

Conservation Cover Seeding Requirements Technical Guidance Reference No. 122 USDA-NRCS, Pennsylvania

Table 1. Seed Mixtures and Soil Suitability Recommendations for Conservation Cover (Native Species)

Grass seeding rates are PURE LIVE SEED.

When forbs are desired in the seeding mixture, add up to one pound of the Forbs Mix (Table 3) to any mixture below.

For pollinator purpose, add 4 pounds of pollinator mixture (Table 4) to any seeding mixture below.

These seeding rates ASSUME No-Till Seeding. If a No-Till Drill is NOT used, increase TOTAL grass seeding rate by 2 lbs.

Seed Mixtures	Drainage Class				
	EWD	WD	MWD	SPD	PD
Warm-Season Grasses					
Switchgrass (3 lbs) and Deer tongue (3 lbs)		X	X	X	X
Big bluestem (3 lbs), Indiangrass (1 lbs), and Little bluestem (2lbs)	X	X	X		
Big bluestem (3 lbs), Indiangrass (2 lbs), and Switchgrass, 1 lbs	X	X	X	X	
Big bluestem (3 lbs), Indiangrass (1 lb), Little bluestem (2 lb), and Switchgrass (1 lbs)	X	X	X	X	
Warm-Season Grasses and Cool-Season Grasses					
Big bluestem (2 lbs), Indiangrass (1 lb), Little bluestem (1 lb), Switchgrass (1 lb), Sideoats grama (1 lb), and Canada wildrye (2 lbs)	X	X	X		
Big bluestem (3 lbs), Eastern gamagrass (2 lbs), Switchgrass (1 lb), Virginia wildrye (3 lbs), and Deer tongue (1 lb)			X	X	
Riverbank wildrye (5 lbs), Virginia wildrye (5 lbs), and Switchgrass (1 lb)		X	X	X	X
Canada wildrye (4 lbs) and Switchgrass (3 lbs)	X	X	X	X	
Cool-Season Grasses					
Canada wildrye (3 lbs), Virginia wildrye (3 lbs), Riverbank wildrye (2 lbs), and Bottlebrush (2 lbs)		X	X	X	
Canada wildrye (4 lbs), Virginia wildrye (4 lbs), and Riverbank wildrye (2 lbs)	X	X	X		
Riverbank wildrye (4 lbs), Virginia wildrye (4 lbs), and Canada wildrye (2 lbs)		X	X	X	

EWD = Excessively Well Drained; WD = Well Drained; MWD = Moderately Well Drained; SPD = Somewhat Poorly Drained; PD = Poorly Drained
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Table 2. Seed Mixtures and Soil Suitability Recommendations for Conservation Cover (Introduced Species)

For pollinator purpose, add 4 pounds of pollinator mixture (Table 4) to any seeding mixture below.

Seed Mixtures	Drainage Class				
	EWD	WD	MWD	SPD	PD
One Grass AND One Legume					
Timothy, 4 lbs					
Birdsfoot Trefoil, 6 lbs., OR		X	X	X	X
Ladino Clover, 2 lbs.			X	X	X
Orchardgrass, 5 lbs.					
Birdsfoot Trefoil, 6 lbs., OR	X	X	X		
Ladino Clover, 2 lbs			X		
Kentucky bluegrass, 7 lbs					
Birdsfoot Trefoil, 6 lbs, OR		X	X		
Ladino Clover, 2 lbs			X		
Smooth bromegrass, 7 lbs.					
Birdsfoot Trefoil, 6 lbs, OR	X	X	X		
Ladino Clover, 2 lbs			X		
One Grass AND Three Legumes					
Ladino Clover, 1 lb, Red Clover, 2 lbs, Alsike Clover, 1 lb and ONE grass:					
Timothy, 4 lbs		X	X	X	X
Orchardgrass, 5 lbs		X	X		
Kentucky bluegrass, 7 lbs		X	X		
Smooth bromegrass, 7 lbs		X	X		
Two Grasses AND Two Legumes					
Timothy, 4 lbs, Orchardgrass, 5 lbs, and TWO Clovers		X	X	X	X
Red Clover, 2 lbs					
Alsike Clover, 2 lbs					
Orchardgrass, 5 lbs, Smooth bromegrass, 6 lbs and TWO Clovers					
Red Clover, 2 lbs		X	X		
Ladino Clover, 2lbs					
Three Grasses AND Three Legumes					
Timothy, 3 lbs, Orchardgrass, 3 lbs, Smooth bromegrass, 4 lbs and THREE Clovers		X	X	X	X
Ladino Clover, 1 lb					
Red Clover, 2 lbs					
Alsike Clover, 1 lb					

EWD = Excessively Well Drained; WD = Well Drained; MWD = Moderately Well Drained; SPD = Somewhat Poorly Drained; PD = Poorly Drained

Table 3. Forbs Seed Mixtures

Add up to one pound of forbs mixture from this table to native grass species mixtures (Table 1).

Dry tendencies	% of mix
PARTRIDGE PEA (<i>Chamaecrista fasciculata</i>)(<i>Cassia fasciculata</i>)	15.5
BLACK EYED SUSAN (<i>Rudbeckia hirta</i>)	15.5
LANCE LEAVED COREOPSIS (<i>Coreopsis lanceolata</i>)	8.0
PLAINS COREOPSIS (<i>Coreopsis tinctoria</i>)	8.0
PURPLE PRAIRIE CLOVER (<i>Petalostemum purpureum</i>) (<i>Dalea purpurea</i>)	8.0
WILD BLUE LUPINE (<i>Lupinus perennis</i>)	8.0
PURPLE CONEFLOWER (<i>Echinacea purpurea</i>)	8.0
MARYLAND SENNA (<i>Senna marilandica</i>)(<i>Cassia marilandica</i>)	8.0
SHOWY TICK TREFOIL (<i>Desmodium canadense</i>)	8.0
AMERICAN VETCH (<i>Vicia americana</i>)	6.0
GREY HEADED CONEFLOWER (<i>Ratibida pinnata</i>)	3.0
ROUND HEAD LESPEDEZA (<i>Lespedeza capitata</i>)	2.0
BLUE FALSE INDIGO (<i>Baptisia australis</i>)	1.0
ROUGH BLAZING STAR (<i>Liatris aspera</i>)	1.0
	100.0

Wet tendencies	% of mix
PURPLE PRAIRIE CLOVER (<i>Petalostemum purpureum</i>) (<i>Dalea purpurea</i>)	15.0
WILD SENNA (<i>Senna hebecarpa</i>)	15.0
BLACK EYED SUSAN (<i>Rudbeckia hirta</i>)	15.0
PALE PURPLE CONEFLOWER (<i>Echinacea pallida</i>)	10.0
PERENNIAL GAILLARDIA (BLANKET FLOWER) (<i>Gaillardia aristata</i>)	10.0
PURPLE CONEFLOWER (<i>Echinacea purpurea</i>)	10.0
CORNFLOWER (BACHELOR'S BUTTON) (<i>Centaurea cyanus</i>)	10.0
BLUE VERVAIN (<i>Verbena hastata</i>)	3.0
NEW ENGLAND ASTER (<i>Aster novae-angliae</i>)(<i>Symphotrichum novae-angliae</i>)	3.0
GREEN HEADED (TALL) CONEFLOWER (<i>Rudbeckia laciniata</i>)	2.5
NEW YORK IRONWEED (<i>Vernonia noveboracensis</i>)	1.5
ORANGE CONEFLOWER (<i>Rudbeckia fulgida</i> (var. <i>fulgida</i>))	1.5
SWEET BLACK EYED SUSAN (<i>Rudbeckia subtomentosa</i>)	1.5
WILD BERGAMOT (<i>Monarda fistulosa</i>)	1.5
CARDINAL FLOWER (<i>Lobelia cardinalis</i>)	0.5
	100.0

Imazapic Tolerant (various levels of tolerance according to application method/timing)	% of mix
Black Eyed Susan (<i>Rudbeckia hirta</i>)	10.0
Illinois Bundleflower (<i>Desmanthus illinoensis</i>)	10.0
Blanketflower (<i>Gaillardia aristata</i>)	8.0
Partridge Pea (<i>Chamaecrista fasciculata</i>)	8.0
Wild Blue Lupine (<i>Lupinus perennis</i>)	8.0
Tall/Blue Cornflower Bachelor's Button (<i>Centaurea cyanus</i>)	6.0
Cosmos (<i>Cosmos bipinnatus</i>)	6.0
Lance Leaved Coreopsis (<i>Coreopsis lanceolata</i>)	6.0
Perennial Blue Flax (<i>Linum perenne</i>)	6.0
Blue Chicory (<i>Cichorium intybus</i>)	6.0
Upright Prarie Coneflower (<i>Ratibida columnifera</i>)	6.0
PURPLE PRAIRIE CLOVER (<i>Petalostemum purpureum</i>) (<i>Dalea purpurea</i>)	6.0
Pale Purple Coneflower (<i>Echinacea pallida</i>)	6.0
Grey Headed Coneflower (<i>Ratibida pinnata</i>)	4.0
Showy Tick Trefoil (<i>Desmodium canadense</i>)	2.0
Marsh Blazing Star (Spiked Gayfeather)(<i>Liatris spicata</i>)	1.0
Blue False Indigo (<i>Baptisia australis</i>)	1.0
	100.0

Table 4 "Dry Site" Seed Mix for PA NRCS Pollinator Projects

To be used for: upland areas, dry sites, or other well-drained sites.
(Well drained and Moderately well drained soils)

For pollinator purpose, add 4 pounds of pollinator mixture from this table to Table 1 or Table 2 Seeding Mixtures.

Early-blooming plants (April - May - June)	% in mix		bloom color	bloom period	Color composition (by bloom period)
Alsike clover* (<i>Trifolium hybridum</i>)	2.0			EARLY	
Crimson clover* (<i>Trifolium incarnatum</i>)	2.0				
Blue flax* (<i>Linum perenne</i>)	5.0				
Wild hairy beardtongue (<i>Penstemon hirsutus</i>)	8.0	or more			
Ohio spiderwort (<i>Tradescantia ohioensis</i>)	5.0	or more			
Virginia spiderwort (<i>Tradescantia virginiana</i>)	5.0	or more			
Mid-season blooming plants (June - July - August)	% in mix		bloom color	bloom period	Color composition (by bloom period)
Yellow sweet clover* (<i>Mellilotus officinalis</i>)	2.0			MID	
Blue false indigo (<i>Baptisia australis</i>)	8.0	or more			
Partridge pea (<i>Chamaecrista fasciculata</i>)	7.0	or more			
Wild bergamot (<i>Monarda fistulosa</i>)	6.0	or more			
Purple coneflower (<i>Echinacea purpurea</i>)	4.0	or more			
Butterfly weed (<i>Asclepias tuberosa</i>)	8.0	or more			
Tall white beardtongue (<i>Penstemon digitalis</i>)	8.0	or more			
Milkweed, common (<i>Asclepias syriaca</i>)	6.0	or more			
Late-blooming plants (August - September - October)	% in mix		bloom color	bloom period	Color composition (by bloom period)
Purple giant hyssop* (<i>Agastache scrophulariifolia</i>)	8.0			LATE	
Gray goldenrod (<i>Solidago nemoralis</i>)	7.0	or more			
Mistflower / Wild ageratum (<i>Conoclinium coelestinium</i> / <i>Eupatorium coelestinium</i>)	6.0	or more			
Virginia mountain mint (<i>Pycnanthemum virginianum</i>)	4.0	or more			
Blazing star / Gayfeather (<i>Liatris spicata</i>)	8.0	or more			
New England aster (<i>Aster novae-angliae</i>)	7.0	or more	p c		
Giant sunflower (<i>Helianthus giganteus</i>)	3.0	or more			
*non-native			p = petal, c = center		

Due to yearly changes in seed availability, some seeds may not always be available. As a result, NRCS provides the following guidelines, which apply to every seed mix used:

- 1. At least three plants from each grouping (early, mid-, or late season blooming) will be included in the mix.**
- 2. As many different plants as possible from each group will be included in the mix.** Increasing the diversity of plants will increase the variety and number of pollinators that use the planted area.
- 3. The % of each plant in the mix may vary based on the total number of plants used** However, the % of seed used **will not drop** below the amount given in the tables above. For non-native species marked with an *, only the % of seed listed above should be used--no more or no less. For example, any clover used should only be 2% of the final mix, purple giant hyssop should only be 8% of the mix, and so on.

Table 4 'Wet Site' Seed Mix for PA NRCS Pollinator Projects

To be used for: flooded riparian borders, wet sites, poorly drained sites.
(Somewhat poorly drained and Poorly drained soils)

For pollinator purpose, add 4 pounds of pollinator mixture from this table to Table 1 or Table 2 Seeding Mixtures.

Early-blooming plants (April - May - June)	% in mix		bloom color	bloom period	Color composition (by bloom period)	
Alsike clover* (<i>Trifolium hybridum</i>)	2.0			E		
Crimson clover* (<i>Trifolium incarnatum</i>)	2.0			A		
Ohio spiderwort (<i>Tradescantia ohioensis</i>)	5.0	or more		R		
Virginia spiderwort (<i>Tradescantia virginiana</i>)	5.0	or more		L		
Mid-season blooming plants (June - July - August)	% in mix		bloom color	bloom period	Color composition (by bloom period)	
Bee balm (<i>Monarda didyma</i>)	4.0	or more		M I D		
Monkey flower (<i>Mimulus ringens</i>)	6.0	or more				
Yellow sweet clover* (<i>Mellilotus officinalis</i>)	2.0					
Swamp milkweed (<i>Asclepias incarnata</i>)	5.0	or more				
New York aster (<i>Aster novi-belgii</i>)	11.0	or more	p c			
		*non-native				p = petal, c = center
Late-blooming plants (August - September - October)	% in mix		bloom color	bloom period	Color composition (by bloom period)	
Great blue lobelia (<i>Lobelia syphilitica</i>)	5.0	or more		L A T E		
Common boneset (<i>Eupatorium perfoliatum</i>)	10.0	or more				
Cardinal flower (<i>Lobelia cardinalis</i>)	4.0	or more				
Blue vervain (<i>Verbena hastata</i>)	11.0	or more				
Wingstem / yellow ironweed (<i>Verbesina alternifolia</i>)	11.0	or more				
Joe-pye weed (<i>Eupatorium fistulosum</i>)	10.0	or more				
Mistflower / Wild ageratum (<i>Conoclinium coelestinum</i> / <i>Eupatorium coelestinum</i>)	5.0	or more				

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