Propagation Protocol

for Lizard's Tail (*Saururus cernuus*)

DIANE J BENNETT

Lizard's tail (*Saururus cernuus* L. [Saururaceae]) is an emergent perennial commonly found in freshwater wetlands throughout much of the eastern US. In Pennsylvania, it grows in full sun along the edges of larger rivers like the Juniata and Susquehanna, often in combination with water willow (*Decodon verticillatus* (L.) Elliott). Lizard's tail serves as "escape" or "hiding" habitat, particularly for juvenile smallmouth bass, and as a food source for herons and ducks at the water's edge. The plant also has ornamental appeal when in flower. Lizard's tail has tiny white fragrant flowers clustered in spikes that bloom June to August in Pennsylvania.

At Octoraro Native Plant Nursery, we grow lizard's tail for use in riparian buffer and wetland restoration projects. When grown from achenes, lizard's tail plants can be ready for the field as soon as 8 wk after seeding.

We harvest achenes (seeds) from native stands, as well as from stock plants in the nursery, during early to mid fall. Seedheads are held over paper bags and the 1-seeded achenes (about 3 mm (0.125 in) in diameter) are

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Photo by Diane J Bennett

Lizard's tail.

stripped into the bags by hand. No seed cleaning is necessary other than a visual inspection for insect or other damage prior to storage. Seeds are stored cold and dry in sealed, airtight plastic bags through the winter in a refrigerator at 2 °C (35 °F). In January, about 4 wk prior to seeding, we remove seeds from cold storage and soak them in containers of water for 2 wk. Seeds are covered with twice their volume in water and remain in the same water for the duration of the soaking period. Seeds are then mixed with damp, sterile sand, at a ratio of 1 part seeds to 5 parts sand by volume, and subjected to cold, moist stratification (refrigeration at 2 to 4 °C [35 to 40 °F]) for 2 wk.

Stratified seeds are surface sown in open flats (approximately 25 cm wide X 50 cm long X 6 cm deep (10 X 20 X 2.5 in) containing a soilless mix (55% sphagnum, 30% vermiculite, 15% perlite by volume); a variable amount of fine sand is added to the mix to provide aeration. Two hundred to 400 seeds are sown per flat, and covered with a dusting of the germinating mix (applied by sieve over the seeds). Seeded flats are then placed into solid bottom flats filled with water to allow saturation of the planting medium. The flat-in-flats are arranged on bottom-heated greenhouse benches. Medium temperature is maintained at approximately 21 to 23 °C (70 to 74 °F) during germination. Greenhouse air temperature ranges from a low of 4 °C (40 °F) to a high of 27 °C (80 °F).

Germination of lizard's tail ranges from 80% to 95% in the greenhouse and usually occurs within 3 wk, at which time the flats in their solid-bottom watering trays are moved to a mist bench. The mist cycle is set at 2 to 8 s every 10 min, and the flats continue to be bottom heated. Trays remain under mist for about 2 wk, or until seedlings have 2 sets of true leaves and are about 2.5 cm (1 in) tall.

Seedlings are transplanted from the open flats to 50-cell plug trays, 1 seedling to each cell (about 5 X 5 X 6 cm deep (2 X 2 X 2.5 in deep). Planting medium for seedling trays is a mix of 50% composted pine bark, 20% peat, 15% vermiculite, and 15% perlite by volume. Once lizard's tail seedlings have been transplanted, the plug trays are moved outdoors in mid-April to early May to 4.5 X 30 m (15 X 100 ft) unheated, uncovered huts with overhead irrigation, where they receive 15 min of watering per day to saturate the growing medium. Liquid 20N:20P_2O_5:20K_2O at a rate of 200 ppm is used to fertilize plugs every day during the first week, every other day during the second week, and once a week during the third and fourth weeks; beyond that, plugs are not fertilized. Seedling plugs are ready to be sold in 4 to 6 wk, when roots grow throughout each plug cell and plugs can be pulled out intact.

Plugs that are not immediately shipped are placed in "wet beds" until sold. These beds are 2 m X 4 m X 10 cm (6 ft X 12 ft X 4 in) and are lined with black plastic. Water level in the beds is maintained to keep plug trays saturated but not inundated. Plants can be kept in the wet beds for up to 5 mo.

Octoraro Native Plant Nursery ships lizard's tail plants to clients in the Mid-Atlantic states (from Connecticut to Virginia and west to western Pennsylvania) from about mid-May into December, depending on weather. Most plants are plug size when shipped, but occasionally clients require larger materials. For these projects, we transplant plug plants into larger pots (10 X 10 X 10 cm [4 X 4 X 4 in]), using the same mix as for plugs.

REFERENCE

USDA NRCS. 1999. The PLANTS database, Version 3.0. URL: http://plants.usda.gov/plants (accessed 10 Oct 2000). Baton Rouge (LA): National Plant Data Center.

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