UPLAND & MEADOW SITES

FAST FACTS

Upland & Meadow Sites are characterized as being dry most of the year. Soils on these sites are well-drained and may consist of sandy clay, sandy loam, loam, or shale. The topsoil layer may be thin and subject to drought. If the site is sandy, refer to the Southeastern U.S. Sites Establishment Guide, p. 54.

Upland examples: Naturally rocky soil subject to erosion or steep road cuts. Meadow examples: abandoned farm fields, lawns, vacant land, or roadsides.

SITE PREPARATION

If the site was previously a lawn or crop field to which herbicides were applied, it is important to allow the appropriate time interval for the herbicide residues to break down prior to planting. Some herbicide residues can prevent seedlings from germinating.

Competition from invasive or undesirable vegetation is the most limiting factor for a successful upland meadow establishment. Prior to planting, all such vegetation must be fully controlled. It may take a full growing season or more to control rhizomatous species, such as mugwort, Canada thistle, poison ivy, or johnsongrass. If these species are not fully controlled prior to planting, they will overrun your planting. Typical control strategies include repeated tilling, smothering with black plastic, or herbicides. While any of these methods may control existing weeds, they will not kill all weed seeds lying dormant in the soil. Seeds of such species as velvetleaf and pokeweed may germinate many decades after the species last flowered on the site.

When using the tillage strategy, a site is disc harrowed every two to four weeks for one to two months. The underlying principle of this process is that the root system of perennial species will be worn out to the point of killing the species. In addition, tillage will stimulate germination of some dormant weed seeds that will be killed with subsequent tillage. Planting should not take place until perennial species are completely killed.

Black plastic may also be used to kill weeds. It may be laid across tilled or untilled soil and anchored down by burying the edges in soil or laying boards or bricks across the surface. This strategy should be utilized in a growing season when the intent is to fall plant in the same year or spring plant the following year.

Use of an approved herbicide, such as glyphosate (Roundup® or Rodeo®), by a licensed spray technician is the most common and least time-intensive method for controlling existing vegetation. Since herbicides are most effective on actively growing plant tissues, they are very effective on new spring growth. Spraying should begin when growth reaches 6". A follow-up application one to two weeks later will address skips or persistent species. If substantial plant tissue remains on the surface following a full kill by herbicides, close mowing, tillage, or burning may be necessary to achieve good seed-to-soil contact.

ERNMX-179 Butterfly & Hummingbird Garden Mix meadow planting in Hershey, Pennsylvania.

ERNMX-153 Showy Northeast Native Wildflower & Grass Mix meadow planting.

An upland meadow using ERNMX-179 Butterfly & Hummingbird Garden Mix. Credit: Paul Stead

GROWING SEASON MAINTENANCE

MAINTENANCE

Problem weeds should be hand pulled in annual wildflower mixes or annual and perennial wildflower mixes. For all other mixes, see below.

FIRST GROWING SEASON

Whenever canopy height (overall vegetation) reaches 18”-24”, trim the meadow to 8” using a brush hog mower or string trimmer. Trimming reduces competition by fast-growing weeds for sunlight, water, and nutrients needed by slower growing perennial natives. A lawn mower is not recommended as the mower height will be too low and native seedlings will be killed. Trimming should cease by mid-September.

Problem weeds should be hand pulled or spot sprayed with an approved herbicide, such as Roundup®, Rodeo®, Garlon®, Garlon® 3A, Sonora™, or Milestone®. Be vigilant in controlling vines or thorny plants if they were not part of the mix. These are more easily pulled early than after two to three months of growth. Examples include bindweed, blackberry, multiflora rose, mile-a-minute, and Japanese hops. Be equally vigilant in the control of other invasive species, such as autumn olive, Canada thistle, and mugwort.

SECOND & SUBSEQUENT GROWING SEASONS

Prior to new spring growth reaching 2” (e.g., shortly after forsythia or redbud blooms), trim any remaining material from the previous year close to the ground (approximately 2”). This will allow the soil to warm more quickly, stimulating emergence and growth of native seedlings and reducing the likelihood of shrub invasion.

Problem weeds should be hand pulled or spot sprayed with an approved herbicide, such as Roundup®, Rodeo®, Garlon®, Garlon® 3A, Sonora™, or Milestone®. Be vigilant in controlling vines or thorny plants if they were not part of the mix. These are more easily pulled early than after two to three months of growth. Examples include bindweed, blackberry, multiflora rose, mile-a-minute, and Japanese hops. Be equally vigilant in the control of other invasive species, such as autumn olive, Canada thistle, and mugwort.

SPECIAL CIRCUMSTANCES

If there is a heavy infestation of ragweed or foxtail in the second growing season, trim the meadow to 8”. Trimming should cease by mid-September. To prevent weed reinfestation, use of an appropriate selective herbicide in conjunction with a seed mix tolerant of that herbicide may be necessary. For additional insight into weed control, see Weeds of Meadows. For images of native plant seedlings, see the Seedling Gallery QR code on page 71.

A meadow installation at a Princeton, New Jersey residence. Credit: OPEN Landscape Architecture

UPLAND & MEADOW SITES SEED MIXES

ERNMX-105	Mesic to Dry Native Pollinator Mix
ERNMX-110	Ernst Native Biomass Mix for Strip Mines & Gas Production Sites
ERNMX-111	Ernst Native Habitat for Strip Mines Mix
ERNMX-115	Biodiverse Polyculture Mix for Biomass Production & Wildlife Habitat
ERNMX-117	Warm Season Grass Mix
ERNMX-123	Native Upland Wildlife Forage & Cover Meadow Mix
ERNMX-125	Mesic to Dry Native Pollinator Mix without Grasses
ERNMX-153	Showy Northeast Native Wildflower & Grass Mix
ERNMX-153-1	Showy Northeast Native Wildflower Mix
ERNMX-156	Low-Growing Wildflower & Grass Mix
ERNMX-166	Plateau-Tolerant Wildflower & Grass Mix
ERNMX-166-1	Plateau-Tolerant Wildflower Mix
ERNMX-167	Annual Wildflower Mix
ERNMX-168	Northeast Annual & Perennial Wildflower Mix
ERNMX-169	Southeast Annual & Perennial Wildflower Mix
ERNMX-170	Annual & Perennial Wildlife Food Plot Mix
ERNMX-171	Multi-Purpose/Multi-Year Wildlife Food & Shelter Mix
ERNMX-172	Maryland Upland Mix
ERNMX-173	Eastern Native Habitat & CREP Mix
ERNMX-174	Virginia Gentleman's Mix
ERNMX-177	Eastern Ecotype Native Grass Mix
ERNMX-179	Butterfly & Hummingbird Garden Mix

Mix formulations are subject to change without notice depending on the availability of existing and new products. While the formula may change, the guiding philosophy and function of the mix will not. See "Disclaimer," p. 15. For "Expectations of Native Species," see p. 12.