Vernonia noveboracensis - New Crop Summary & Recommendations

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Vernonia noveboracensis (L.) Michx.
New York Ironweed

Taxonomy

Vernonia noveboracensis is a gorgeous, purple-blooming wetland species native to the Eastern United States. The official taxonomic name is *Vernonia noveboracensis* (L.) Michx., the "L." representing Linnaeus as the naming authority. Furthermore, the genus "*Vernonia*" is derived from the name William Vernon, and 17th Century English Botanist. The specific epithet "*noveboracensis*" translates to "of New York", presumably where the first collections of this species were made. The common name is thus, New York Ironweed. Numerous synonyms exist for this species, including: *Serratula noveboracensis* (Linnaeus), *Vernonia harperi* (Gleason), *Vernonia noveboracensis* var. *tomentosa* (Britton). New York Ironweed is a member of the Asteraceae family, easily identifiable to, when observing the blooms, or numerous blooms, characteristic of the Asters.

Geographic Distribution & Native Habitat

The geographic distribution of New York Ironweed is quite extensive. Nearly every state of the Eastern United States is home to this species. Populations extend north to Ontario, Canada and south to Alabama, with an isolated population occurring in New Mexico. However, this species is native to low, wetland areas and more commonly occurs along the coast. Native to the 48th North latitude, *Vernonia noveboracensis*, thrives in full sun and moist, slightly acidic soils but will tolerate a wide range of conditions. New York Ironweed easily naturalizes in suitable habitats but does not exhibit invasive tendencies. Small seed-sets and an absence of vegetative propagation limit the spread of this wetland loving species occurring in pastures, meadowlands, low woodlands, along roadsides and stream/riverbanks.

Taxonomic Description

Vernonia noveboracensis is a tall, herbaceous perennial. Root systems are shallow, generally not extending more than 6 inches deep. Yet, coarse and clump-forming with a spread of approximately two feet, New York Ironweed typically grows from 3 to 8 feet in height. Stems are tough and sturdy, oft described as "iron-like", indicative of the common name. Stems are a purplish color in juvenility, providing a stark contrast to the dark-green lanceolate leaves. Leaves are alternate with serrate margins and approximately 6-8 inches long. Deep purple blooms arise in late summer as loosely-branched terminal clusters, in corymb or panicle arrays. Each flower consists of 30-50 tubular-shaped florets which are all disk flowers. Florets range in color from a deep lavender to violet, even turning a reddish-purple as the blooming season progresses from August through October. Flowers are strong butterfly and bee attractants, which accounts for common wildflower and butterfly garden plantings. Once seeds set, New York Ironweed, then also serves as a bird attractant. Native Americans used ironweed root tea as a cure for stomach related maladies and it is also reportedly used as a remedy

for snake bites. Another possible use for *Vernonia noveboracensis* is browse or grazing feed for livestock, although there is some evidence, cows in particular, are not fond of the species. New York Ironweed also exhibits a very interesting mutualism with a specific pair of ant-aphid species which serve as an herbivore deterrent for other predators (Bristow 1984).

Varieties on the Market

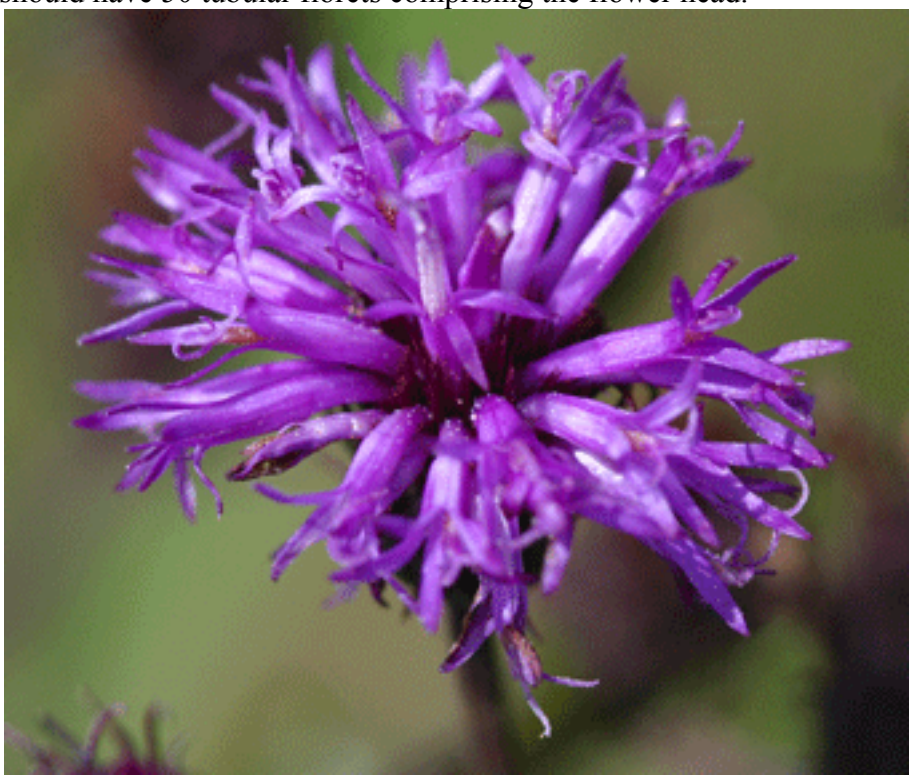
New York Ironweed is commercially available as *Vernonia noveboracensis*.

Propagation Methods

This species is propagated by seed. *Vernonia noveboracensis* exhibits seed dormancy and a cold stratification period will improve germination. It is recommended that seeds from the current seasons' set are used. Upon sowing thickly, seeds should be placed in cold stratification for one to three months. Alternatively, seeds can also be direct sown outdoors in the fall. Vegetative propagation with soft-wood cutting is possible but not commonly practiced.

Product Specifications

Vernonia noveboracensis is a tall plant with a 6 foot purple/green stem, with gorgeous purple blooms, off-set by deep-green leaves. Each lavender/violet bloom should have 50 tubular florets comprising the flower head.



Market Niche

New York Ironweed provides a late season burst of vibrant color. Blooming in late August through October this species extends the season. Best suited as a landscape plant for borders or backdrops, *Vernonia noveboracensis* is a stunning vertical element in

the landscape. Seed sales should be targeted for late fall, so as to ensure fresh product. It is recommended that seeds be sown immediately and will thus receive the necessary cold period required for successful germination. Market *Vernonia noveboracensis* as a native wildflower which serves as a butterfly attractant and tolerates a wide range of conditions. New York Ironweed is currently used in mass conservation and restoration plantings. This angle could also be used to market this species to a specific customer base. It may also be possible to market this species as a cut flower, however, time of investment may not be offset by return. Limitations to *Vernonia noveboracensis* becoming a major crop include time to bloom and low germination rates. This species does not typically bloom until the second year.

Anticipated Cultural Requirements

Vernonia noveboracensis is hardy from USDA zones 4-9. This species exhibits medium heat and drought tolerance, but thrives in full sun and moist soils. New York Ironweed adapts to a wide range of temperature and soil conditions. Neutral to slightly acidic soils are tolerated and no specific nutritional requirements are necessary. Disease and pests are generally not problems.

Production Schedule

Seed sales are best marketed for initial landscape plantings or for use in naturalized settings. The period from sowing to flowering may take two years. *Vernonia noveboracensis* also may be sold as juvenile plants. A proposed commercial production schedule follows:

Week Number	**Commercial Production**
5	Plant (Sow Thickly) in a 288 Plug Tray – Place in Cold Stratification for 4 Weeks
9	Remove from Cold Stratification – Place in Mist House at 70 F Day / 70F Night
11	Move to Greenhouse – Minimum Temp 65 F Day / Night Temps – Grow on 8-9 Weeks in Long Day Conditions
13	Transplant to 4” Container
20	Young Plant Ready for Sale / Outdoor Planting
33/34 of Following Year	Flowering

Research does not suggest the need for special fertilization regimes. The use of plant growth regulators is also not recommended.

Personal experimental data suggests treatments with GA3 do not solely induce germination in the absence of a cold stratification period. Seeds soaked for two hours in 400 ppm GA3 or 1000 ppm GA3 did not germinate when sown directly into a 288 plug tray using BM2 germination mix and placed in the mist house. Further experimentation with higher concentrations of GA3, longer seed soaks in higher concentrations of GA3, in

combination with various time periods of cold stratification should be performed in an attempt to shorten a production schedule.

Genetic Improvement

The biggest area for genetic improvement would be to shorten time to flowering. Flowering in the first year is a highly desirable trait. Breeding and selection for species with the most desirable phenotypic traits is also an option (i.e. florets/bloom, stem, leaf, and flower coloration, height, etc). *Vernonia noveboracensis* has been show to freely hybridize with *Vernonia acaulis* in the wild and thus may provide additional germplasm for breeding experimentation (Jones 1972).

Literature Cited

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