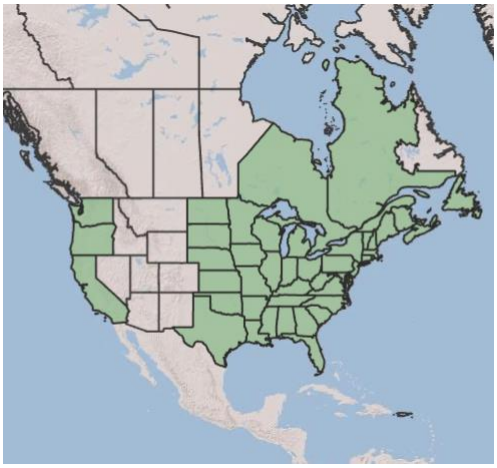
Plant Propagation Protocol for *[Insert Species]*
ESRM 412 – Native Plant Production
URL: https://courses.washington.edu/esrm412/protocols/*2026*/*AGPE.pdf*

North America Distribution



Source: USDA PLANTS Database

TAXONOMY	
Plant Family	
Scientific Name	*Poaceae*
Common Name	Grass family
Species Scientific Name	
Scientific Name	*Agrostis perennans* (Walter) Tuck
Varieties	
Sub-species	
Cultivar	
Common Synonym(s)	*Trichodium perennans* (Walter) Elliot *Agrostis elata Pursh* *Agrostis novae-angliae Tuck*
Common Name(s)	Upland bentgrass; autumn bentgrass
Species Code (as per USDA Plants database)	AGPE
GENERAL INFORMATION	
Geographical range	*Agrostis perennans* is present throughout eastern North America and extends from Canada through the eastern and central United States into Mexico and Central America. It is also present along the west coast of the United States where it is present in Washington, Oregon, and California. (1, 2)
Ecological distribution	*Agrostis perennans* occurs in a broad range of habitats including upland forests, woodland edges, and

	wetland edges. Its broad ecological distribution suggests it has a tolerance to variable moisture conditions. (2)
Climate and elevation range	Specific elevation limits are not reported but the species wide geographic distribution suggests tolerance of temperate climates that have seasonal variation in temperature and precipitation. (2)
Local habitat and abundance	*Agrostis perennans* is found in partially shaded to open habitats and in soils that range from moist to moderately dry. It is often found in transitional zones and disturbed environments where reduced competition allows for establishment. (4)
Plant strategy type / successional stage	Its common occurrence in disturbed habitats and open environments indicate that it is an early-to mid-seral species. It has colonizing characteristics including rapid establishment and tolerance of environmental variability. (2)
Plant characteristics	*Agrostis perennans* is a graminoid that grows in loose bunches rather than spreading widely. It grows from 0.5 to 2.5 feet tall. The leaves are fine, narrow, and soft textured. The plant generally flowers form late summer into fall and produces many small lightweight seeds. It contains a fibrous root system which helps the plant absorb water efficiently and with soil stabilization, especially in disturbed areas. (5, 1)
PROPAGATION DETAILS: FROM SEED	
Ecotype	No ecotype data available. For restoration purposes, locally collected seed sources to maintain genetic adaptation to regional environmental conditions is recommended. (7)
Propagation Goal	Plants
Propagation Method	Seed
Product Type	Container grown plugs or field grown seed production beds. (3)
Stock Type	Plug
Time to Grow	It takes approximately 4-6 months for container grown plug seedlings to reach a transplantable size. This is based on propagation data from a closely related species, *Agrostis scabra.* (3)
Target Specifications	The plant should possess multiple shoots, have a dense fibrous root system, and maintain structural integrity. (3)

Propagule Collection Instructions	Seeds develop in open panicles and are mature during late summer to early fall. Collection should happen after inflorescences have dried but before seeds are dispersed by wind. To determine maturity panicles, turn from green to light tan and seeds should detach easily when shaken gently. Collection can be done by hand stripping seeds from the panicles or clipping the entire seed head. Seeds are very small and easily dispersed by wind so collection should be done during calm weather. (3)
Propagule Processing/Propagule Characteristics	Seeds are small and lightweight. Processing involves air drying seeds for 3-5 days, threshing to separate seeds from inflorescences, then cleaning further using screens or airflow separation. (3)
Pre-Planting Propagule Treatments	Seeds should go through cold stratification where they should be at 0-1 degrees Celsius for about 10 days to increase germination rates. Temperate grasses commonly germinate at 22-25 degrees Celsius, similar responses are expected for *Agrostis perennans*. (3, 6)
Growing Area Preparation / Annual Practices for Perennial Crops	Growing media should be a fine textured, well-draining propagation mix such as a peat based or compost based medium. It should be amended with perlite or sand to improve drainage. In terms of container size small plug trays should be used for efficient production. The containers should allow for adequate root development and maintain moisture control. (7)
Establishment Phase Details	Seeds should be sown near the surface of the soil, less that 0.25 inches deep. Seeds should be kept consistently moist during germination. (3, 8)
Length of Establishment Phase	It normally takes 14-16 days for germination to occur under favorable conditions. (3)
Active Growth Phase	During early growth soil should maintain moderate soil moisture. It is important to avoid excessive fertilization as it can increase competition reducing the survival of native grasses. (3, 9)
Length of Active Growth Phase	12-16 weeks
Hardening Phase	The hardening phase involves a gradual reduction in irrigation, exposure to outdoor environmental conditions, and acclimation to temperature and light fluctuations. (7)

Length of Hardening Phase	2-4 weeks
Harvesting, Storage and Shipping	Seeds should be stored in cool, dry conditions to maintain viability. Seedlings should be transported moist and protected from extreme temperatures. (7)
Length of Storage	Several days to a few weeks (7)
Guidelines for Outplanting / Performance on Typical Sites	Best establishment occurs in disturbed or early successional habitats with moist soils and partially shaded to open environments. (2)
Other Comments	Some recommendations based on a closely related species, *Agrostis scabra*.
PROPAGATION DETAILS: VEGETATIVE	
Ecotype	No specific information available but for restoration purposes divisions should be taken from local populations.
Propagation Goal	Plants
Propagation Method	Vegetative
Product Type	Container grown plugs
Stock Type	Divided clumps with intact root systems
Time to Grow	8-12 weeks
Target Specifications	The plant should possess multiple shoots, have a dense fibrous root system, and maintain structural integrity.
Propagule Collection Instructions	Vegetative propagules are collected by dividing established plants. The best time to do this is early spring before active growth or late fall after dormancy begins. Begin with digging up mature plants with an intact root system. Then separate clumps into smaller sections so that each division has roots that aren't damaged and several shoots. Division is a common propagation method for perennial bunchgrasses. (7)
Propagule Processing/Propagule Characteristics	Roots must remain moist during handling and damage roots should minimized. (7)
Pre-Planting Propagule Treatments	No chemical or dormancy treatments are required but roots may be trimmed if excessively long. (7)
Growing Area Preparation / Annual Practices for Perennial Crops	Use small to medium sized containers such as plug trays or individual pots. Growing media should be a fine textured, well-draining propagation mix such as a peat based or compost based medium. It should be amended with perlite or sand to improve drainage. The containers should allow for adequate root development and maintain moisture control.(7)

Establishment Phase Details	Irrigate right away to settle soil around roots and maintain constant moisture. The divisions should establish as roots re-grow into the surrounding media. (7)
Length of Establishment Phase	2-4 weeks
Active Growth Phase	Maintain moderate irrigation, low competition, and adequate light. (7)
Length of Active Growth Phase	6-8 weeks
Hardening Phase	Prepare plants for field conditions by gradually exposing them to outdoor conditions and reduce irrigation. (7)
Length of Hardening Phase	2-4 weeks
Harvesting, Storage and Shipping	Plants should be kept moist during transport and protected from extreme temperatures.
Length of Storage	The vegetative plants should not be stored for more than a few weeks before out planting.
Guidelines for Outplanting / Performance on Typical Sites	The divisions may establish more quickly than seedlings due to their existing root systems. Outplant during favorable moisture conditions and in moist to mesic soils. (7, 2)
Other Comments	Clump division is a standard method for perennial bunchgrasses.
INFORMATION SOURCES	
References	See Below
Other Sources Consulted	See Below
Protocol Author	Victor Zweig
Date Protocol Created or Updated	04/29/26

References

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Other Sources Consulted (but that contained no pertinent information)

Web of Science search: “Agrostis perennans germination” (no species-specific propagation studies found)

Burke Herbarium Image Collection (no propagation data available)