

MULTIFLORA ROSE (*Rosa multiflora*)

Other common names: Rambler Rose, Multiflowered Rose

Identification and Introduction:

Multiflora rose is a perennial shrub with an arching or trailing habitat. Canes (stems) root at the tips and may reach heights of up to 10 feet. The red to green twigs may have numerous recurved thorns and other thornless specimens occur infrequently in the eastern United States. Leaves are compound with 5, 7, 9 or 11 oval saw toothed leaflets. Clusters of showy fragrant white to white pink one inch diameter flowers bloom in panicles, inflorescences with side stems, in late May or June. The flowers produce copious quantities of sweet pollen. Six to 100 hips develop in the inflorescence in summer and turn red by middle September, containing one to 21 seeds. The hypanthium, the large fleshy cup like structure on the underside of the flower, softens after the early frosts becoming tough and remaining on the plant in winter. Seed color is variable yellow to tan measuring about 0.16 inches contained in sharp, thin pointed structures called spicules.

Costs to West Virginia farmers to control multiflora rose in 1981-82 topped \$40 million and in 1984 considered the highest priority noxious weed in the state. The shrub has been cited as a noxious weed in Pennsylvania, Virginia, West Virginia, Maryland, Iowa, Missouri and Kansas.

Natural History

Multiflora rose is a native of the Far East, specifically Japan, Korea and Eastern China. The shrub, introduced to the East Coast in 1866, was initially used as a rootstock for ornamental roses and its nature to form dense thickets made living fences to contain livestock. From the 1930s to the 1960s multiflora rose got planted for erosion control and for feeding and protection of indigenous wildlife.

This invasive species range includes the Great Plains to the east coast, from north Texas, Arkansas, Mississippi, Alabama and Georgia. Northern region colonization is limited by cold temperature sensitivity; multiflora rose possessed moderate winter hardiness.

Life Cycle and Ecological Impacts

Multiflora rose grows well on fertile, moist uplands or bottomlands and is problematic on steep slopes. It tolerates sun and shade, dry or damp regions but grows poorly in standing water. The shrub is a denizen of many habitats including marsh and swamp margins, roadsides, rights of way, forest edges, fence rows and hilly pastures.

Each cane may develop 40 to 50 panicles and may produce 17,500 seeds. A typical multiflora rose plant may produce one million seeds a year that remain viable in the soil

seed bank for 20 years. The dry hip forms a leather like capsule; the fruits are tempting to several bird species such as robins, red winged blackbirds, Cedar waxwings, mockingbirds and starlings. The spicules cause the seeds to pass through the birds' digestive systems and this acid scarification process results in superior germination rates. Bird feces provide seedling fertilizer.

Seeds germinate shortly after soil contact; the seedling appearing within 60 days at above freezing temperatures. Multiflora rose thickets lower crop yields in nearby fields by competing for nutrients.

Management and Control Methods

Cutting or mowing 3 to 6 times per growing season for 2 to 4 years achieves a high mortality rate of multiflora rose. Repeatedly mowing or cutting will not eradicate the shrub; canes should be cut at least one time per season close to ground level. Areas of dense grass cover show that mowing will control bramble spread. Mowing several times per year would prevent seedling establishment. A July mowing at Woodborne Sanctuary in Pennsylvania controlled multiflora rose. One researcher recommended a bulldozer to knock down shrub slumps. Again at Woodborne, a hedge top cut at ten foot high canes followed by mowing prevented re-establishment opening the field. Several mowings in high quality environmental regions will cause damage to other desirable native plants. Goat control of the shrub has demonstrated some success.

Burning has been used in southeastern Texas for control of McCartney rose (*Rosa bracteata*). Head fires test at 2 to 3 months resulted in over 90% top kill. Regrowth cured 2 weeks after the burn. Winter burning reduced McCartney rose canopy and permitted native grasses to take over. One research study stated in fire adapted ecosystems a preburn treatment will impede multiflora rose invasion and establishment.

One biological control method involves the use of European Rose Chalcid (*Megastigmus aculeatus*), a wasp. During May and June the female deposits her eggs in the seed and the larvae overwinter. Pupa formation occurs in April to June and the adult wasps appear from the rose hip in early summer, thus completing the cycle. More research needs to be completed before considering this method of control.

Rose rosette disease is being evaluated as a biocontrol for multiflora rose. The disease was initially found in a Nebraska nursery in 1964. Rose rosette disease spread to Missouri and Kansas in the 1980's and to southern Indiana and northern Kentucky in 1987. Eighty to 90% of multiflora rose plants in a Missouri field infected with multiflora rose were dead or dying. The disease agent is a "virus" transmitted by mites and its use might pose a threat to ornamental roses. Among the rose rosette disease (RRD) symptoms are: red to purple vein pigmentation, bright red side shoots, small yellow leaves and the development of many side shoots forming a "witches broom". Canes become cold sensitive and die at temperatures below 14 degrees F.

References

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