'*) - Male, semi-upright, very hardy, disease resistant, fairly susceptible to lime-induced chlorosis.

Canam Poplar (*P. x 'Canam'*) - Female seedling of *P. x 'Walker'*, rapid growth, disease resistant.

Carolina Poplar (*P. x euramericana*) - A common hybrid, similar to the cultivars 'Imperial' and 'Robusta' with similar hardiness limitations.

Charkowiensis Incrassata Poplar (*P. x 'Charkowiensis Incrassata'*) - Male, semi-erect poplar performing well in NDSU trials. Merits evaluation for shelter plantings. Good disease resistance.

Imperial Poplar (*P. x euramericana 'Imperial'*) - Excellent male poplar in growth and disease resistance, but may dieback under certain winter and/or drought stress conditions.

Manitou Poplar (*P. x 'Manitou'*) - Male, fairly broad poplar, resistant to Septoria canker and poplar bud gall mite.

Northwest Poplar (*P. x jackii 'Northwest'*) - Very winter hardy and commonly planted, but very subject to *Melampsora* rust.

Prairie Sky Poplar (*P. x euramericana 'Prairie Sky'*) - Hardy, male, single-trunked poplar, rapid growth, fairly good disease resistance.

Robusta Poplar (*P. x euramericana 'Robusta'*) - Similar to 'Imperial' and suffers similar winter dieback problems, disease resistant.

Tower Poplar (*P. x canescens 'Tower'*) - Rapid-growing, narrow erect poplar which merits trial in shelter plantings but it does sucker.

Walker Poplar (*P. x 'Walker'*) - Female, narrow erect, single-trunked, hardy, fairly disease resistant.

## Related Species

Balsam Poplar (*P. balsamifera*)

Cottonwood (*P. deltoides*)

Quaking Aspen (*P. tremuloides*)

White Poplar (*P. alba*)

## Pests

Common diseases include *Melampsora* leaf rust, *Septoria* leaf spot and canker, *Cytospora* canker, wetwood, and stem decay. Common insect pests include poplar borer, aphids, poplar bud gall mite, poplar vagabond aphid and poplar leaf beetles. 'Walker', 'Assiniboine', and 'Canam' were selected for stem canker resistance. None are completely resistant. Extracts of various *Populus* species are effective against certain insect pests.

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## Hybrid cottonwood (poplar)

*Populus spp.*

**Growth Form:** globular to irregular

**Crown Density:** moderate

**Size:** 75-100 feet high  
50-75 foot spread

**Drought Resistance:** poor

**Cold Hardiness:** excellent

**Growth Rate:** rapid

**Life Span:** moderate

**Elevational Range:** to 6,500 feet

**Possible Insect Problems:** leaf miners, fall webworm, poplar borers, oyster shell scale

**Possible Disease Problems:** cytospora canker; bacterial wetwood, Marssonina leaf blight

**Wildlife Value:** fair: nesting and roosting cover

**Miscellany:** "Norway" male clone, will produce male flowers.  
No guarantee on degree of "cotton" production



# Hansen Hedge Rose





# Hansen Hedge Rose (*Rosa species*)

## General Description

A medium to tall shrub rose that is adapted to the Northern Plains. The fruit is referred to as a rose hip and is a source of Vitamin C. Showy, pink flowers.

## Leaves and Buds

Bud Arrangement - Alternate.

Bud color - Brown

Bud size - 1/4 inch.

Leaf Type and shape - Compound, 5 to 9 leaflets.

Leaf Margins - Coarsely-serrate.

Leaf Surface - Smooth, slightly glaucous beneath.

Leaf Length - 2½ to 3½ inches; leaflets 5/8 to 1 inch.

Leaf Width - 1 to 2 inches; leaflets 1/2 to 3/4 inch.

Leaf Color - Green above, paler beneath; purple fall color.

## Flowers and Fruit

Flower type - Solitary.

Flower color - Pink.

Fruit type - Rose hips, rounded, 1/2 inch across.

Fruit color - Red.

## Form

Growth Habit - Stems upright, semi-weeping.

Texture - Fine, summer; medium-fine, winter.

Crown height - 4 to 6 feet.

Crown width - 4 to 6 feet.

Bark color - Brownish-red.

Root system - Deep, fibrous, spreading.

## Environmental Requirements

### Soils

Soil texture - Adapted to a wide variety of soils.

Soil pH - 5.5 to 8.0.

Windbreak Suitability Groups - 1, 1K, 3, 4, 4C, 5, 6D, 6G.

### Cold Hardiness

USDA Zone 2.

### Water

Intermediate drought tolerance.

### Light

Full sun to partial shade.

## Uses

### Conservation/Windbreaks

Small to medium shrub for farmstead windbreaks, riparian plantings and highway beautification.

### Wildlife

Excellent food source and nesting cover.

### Agroforestry Products

Food - Rose hips used as a Vitamin C supplement and also as a tea.

Medicinal - Used as an astringent for colds and congestion.

### Urban/Recreational

Ornamental (floral and fruit), traffic control, hedge or background.

## Cultivated Varieties

None.

## Related Species

Meadow Rose (*Rosa blanda*) - Pink flowers, reddish, nearly thornless stems.

Redleaf Rose (*R. rubrifolia*) - Purple foliage, pink flowers.

Woods Rose (*R. woodsii*) - Spiny, pink flowers.

## Pests

No major pest problems.



## *Rosa arkansana* (Prairie Rose)

Plant Info	
<b>Also known as:</b>	Wild Rose
<b>Genus:</b>	<a href="#">Rosa</a>
<b>Family:</b>	<a href="#">Rosaceae (Rose)</a>
<b>Life cycle:</b>	perennial woody
<b>Origin:</b>	native
<b>Habitat:</b>	part shade, sun; fields, prairies, along roads, edges of woods
<b>Bloom season:</b>	June - July
<b>Plant height:</b>	6 to 40 inches

## Detailed Information

### Flower:



1 to 4 flowers typically form at tips of new, ground shoots and occasionally at tips of second year lateral branches of older woody stems. Flowers are 1½ to 2 inches across with 5 broad, rounded petals with wavy edges often notched at the tip. The color can range from nearly pure white to deep rose pink and often strongly bi-colored. Numerous yellow stamens surround the shorter styles in the center. The sepals are narrow lance-like, ½ to just under 1 inch long, rounded at the base, the outer surface smooth. Flower stalks are smooth.

### Leaves and stem:



Leaves are alternate and compound with 9 to 11 leaflets, occasionally 7. Leaflets are ¾ to 1¼ inches long and ½ to ¾ inch wide, generally elliptic or widest above the middle (obovate), rounded or blunt at the tip, with serrated edges except at the base. Leaf stalks are ½ to just over 1 inch long and hairy. 2 wing-like appendages (stipules) are at the base of the stalk, and sometimes have a few scattered glands around the edge of the tip end. Upper leaf surface is dark green and hairy to smooth, the underside light green and hairy.



First year flowering stems are green turning red the following season, mostly simple, typically spreading to ascending. Lateral branches are produced on older woody stems and are weak and often don't flower. Both first and second year growth bear stiff, slender bristles of unequal size.



## Fruit:



The round berry like fruits (rose hips) are about ½ inch in diameter, turning bright red in late summer.










Inside the hips are several light brown seeds that are oval to egg-shaped, about 1/6 inch long, with a few long hairs at the ends and across the surface.

## Notes:

Prairie Rose establishes from seeds distributed by wildlife (typically birds) that have consumed its nourishing fruit. Once established, they spread out from underground rhizomes, often forming colonies. Above ground stems rarely persist for more than a few years before dying back to be replaced by new shoots. All three of Minnesota's native roses appear very similar at first glance. Two primary indicators for *R. arkansana* identification are its preference for open, sandy prairie and small size which rarely gets over 18 inches and more often just 10-12 inches. Like [Prickly Wild Rose](#) (*Rosa acicularis*) it has prickles on both new and old growth but it lacks the glands found on the leaf stalks of the latter, and their natural ranges barely overlap along a NW to SE line through central Minnesota. Prickly Rose is also a rather taller plant. [Smooth Wild Rose](#) (*Rosa blanda*) shares the range of *R. arkansana* throughout the state, but as its name suggests, Smooth Rose lacks bristles on its new growth—it's a mid-sized to tall shrub whose bristly, woody stems persist producing showers of flowers for many years.

## Rosa arkansana - Porter.

<b>Common Name</b>	Low Prairie Rose
<b>Family</b>	<b>Rosaceae</b>
<b>Synonyms</b>	
<b>Known Hazards</b>	 There is a layer of hairs around the seeds just beneath the flesh of the fruit. These hairs can cause irritation to the mouth and digestive tract if ingested.
<b>Habitats</b>	Rocky slopes, thickets and dry prairies.
<b>Range</b>	Central and Western N. America.
<b>Edibility Rating</b> 	
<b>Medicinal Rating</b> 	
<b>Care</b> 	



<http://commons.wikimedia.org/wiki/User:Alexwcovington>



[http://en.wikipedia.org/wiki/User:Chris\\_Light](http://en.wikipedia.org/wiki/User:Chris_Light)

## Summary

### Physical Characteristics



Rosa arkansana is a deciduous Shrub growing to 1.2 m (4ft). It is hardy to zone 4. It is in flower from Jun to July. The flowers are hermaphrodite (have both male and female organs) and are pollinated by Bees.

Suitable for: light (sandy), medium (loamy) and heavy (clay) soils, prefers well-drained soil and can grow in heavy clay soil. Suitable pH: acid, neutral and basic (alkaline) soils. It can grow in semi-shade (light woodland) or no shade. It prefers moist soil.

#### Habitats

Woodland Garden Sunny Edge; Dappled Shade;

#### Edible Uses

Edible Parts: [Fruit](#); [Stem](#).

Edible Uses: [Tea](#).

Fruit - raw or cooked[101, 183]. Also used for making syrups, jams and tea[177, 183]. Rich in vitamin C[183]. The fruit is about 15mm in diameter[200], but there is only a thin layer of flesh surrounding the many seeds[K]. Some care has to be taken when eating this fruit, see the notes above on known hazards. Young shoots - peeled and eaten[183]. The flowers, fruits, roots, stem and bark can all be used to make tea[183, 257]. The tea made from the fruit has a sweet flavour[K]. The seed is a good source of vitamin E, it can be ground and mixed with powder or added to other foods as a supplement[102, 183]. Be sure to remove the seed hairs[102].

#### Medicinal Uses

*Plants For A Future can not take any responsibility for any adverse effects from the use of plants. Always seek advice from a professional medicinally.*

[Cancer](#); [Haemostatic](#); [Stimulant](#); [Tonic](#).

The root is haemostatic, stimulant and tonic[257]. A compound decoction of the root has been used in the treatment of bleeding wounds. The root has been used in the treatment of eye complaints[257]. The fruit of many members of this genus is a very rich source of vitamins A, C and E, flavanoids and other bio-active compounds. It is also a fairly good source of essential fatty acids, which is fairly well investigated as a food that is capable of reducing the incidence of cancer and also as a means of halting or reversing the growth of



## Other Uses

### Essential.

The petals have been used as a perfume for hair oil[257].

## Cultivation details

Succeeds in most soils[11], preferring a circumneutral soil and a sunny position[200]. Prefers a slightly acid soil[14]. Grows well in heavy clay soils. Dislikes water-logged soils[200]. Grows well with alliums, parsley, mignonette and lupins[18, 20]. Garlic planted nearby can help protect the plant from disease and insect predation[18, 20]. Grows badly with boxwood[18]. Hybridizes freely with other members of this genus[80]. Plants produce suckers[200]. Closely related to *R. aciculare*[1]. Plants in this genus are notably susceptible to honey fungus[200].

## Propagation

Seed. Rose seed often takes two years to germinate. This is because it may need a warm spell of weather after a cold spell in order to mature the embryo and reduce the seedcoat[80]. One possible way to reduce this time is to scarify the seed and then place it for 2 - 3 weeks in damp peat at a temperature of 27 - 32°C (by which time the seed should have imbibed). It is then kept at 3°C for the next 4 months by which time it should be starting to germinate[80]. Alternatively, it is possible that seed harvested 'green' (when it is fully developed but before it has dried on the plant) and sown immediately will germinate in the late winter. This method has not as yet (1988) been fully tested[80]. Seed sown as soon as it is ripe in a cold frame sometimes germinates in spring though it may take 18 months. Stored seed can be sown as early in the year as possible and stratified for 6 weeks at 5°C[200]. It may take 2 years to germinate[200]. Prick out the seedlings into individual pots when they are large enough to handle. Plant out in the summer if the plants are more than 25cm tall, otherwise grow on in a cold frame for the winter and plant out in late spring. Cuttings of half-ripe wood with a heel, July in a shaded frame. Overwinter the plants in the frame and plant out in late spring[78]. High percentage[78]. Cuttings of mature wood of the current seasons growth. Select pencil thick shoots in early autumn that are about 20 - 25cm long and plant them in a sheltered position outdoors or in a cold frame[78, 200]. The cuttings can take 12 months to establish but a high percentage of them normally succeed[78]. Division of suckers in the dormant season. Plant them out direct into their permanent positions. Layering. Takes 12 months[11].

## Author

Porter.

## WOODS' ROSE

*Rosa woodsii* Lindl.

Plant Symbol = ROWO

Contributed by: The Pullman Plant Materials Center,  
Pullman, Washington



*Rosa woodsii* flowers. Don Knoke, University of Washington  
Burke Museum of Natural History and Culture

### Alternate Names

*Common Alternate Names:* common wild rose, wild rose, mountain rose, pearhip rose, interior rose, prairie rose, Fendler rose, Tehachapi rose (Parish et al., 1996; Hauser, 2006; Burke Museum of Natural History and Culture, 2012)

*Scientific Alternate Names:* *R. arizonica* Rydb., *R. californica* Watson, *R. chrysocarpa* Rydb., *R. grosseserrata* E. Nels., *R. fendleri* Crepin, *R. fimbriatula* Greene, *R. lapwaiensis* St. John, *R. mocounii* Greene, *R. neomexicana* Cockerell, *R. puberulenta* Rydb., *R. pyrifera* Rydb., *R. salictorum* Rydb., *R. sandbergii* Greene, *R. ultramontana* (S. Wats.) Heller (Hitchcock et al., 1969; Welch, 2004; Hauser, 2006)

### Uses

*Ornamental:* Woods' rose is an attractive shrub that can be incorporated into landscaped areas. It will spread by suckers and rhizomes however, and should not be planted where it may become a problem.

*Pollinators and Beneficial Insects:* Roses produce small amounts of nectar, so the primary insect pollinators of roses are bees gathering pollen (Mader et al., 2011). The open-faced flowers of native roses are more attractive to pollinators than varieties with double flowers (Mader et al., 2011).

*Wildlife:* Woods' rose fruits (hips) remain on the plant throughout the winter, and are eaten by insects, birds, small mammals, and large mammals such as grizzly bears (Hauser, 2006). Antelope, mule deer, white-tailed deer, elk and moose browse the leaves and branches. The plant provides cover for many birds, small mammals, ungulates and fish (Hauser, 2006).

*Livestock:* Woods' rose is a highly digestible winter and spring forage (Welch and Andrus, 1977; Welch, 1989). It has fair palatability for cattle and sheep, but poor for horses (Hansen et al., 1990, as cited by Hauser, 2006). Studies show variable effects on Woods' rose from livestock browsing.

*Ethnobotanical:* Native Americans throughout the Pacific Northwest and Rocky Mountain region used Woods' rose as food, medicine, and for ceremonial purposes (Moerman, 2012). Hips of all wild roses are high in vitamin C and are made into jams, jellies, syrups and teas.

*Revegetation:* Woods' rose is an ideal plant for revegetating disturbed sites because it produces rhizomes, regenerates quickly, and has excellent survivability. It can be used to rehabilitate mine spoils and road cuts, control soil erosion on hillsides, and stabilize eroded streambanks (Shaw et al., 2004; Hauser, 2006).

### Status

Consult the PLANTS Web site and your state department of natural resources for this plant's current status (e.g., threatened or endangered species, state noxious status, and wetland indicator values).

### Description

*General:* Rose family (Rosaceae). *Rosa woodsii* is a spreading to erect, long-lived shrub native to the central and western U.S. and Canada. It grows 2 to 10 feet tall and forms loose or dense thickets. Stems are straight, red to grey-brown and have well-developed, straight or curved thorns, or are sometimes unarmed. The thorns are often in pairs at the base of each leaf. Leaves are alternate, deciduous, and odd-pinnate with 5 to 9 leaflets. Leaflets are elliptic to obovate with singly or doubly serrated margins, and undersides can have short hairs or glands, or are smooth. Flowers occur at the ends of branches, bloom May through July, are solitary or in clusters of 2 to 15, and are relatively small. Petals are 0.6 to 1 inch long, are light to dark pink and have broad notches. Sepals are usually smooth and nearly as long as the petals. Flowers have numerous stamens and pistils, and the styles are deciduous as the fruit matures. The fruit is a round, elliptic or pear-shaped hypanthium (hip)

0.25 to 0.5 inch wide. It matures in August to September, is bright red to reddish purple, and has persistent sepals. The fruit contains numerous seeds that are angled achenes. The plant reproduces sexually by seed and vegetatively by sprouts, rhizomes and layering. (Hitchcock et al., 1969; Hitchcock and Cronquist, 1973; Young and Young, 1992; Parish et al., 1996; Welch, 2004; Hauser, 2006; Lewis and Ertter, 2007; Burke Museum of Natural History and Culture, 2012; Turner, 2012).



*Rosa woodsii* pedicel and sepals. G.D. Carr

*Rosa* is a complex and variable genus which hybridizes freely and sometimes exhibits polyploidy and/or apomixis (Hitchcock et al., 1969). Hybridization may occur between *Rosa woodsii* and other native roses throughout its range (Hitchcock et al., 1969, Shaw et al., 2004).

The genus name *Rosa* is an ancient Latin name for rose (St. John, 1963). The species name *woodsii* is in honor of Joseph Woods (1776-1864), who was an English architect, geologist and botanist. He was a member of the Linnean Society and published several botanical works, including the Synopsis of the British Species of *Rosa* (1818) and The Tourist's Flora: A Descriptive Catalogue of the Flowering Plants and Ferns of the British Islands, France, Germany, Switzerland, Italy, and the Italian Islands (1850) (Charters, 2012).

**Distribution:** *Rosa woodsii* grows in Wisconsin south to Texas and west to the Pacific coast and Alaska. It grows in all of the Canadian provinces except in the far north and east. The genus is divided into five subspecies: subsp. *woodsii* is found in the prairies and plains of central North America and extends into the low elevations of the Rocky Mountains and adjacent southwest; subsp. *manca* is endemic to the high elevations in the Rocky Mountains and outlying peaks and ridges; subsp. *arizonica* is found in the low mountains and high riparian

areas in northern Arizona and New Mexico, and in Colorado to Nevada, with possible disjuncts in southern Idaho; subsp. *ultramontana* is found in the intermontane area between the Rocky Mountains and Cascade Mountains, from British Columbia to the Great Basin; and subsp. *gratissima* is found in the southwestern Great Basin, Mojave desert and nearby mountains (Lewis and Ertter, 2007). For current distribution, consult the Plant Profile page for this species on the PLANTS Web site.

**Habitat:** *Rosa woodsii* is a widely adapted species and grows in many habitat types. It is an understory plant in dry and moist forest communities, including elm-ash-cottonwood (*Ulmus-Fraxinus-Populus*), aspen-birch (*Populus-Betula*), Douglas fir (*Pseudotsuga menziesii*), ponderosa pine (*Pinus ponderosa*), western white pine (*Pinus monticola*), fir-spruce (*Abies-Picea*), hemlock (*Tsuga mertensiana*), Sitka spruce (*Picea sitchensis*), larch (*Larix* spp.), lodgepole pine (*Pinus contorta*), redwood (*Sequoia sempervirens*), and western hardwoods (Hauser, 2006). It also grows in sagebrush (*Artemisia* spp.), Texas savanna, Southwestern shrub steppe, chaparral-mountain shrub, shinnery oak (*Quercus havardii*), pinyon (*Pinus* spp.), juniper (*Juniperus* spp.), mountain, plains and desert grasslands, prairie, and alpine habitats (Hauser, 2006).

Woods' rose occurs in several stages of succession, including early seral stages (Hauser, 2006). It often colonizes sites disturbed by fire, land cuts and fills, bank erosion, and animal activity (Hauser, 2006). It is a facultative upland species; it primarily grows on upland sites, but can be found in wetlands (1 to 33% probability) (Hansen et al., 1990, as cited by Hauser, 2006). It is found in riparian areas, in marshes, along lakeshores, in rocky ravines and canyons, along roadsides, and on all aspects of upland slopes (Shaw et al., 2004).

#### **Adaptation**

This plant is adapted to medium and coarse textured, moderately fertile soils with pH that is moderately acidic (5.0) to slightly basic (8.0) (USDA NRCS, 2012). It grows in open and shaded areas receiving 12 to 40 inches of annual precipitation. It is moderately tolerant of drought (USDA NRCS, 2012) and seasonal flooding (Hauser, 2006). All subspecies grow at low to mid-elevations, except subsp. *manca*, which is endemic to high elevations (Lewis and Ertter, 2007). The plant will resprout following a fire, however intense or multiple fires may damage or kill the crown (Wasser, 1982, as cited by Shaw et al., 2004).

#### **Establishment**

Freshly cleaned Woods' rose seed can be broadcast or drilled at a rate of 0.5 to 1.0 pound per acre and covered with firm soil or mulch (Young and Young, 1992; Shaw et al., 2004). Dried seed needs a cold moist stratification period for optimal germination. The seed can be mixed with other shrub seed, but should be separated from grass



and forb seed (Shaw et al., 2004). Plants can also be established by transplanting seedlings or cuttings (see the Seeds and Plant Production section, below).

### Pests and Potential Problems

Woods' rose is susceptible to fungal diseases such as leaf spots (*Alternaria* spp., *Cercospora* spp., *Colletotrichum* spp., and *Sphaceloma rosarum*), leaf rusts (*Phragmidium* spp.), gray mold (*Botrytis* spp.), powdery mildew (*Sphaerotheca pannosa* var. *rosae*) and stem cankers (*Coniothyrium* spp. and *Cryptosporella umbrina*), and common gall bacteria (*Agrobacterium* spp.) (Pacific Southwest Experiment Station, 2002, as cited by Welch, 2004). Insect pests in forest ecosystems include tent caterpillar (*Malacosoma* spp.), rose leaf hopper (*Edwardsiana rosae*), and western tussock moth (*Orgyia vetusta*) (Pacific Southwest Experiment Station, 2002, as cited by Welch, 2004).

### Environmental Concerns

None



***Rosa woodsii* hips. Ben Legler, University of Washington Burke Museum of Natural History and Culture**

### Seeds and Plant Production

*Rosa woodsii* plants are sexually reproductive after 2 to 5 years of growth (Welch, 2004). Seed is obtained by collecting rose hips after they turn a bright red color (Gill and Pogge, 1974). The seeds can be removed from the hip flesh by macerating the hips and rinsing in water, allowing the debris and unfilled seed to float to the surface (Scianna, 2003; Barner, 2008). Seeds collected soon after ripening and not allowed to dry will be less dormant than dried seeds (Gill and Pogge, 1974; Young and Young, 1992). Dried seeds require a cold moist

stratification period of 30 to 365 days at 40 degrees Fahrenheit to improve germination (Gill and Pogge, 1974; Shaw et al., 2004). A warm moist stratification period preceding the cold moist period may further improve germination (Gill and Pogge, 1974).

In nature, seeds are eaten and dispersed by birds and other wildlife. The seed coat is broken down by the animals' digestive process, which reduces the overall seed viability, but alleviates the dormancy of unharmed seed (Shaw et al., 2004).

There are about 51,000 seeds per pound (USDA NRCS, 2012). Dried seeds stored in air-tight containers will remain viable for 2 to 4 years (Young and Young, 1992).

Plants can be produced by sowing seed into pots or flats outdoors in October or November, and moving into a greenhouse in January or February. Seedlings should be moved to a lath house or other structure in the spring and grown for one year to develop an adequate root system before transplanting. Seedlings can be transplanted to the field in containers or as bareroot stock.

Woods' rose can also be reproduced by hardwood cuttings, softwood cuttings, root suckers or layering (Snyder, 1991, as cited by Rose et al., 1998; Shaw et al., 2004). All seedlings and propagated plants should be hardened off for two to four weeks prior to transplanting in the desired field location. In the field, young plants may need protection from rodents, livestock and wildlife (Shaw et al., 2004).

### Cultivars, Improved, and Selected Materials (and area of origin)

None, but seeds and seedlings are commercially available.

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#### Citation

Pavek, P.L.S. and D.M. Skinner. 2013. Plant guide for Woods' rose (*Rosa woodsii* Lindl.). USDA Natural Resources Conservation Service, Pullman, WA.

Published March 2013

Edited: 23Dec2012 dms; 31Jan2013 plsp; 25Feb2013 jab

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