

The

U. S. Department of Agriculture  
Soil Conservation Service  
National Plant Materials Center\*

and the

U. S. Department of Agriculture  
Forest Service

and the

West Virginia Department of Agriculture  
Forestry Division

and the

U. S. Department of Agriculture  
Agricultural Research Service  
U. S. National Arboretum

Announce Release of the STEINER GROUP of Black Locusts

The U.S. Department of Agriculture, Soil Conservation Service, Forest Service, and Agricultural Research Service, National Arboretum, and the West Virginia Department of Agriculture, Forestry Division announce the release of three superior black locust (Robinia pseudoacacia L.) cultivars to be named the STEINER GROUP.

Black locust is widely planted for stabilization and reforestation on surface-mined land and other sites in its range of adaptation. Use of the superior planting stock of the STEINER GROUP will improve the potential for post and pole production of these plantings, as well as the growth rate and form for other uses of black locust.

The STEINER GROUP is composed of the cultivars 'Appalachia' (HC-4138; BN-4191; NA-4913; 9030613), 'Allegheny' (HC-4146; BN-4192; NA-4914; 9030614) and 'Algonquin' (HC-4149; BN-4194; NA-4916; 9030615). The Group is named in honor of Wilmer W. Steiner, whose dedication in evaluating and coordinating the many experimental plantings materially contributed to this release (1).

\*Special recognition is also extended to the many individuals and groups not specifically mentioned who performed much of the establishment, maintenance and evaluation work culminating in this release, including the SCS Plant Materials Centers in New Jersey, Missouri, Kentucky, Kansas and Michigan.

The cultivar 'Appalachia' (9030613) was collected between Blackwood, Virginia and Appalachia, Virginia. It was named in 1956, following evaluations in the U.S. and Holland in which it showed excellent vigor. In conjunction with its excellent growth rate and form, it was found to be easily propagated from root cuttings.

The cultivar 'Allegheny' (9030614) was collected near Bartow, West Virginia. It was named in 1987 by way of this release notice. It was selected after evaluations of plantings over a five state area confirmed its excellent vigor, straight, unforked trunks and above average DBH when young as well as old.

The cultivar 'Algonquin' (9030615) was collected near Thornwood, West Virginia. It was named in 1987 by way of this release notice. It was selected after evaluations over a five state area confirmed it as having exhibited the best performance in terms of vigor and resulting short-term forest products. It was rated above average in resistance to borer damage.

During the period 1938 through 1943, black locust clones were collected and brought to the SCS Plant Materials Center at Beltsville, Maryland. Over 100 individual clones from native stands were selected, primarily for superior growth rate and dominant stem characteristics.

Consideration was also given to the degree of susceptibility to injury from the locust stem borer (Megacyllene robiniae). Clonal planting stock of these selections was widely field-tested from 1943 to 1950.

Planting stock of clones distributed for field testing during this period was assigned SCS Hillculture (HC) accession numbers, which accounts for the fact that planting maps and records for these early clonal plantings (2) are keyed to HC accession numbers. From field evaluations of these and later field testing plantings, five clones were selected as having the most rapid growth and most dominant stem characteristics. At this time, they were assigned Beltsville Numbers BN-4191 (HC-4138), BN-4192 (HC-4146), BN-4193 (HC-4148), BN-4194 (HC-4149) and BN-8316, a seedling selected out of a Beltsville plot of HC-4158 strain material from Huttonsville, West Virginia. In the 1950's, fifteen new clones from native stands were added.

Clones were vegetatively propagated from each of the twenty accessions and additional plantings were made in Ohio, Missouri, Kansas, New Jersey and the Appalachian region. The plantings were routinely evaluated through the mid-1970's (2).

Propagation of black locust clones for all evaluations was entirely from root cuttings. While this is a reasonably reliable technique, the cost, combined with the difficulty of producing enough root cuttings to make commercial production feasible, caused the project to be discontinued in the late 1970's.

The recent development of micropropagation techniques (3) for black locust has presented a new opportunity for the economic reproduction of superior clones. A field and literature review was made by Ruffner (4) in 1985 to determine whether the previous work justified releasing a superior clonal group. Based on this review, BN-4191, BN-4192, and BN-4194 were identified as superior clones, worthy of release. They are pinnate types, with very straight stems. No evidence of stagnation was observed in dense stands (4), which Hopp

described as a potential problem with pinnate types (5). While there is some evidence of forking in each clone, it is considerably less than seeded black locust and does not diminish post and pole production.

STEINER GROUP black locust cultivars are well adapted to the natural range of black locust (5). Borer damage was similar to other clones in the evaluation but less than seeded black locust stands. To reduce the risk of borer damage, planting concentrations of black locust should not exceed twenty percent (20%) of all trees used in one contiguous area. To provide genetic diversity, it is recommended that the STEINER GROUP be planted instead of individual cultivars in any given planting. Recommendations may vary according to local site requirements but the following ratios can be used as guideline ratios:

Appalachia	(9030613)	10% to 25%
Allegheny	(9030614)	10% to 25%
Algonquin	(9030615)	80% to 50%

Propagation material of the STEINER GROUP of black locust cultivars will be available in 1988. Requests for the material will be accepted in 1987 for distribution in 1988. Propagation material will be maintained and available at the U.S. National Arboretum and National Plant Materials Center in future years.

## Bibliography

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3. Davis, J. M. and D. E. Keathley. 1985. Proceedings of the Fourth North Central Tree Improvement Conference, August 12-14, 1985, East Lansing, Michigan, pp. 29-34.
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