NOTICE OF RELEASE OF 'NIAGARA' BIG BLUESTEM

FOR CONSERVATION PLANTINGS

by

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ECOLOGICAL SCIENCES DIVISION
Washington, D.C.

and

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
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and

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The United States Department of Agriculture, Soil Conservation Service, and Agricultural Research Service along with The Pennsylvania State University announce the release of Andropogon gerardi Vitman, big bluestem, PI-315656 (NY-1145). The variety name will be 'Niagara' to distinguish this eastern ecotype from the several midwestern cultivars of the species.

Big bluestem is a native warm season grass that is locally adapted from the 100th meridian eastward on the North American continent. Soil Conservation Service plant materials personnel collected seed of 'Niagara' from a stand along Buffalo Creek in Erie County, New York. Initial evaluation of 'Niagara' took place at the Big Flats Plant Materials Center, Corning, New York from 1958 through 1961. After selection for advanced evaluation, 'Niagara' was isolated for seed increase. Subsequent field testing in the northeast demonstrated the superiority of 'Niagara' over midwestern cultivars.

'Niagara' big bluestem is a shortly rhizomatous, perennial grass with physical traits mostly typical of the species. Distinguishing characteristics are early emergence of the seedhead in late June (one month earlier than 'Kaw' at Big Flats), dark green leaf color, and quick regrowth following forage harvest. Typically, 'Niagara' will initiate new stems after harvest whereas 'Kaw' does not. The mature height of 'Niagara' is 1.5 to 2.5 meters. The well distributed leaf blades are 8 to 10 mm. wide with scabrous margins. Seed heads of 'Niagara' are typical, except that the joints and pedicels are entirely ciliate rather than at the margins only.

There are two major conservation uses of 'Niagara' big bluestem. These are (1) for erosion control and revegetating droughty sites such as gravel mines, strip mines, or roadsides, and (2) for midsummer forage production. 'Niagara' is well suited to these uses due to its extensive root system, tolerance of hot, dry conditions, low phosphorus soils and low pH, persistence and productivity which exceeds other big bluestem cultivars in the northeast. It should be planted alone for forage production to minimize selective grazing. When used for erosion control, it can be planted alone, but is better utilized in mixtures with other warm season grasses and forbs. When located near complimentary habitat, 'Niagara' provides quality nesting cover for birds and is used by mammals for loafing and escape routes.

'Niagara' was compared at Big Flats with several other big bluestem accessions and 'Kaw', a Kansas cultivar. Superior forage production, longevity and disease resistance resulted in the selection of 'Niagara' for advanced evaluation. Since 1962, 'Niagara' has been subjected to extensive evaluations at Big Flats and throughout the northeast. In replicated plot plantings on sand and gravel mines under low fertility conditions in New Hampshire, 'Niagara' was superior to 'Kaw' in persistence and percent groundcover. A three state project conducted over four years by the NE-114 Regional Committee found that 'Niagara' outyielded 'Kaw' big bluestem and 'Ky-31' tall fescue (by 40% and 214%, respectively) on shallow, droughty soils. The Regional Pasture Research Laboratory studied yield and persistence of 'Niagara' and 'Kaw' in southeast Pennsylvania. Over a 4 year period, 'Niagara' produced about 70 percent more forage in late July than did 'Kaw'. Foliar samples collected at the Big Flats Plant Materials Center and analyzed at the Regional Pasture Research Laboratory compared the quality of 'Niagara' with 'Kaw'. 'Niagara' averaged 1.0 percentage point lower (dry matter basis) in IVDMD, but 2.8 points higher in crude protein at the end of July. The known area of adaptation for 'Niagara' extends from coastal Maine and the Champlain Valley southwest to central Kentucky and western Virginia.

Breeders and Foundation seed of 'Niagara' will be produced at the Big Flats Plant Materials Center, Corning, New York. There will be no Registered seed class recognized for 'Niagara' - seed fields planted with Foundation seed will be eligible to produce Certified seed.

Approvals for Notice of Release of 'Niagara' Big Bluestem

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