



## Dudley's rush

*Juncus dudleyi*, Wiegand

### Scientific Synonyms

*Juncus tenuis* Willd. var. *dudleyi* (Wiegand) F.J. Herm., *Juncus tenuis* Willd. var. *uniflorus* auct. non Farw. p.p.

### Functional Group

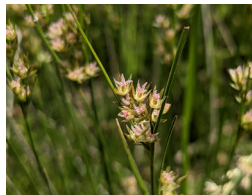
sedges and rushes

### Family

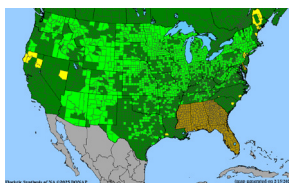
rush family (Juncaceae)

### Description

- » **Life cycle/growth form:** Perennial, bunch forming rush with fine fibrous roots and short rhizomes.
- » **Height:** 1-2 ft
- » **Leaves and stem:** Leaf blades flat, dark green, up to 1 mm wide and 12 in long, 2-3 leaves per flowering stem; flowering stems longer than the blades, round in cross-section; small appendages where the leaf blade meets the sheath (auricles) are thickened, rounded, often yellowish, helping to distinguish Dudley's rush from similar species that have auricles that are elongated and membranous (*J. tenuis*) or rounded and papery (*J. interior*).
- » **Fruit/seed head:** Inflorescence is a dense to loose cluster of up to 80 small green, 6-parted flowers that mature into oval brown capsules surrounded by 6 persistent, sharply pointed tepals; usually at least one slender, thread-like bract from the base of the inflorescence extends beyond the flowers; capsules open at maturity to release numerous, very tiny seeds.
- » **Pollination:** wind



### Habitat and Range



Moist soils, full sun; wet prairies, fens, marshes, seeps, wet ditches, shores; Wetland Status is FACW (usually occurring in wetlands) for the Midwest; irrigation is recommended for seed production.

### Conservation Status

Global- G5, secure; Illinois, New Jersey- S3, vulnerable; Alabama, North Carolina, Nevada- S1, critically imperiled; remaining states either S5, secure, S4, apparently secure, or unranked (NatureServe).

### General Comments

Rushes are cool season, somewhat grass-like plants that are usually found in habitats with wet soils. When making collections in remnant habitats for development of Iowa Source Identified seed of Dudley's rush, we found the plants in both disturbed and high quality prairies, fens, marshes, and ditches. The tiny seeds are sticky when wet and may be dispersed by sticking to the feet of waterfowl and mammals. In our region, there are three species that are very similar, and Dudley's rush is distinguished primarily by its auricles - little flaps of tissue where the leaf sheath meets the blade - which are thickened and often yellowish in Dudley's rush in comparison with path rush (*J. tenuis*) and inland rush (*J. interior*).

### Establishment for Seed Production (Appendix A)

#### Direct seeding:

We do not have experience with direct seeding this species for seed production and do not recommend it.

#### Greenhouse:

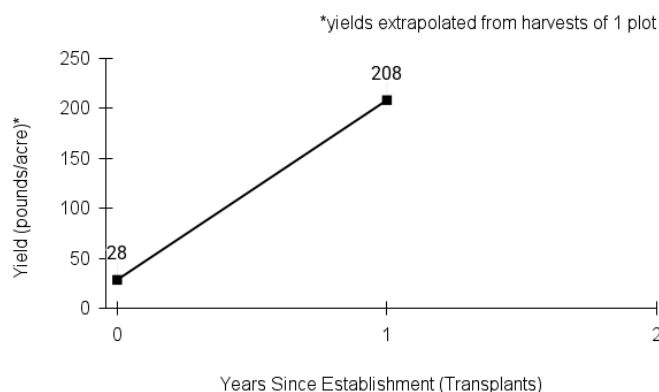
- » **Seed pre-treatment:** 60-day cold/moist stratification.
- » **Sowing:** Surface sow in greenhouse about 2-3 months before last frost. Seed is exceptionally tiny, so take care in watering (mist gently) to avoid dislodging. Germination is greatly improved by keeping flats saturated. Seedlings are tiny and threadlike but grow vigorously.
- » **Transplanting:** When plugs are well-rooted, move them outside to harden off, then transplant at 8-12 in intervals in plastic mulch with irrigation tape.

### Stand Management

- » **Weeds:** Prepare a clean, weed-free bed. Plastic mulch suppresses weeds in the first year or two. Mow or cultivate between rows. Hand-hoe and rogue within rows. Contamination of seed by weedy species is unlikely due to the extremely small size of Dudley's rush seed enabling removal of weeds in seed cleaning.
- » **Pests:** None noted.
- » **Diseases:** None noted.

### Seed Production (Appendix B)

- » **First harvest:** Some flowering and seed set may be expected at the end of the first season from transplants.
- » **Yield:** 20-200 pounds per acre (\*extrapolated from harvests of one plot)
- » **Stand life:** Unknown at this time but likely 3-5 years. Plants are relatively small, and invasion of plots by larger, competitive weeds is likely to cause loss of yield over time.
- » **Flowering date:** late May to early June in northeast Iowa
- » **Seed maturity/Harvest date:** early to mid July in northeast Iowa
- » **Seed retention:** Moderate risk of shattering; some seed is lost as soon as capsules open, but some is retained.
- » **Harvest date range at TPC (2024-2025):** July 3 - Sept 25 (flowering and seed set greatly delayed in establishment year)
- » **Recommended harvest method:** combine



## Seed Cleaning Process (Appendix C)

Brush to free any seed remaining in capsules, then airstcreen. Use the smallest sifting screen available (or a solid screen), check for seed in the sifting fraction and rescreen. It can be difficult to separate dust from the seed; adjust air and screen multiple times if needed. Eliminating the brushing step would likely produce less dust and improve purity of the final product with slight loss of yield.

## Seed Characteristics (Appendix D)



- » **Seeds per ounce:** 3,200,000 (IANRCS)
- » **1000 seed weight:** 0.01 g (Seed Information Database)
- » **Description:** Seeds are a slightly curved oval or crescent shape, translucent red-gold in color with a whitish bump on one end (but not a ruler with mm markings). 33-50° F, 30-50% RH); seed longevity time.

## Released Germplasm

- » **Source Identified material:** Natural Selections/Iowa Ecotype Zone NI (northern Iowa, in alignment with the Generalized Provisional Seed Zones of the US Forest Service)

## References

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- Species Updated: 12/18/2025

## Notes