United States Department of Agriculture

A Conservation Plant Released by the Natural Resources Conservation Service
Norman A. Berg National Plant Materials Center, Beltsville, Maryland

# Steiner Group 'Appalachia', 'Allegheny', 'Algonquin'

## *Black locusts*

*Robinia pseudoacacia L.*

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The three cultivars, 'Appalachia', 'Allegheny', and 'Algonquin', collectively referred to as the Steiner Group black locusts, were released by the USDA Natural Resources Conservation Service, U.S. Forest Service, West Virginia Department of Agriculture and Forestry, and the USDA Agricultural Research Service

**Description**
The Steiner Group black locusts are very fast growing (2 – 3 feet annually), short lived (50 – 75 yrs.), native trees that can grow to 50 to 75 feet in height. They have an irregular form and a thick canopy of alternate and pinnately compound leaves that are 6 to 14-inch-long with 7 to 19 short stalked leaflets. Pairs of ½ to ¾ inch long stout thorns grow at each node along the twigs, branches, and near the axils of former leaves. Very fragrant, creamy white flowers occur in May to mid-June. Steiner locusts are very winter and summer hardy in Zones 4 - 8 (USDA Plant Hardiness Zone Map).

'Appalachian' - selected for excellent vigor and form.
'Allegheny' - selected for excellent vigor, straight unforked trunks, and above average DBH (diameter breast height (4.5 feet)).
'Algonquin' - selected for vigor and above average locust borer (*Megacyllene robiniae*) resistance.
The most vigorous selections exhibit the greatest resistance to the locust borer. The wood is extremely hard, rot resistant, and durable.

**Source**
The National Plant Materials Center (NPMC) released the Steiner Group black locusts in 1987 after evaluating field plantings from Maryland, Ohio, Missouri, Kansas, New Jersey, and throughout the Appalachian region. The Steiner Group black locusts have been selected from naturally occurring germplasm. 'Appalachia' (NRCS accession number 9030613) was collected between Blackwood and Appalachia, Virginia; 'Allegheny' (9030613) was collected near Bartow, West Virginia; and 'Algonquin' (9030615) was collected near Thornwood, West Virginia. The group is named to honor W. Steiner for his contribution to this release.

**Conservation Uses**
Previous commercial sources of black locusts were selected for ornamental appeal whereas the Steiner group was selected for vigor, erosion control, easy establishment and locust borer tolerance.

*Post and Pole Production*: The Steiner Group have relatively straight, un-forked trunks, making them ideal for post and pole production. Steiner locusts fork less than the species, which allows for better post and pole production. Early pruning is important for straight clean trunks. Black locust's rot resistant wood makes it ideal for organic fencing, mine timbers, hop trellice poles, and railroad/landscaping ties.

*Conservation*: Black locusts fix atmospheric nitrogen, which allows them to grow in relatively poor soils. They also provide erosion control on critical and highly disturbed areas (mine spoils) due to easy establishment, rapid early growth, and soil building capabilities.

*Wildlife*: The seeds are a minor food source for some upland gamebirds (bobwhite quail and ring-necked pheasant). Ruby throated hummingbirds, bumblebees, and honeybees visit the flowers for nectar and honey production. Clonal colonies provide cover for white-tailed deer, coyote, red fox, ring-necked pheasant, bobwhite quail, and other wildlife in semi-open areas.

*Silvopasture*: Steiner locusts leaf out late spring (May) and when fully leafed out cast a mild shade benefitting understory grasses. The leaves contain high amounts of crude protein, which is nutritionally comparable to alfalfa. Excessive consumption can lead to toxicity but most ruminants naturally limit intake (except horses). The highest toxicity is in the seeds, bark, and new growth. Plants are highly variable in toxicity depending on growing conditions.

**Area of Adaptation and Use**

The Steiner Group black locusts have a wide range of adaptability from the Appalachian Mountains from PA to AL and west from Missouri into Arkansas and Oklahoma (see the adaptation and use map ).

**Establishment and Management for Conservation Plantings**

The Steiner Group black locusts are shallow, fibrous rooted, sucker readily, transplant easily, very adaptable, and will grow in most soils except clay, permanently wet, or compacted sites. They tolerate dry, saline areas and are shade intolerant. To reduce the risk of locust borer damage, planting density of black locust as a species should not exceed twenty percent of all trees used in one contiguous area. To provide genetic diversity it is recommended to plant in the following ratios:

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|---|---|
| 'Appalachian' | 10% to 25% |
| 'Allegheny' | 10% to 25% |
| 'Algonquin' | 80% to 50% |

Plant Steiner locusts in rows spaced 10 feet apart and 8 feet apart within rows for silvopasture. Plants should be planted in late summer or early autumn for best survival. Pole wood may be harvested in about 15 years and large hop poles in about 20 years. Steiner locusts are susceptible to leaf miner, canker, powdery mildew, and damping off but most often are unaffected. They are sensitive to ozone air pollution and dicamba herbicide drift. Deer protection is essential during the establishment period (1-3 years) until trees have grown above the browse line (4-5 feet).

**Ecological Considerations**

The Steiner Group black locusts do not exhibit weedy or invasive properties beyond that of the species. Black locust is native to the Appalachian and Ozarks regions, but is considered a species of concern or invasive species in the prairie and savanna regions of the Midwest where it can dominate and shade open habitats. Maine, Vermont, Massachusetts, Wisconsin and Minnesota regulate black locust with invasive species laws, while Maryland, Pennsylvania, Connecticut, New York, Illinois and California regulate the plant by invasive species listings (Center for Invasive Species Ecosystem Health).

**Seed and Plant Production**

*Plant Propagation:* Most seedlings are produced from out-crossing and seed from Steiner Group black locusts may not have the same superior characteristics as the parental material. The Steiner Group black locusts is propagated from root cuttings and micro propagation (tissue culture) methods. Nurseries and other interested parties should contact Shawn Belt for root cutting propagation protocols.

**Availability**

*For conservation use:* Steiner locusts are available in the commercial market on a limited basis. Please consult your NRCS field office or the Norman A. Berg National Plant Materials Center.

*For plant increase:* Research institutions and nursey owners may obtain propagation material from the NPMC to begin commercial production.

***For more information, contact:***

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**Citation**

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



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