

PLANT MATERIALS TECHNICAL NOTE

**Table 1. Seed Mixtures and Soil Suitability Recommendations for Wildlife
 (Introduced Species) ¹**

Seed Mixtures	Drainage Class				
	EWD	WD	MWD	SPD	PD
Orchardgrass 5 lbs/ac and Hard Fescue 6 lbs/ac plus Ladino Clover (upright improved varieties) 2 lbs/ac and Red Clover 2 lbs/ac or 3 lbs/ac Birdsfoot trefoil (upright varieties i.e. Pardee, Norcen or viking)		X	X		
Timothy 3 lbs/ac and Orchardgrass 4 lbs/ac and Bromegrass 3 lbs/ac plus Ladino Clover (upright improved varieties) 2 lbs/ac and Red Clover 2 lbs/ac or 3 lbs/ac Birdsfoot trefoil (upright varieties i.e. Pardee Norcen or viking)		X	X	X	
Timothy 3 lbs/ac and Orchardgrass 4 lbs/ac and Red top .5 lb/ac plus Ladino Clover (upright improved varieties) 2 lbs/ac and Red Clover 2 lbs/ac or 3 lbs/ac Birdsfoot trefoil (upright varieties i.e. Pardee) Norcen or viking)		X	X	X	X
Timothy 5 lbs/ac and Orchardgrass 5 lbs/ac plus Ladino Clover (upright improved varieties) 2 lbs/ac and Red Clover 2 lbs/ac or 3 lbs/ac Birdsfoot trefoil (upright varieties i.e. Pardee Norcen or viking)		X	X	X	

¹ Use early varieties of the grasses when available to facilitate earlier stem elongation providing earlier cover.
 These seeding recommendations are for wildlife purposes and not for critical area and highly erodible areas.

TECHNICAL NOTES

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

**Table 2. Seed Mixtures and Soil Suitability Recommendations for Wildlife
(Native Warm Season Grass Species) ¹**

Grass seeding rates are PURE LIVE SEED ². These seeding rates ASSUME drilling seed and proper weed control. If a drill is NOT used, increase total grass seeding rate by 20%.

Seed Mixtures	Drainage Class				
	EWD	WD	MWD	SPD	PD
Switchgrass 2 lbs/ac and ³ Deertongue 4 lbs/ac and Eastern gamagrass 5 lbs/ac optional *Native Forbs		X	X	X	X
Big bluestem 2 lbs/ac and Indiangrass 3 lbs/ac and Little bluestem 3 lbs/ac and Deertongue 2 lbs/ac optional *Native Forbs	X	X			
Big bluestem 4 lbs/ac and Indiangrass 4 lbs/ac and Switchgrass 2 lbs/ac optional *Native Forbs	X	X	X	X	
Big bluestem 3 lbs/ac and Indiangrass 3 lbs/ac and Deertongue 3 lbs/ac and Switchgrass 2 lbs/ac optional *Native Forbs		X	X	X	X

* Utilizing 5 species from the list. Rates based on seed size and weight and cost consideration.

¹ These seeding recommendations are for wildlife purposes and not for critical area and highly erodible areas

² Native warm season grass should be seeded at the pure live seed (PLS) rate.

$$\text{PLS} = (\% \text{ purity} * \% \text{ Germ.}) / 100$$

$$\text{Bulk seed} = 100 / \% \text{ PLS}$$

$$96\% \text{ Purity} \times 80\% \text{ Germination} / 100 = 76.8\% \text{ PLS}$$

$$100 / 76.8\% = 1.3 \text{ bulk lbs to seed 1 lb PLS}$$

Prices may be based on bulk seed. Take this into consideration when ordering seed. Seeds per lb can vary by year and seed

³ This mix will not require the use of a native grass drill. If seeding conventionally, seed gamagrass 1-1 1/2" deep in grain box. Seed the remaining grass in legume box, pull tubes to allow surface seeding. Cultipack after drilling. The rest of the mixes will require a native grass drill.

EWD = Excessively Well Drained; WD = Well Drained; MWD = Moderately Well Drained;

SPD = Somewhat Poorly Drained; PD = Poorly Drained

**Table 3. Seed Mixtures and Soil Suitability Recommendations for Wildlife
(Native Warm and Cool Season Grass Species) ¹**

Grass seeding rates are PURE LIVE SEED ². These seeding rates ASSUME No-Till Seeding. If a No-Till Drill is NOT used, increase Total grass seeding rate by 2 lbs. proportional based on existing seeding ratio.

Seed Mixtures ³	Drainage Class				
	EWD	WD	MWD	SPD	PD
Indiangrass 2 lbs/ac and Switchgrass 1 lb/ac and Little blustem 3 lbs/ac and Canada wildrye 5 lbs/ac optional *Native Forbs	X	X			
Big bluestem 4 lbs/ac and Indiangrass 2 lbs/ac and Switchgrass 1 lb/ac and Canada wildrye 5 lbs/ac optional *Native Forbs		X	X		
Big bluestem 4 lbs/ac and Eastern gamagrass 2 lbs/ac and Switchgrass 1 lb/ac and Virginia wildrye 4 lbs/ac and Deertongue 1 lb/ac optional *Native Forbs			X	X	
Fowl bluegrass 1/2 lb/ac and Fringed bromegrass 4 lbs/ac and Riverbank wildrye 4 lbs/ac and Virginia wildrye 4 lbs/ac and Switchgrass 1/2 lb/ac optional *Native Forbs		X	X	X	X
Fringed bromegrass 4 lbs/ac and Canada wildrye 6 lbs/ac and Switchgrass 1 lbs/ac and Deertongue 2 lbs/ac optional *Native Forbs		X	X	X	

* Utilizing five species from the list. Rates based on seed size and weight and cost consideration.

¹ These seeding recommendations are for wildlife purposes and not for critical area and highly erodible areas.

² PLS = (% purity * % Germ.)/100

Bulk seed = 100%/PLS

96% Purity x 80% Germination/100 =76.8% PLS

100/76.8% = 1.3 bulk lbs to seed 1 lb PLS

Prices may be based on bulk seed. Take this into consideration when ordering seed. Seeds per lb can vary by year and seed

³ Low rates of switchgrass, deertongue, and fowl bluegrass will require monitoring of seedbox to maintain seed over seed drop opening.

EWD = Excessively Well Drained; WD = Well Drained; MWD = Moderately Well Drained;

SPD = Somewhat Poorly Drained; PD = Poorly Drained

**Table 4. Seed Mixtures and Soil Suitability Recommendations for Wildlife
(Native Cool Season Grass Species) ¹**

Grass seeding rates are PURE LIVE SEED ². These seeding rates ASSUME No-Till Seeding. If a No-Till Drill is NOT used, increase Total grass seeding rate by 2 lbs. proportional based on existing seeding ratio.

Seed Mixtures	Drainage Class				
	EWD	WD	MWD	SPD	PD
Canada wildrye 5 lbs/ac and Riverbank wildrye 3 lbs/ac and and Bottlebrush 2 lbs/ac optional *Native Forbs		X	X	X	
Canada wildrye 4 lbs/ac and Virginia wildrye 4 lbs/ac and Riverbank wildrye 4 lbs/ac and Fringed brome grass 4 lbs/ac and optional *Native Forbs		X	X	X	
Riverbank wildrye 4 lbs/ac and Virginia wildrye 4 lbs/ac and Fringed brome grass 6 lbs/ac and and Fowl bluegrass 1/2 lb/ac ³ optional *Native Forbs				X	X

* Utilizing five species from the list. Rates based on seed size and weight and cost consideration.

¹ These seeding recommendations are for wildlife purposes and not for critical area and highly erodible areas.

² PLS = (% purity * % Germ.)/100

Bulk seed = 100/%PLS

96% Purity x 80% Germination/100 =76.8% PLS

100/76.8% = 1.3 bulk lbs to seed 1 lb PLS

Prices may be based on bulk seed. Take this into consideration when ordering seed. Seeds per lb can vary by year and seed

³ Fowl bluegrass can be too competitive at high seeding rates, at low rates need to check seed box to assure flowing into seed drop opening, or divide seed into smaller units and place with the other seeds at appropriate intervals.

EWD = Excessively Well Drained; WD = Well Drained; MWD = Moderately Well Drained;

SPD = Somewhat Poorly Drained; PD = Poorly Drained

NATIVE FORBES LIST¹

Common Name	Latin Name	wetland indicator	note: .0625 lb = 1 oz		seeds/ft ²	soil adaptation
			lb/ac	seeds/lb		
butterfly milkweed ³	<i>Asclepias tuberosa</i>	upland	0.0625	50,000	0.07	MWD-ED
New England aster	<i>Aster novae-angliae</i>	facw-	0.0625	1,216,000	1.74	PD-WD
long leaved aster	<i>Aster umbellatus</i>	facw	0.0313	1,072,000	0.77	PD-WD
white heath aster	<i>Aster ericoides</i>	facu	0.0156	3,200,000	1.15	MWD-ED
blue false indigo ²	<i>Baptisia australis</i>	facu	0.0625	63,140	0.09	MWD-ED
partridgepea (annual)	<i>Chamaecrista fasciculata</i>	facu	1.0000	65,000	1.49	MWD-ED
sunflower heliopsis, (ox-eye sunflower)	<i>Heliopsis helianthoides</i>	upland	0.5000	126,000	1.45	MWD-ED
purple coneflower ²	<i>Echinacea purpurea</i>	upland	0.5000	97,000	1.11	MWD-WD
Joe pyeweed ³	<i>Eupatorium maculatum</i>	facw	0.0313	2,000,000	1.43	PD-MWD
roundhead lespedeza	<i>Lespedeza capitata</i>	facu-	0.0625	275,000	0.39	MWD-ED
spiked gayfeather ²	<i>Liatris spicata</i>	facu+	0.1250	162,000	0.46	SPD-WD
perennial lupine	<i>Lupinus perennis</i>	facu	0.5000	18,800	0.22	MWD-ED
wild bergamot ³	<i>Monarda fistulosa</i>	upland	0.0313	1,418,000	1.02	SPD-MWD
grey headed coneflower ²	<i>Ratibida pinnata</i>	upland	0.1250	410,000	1.18	MWD-ED
blackeyed susan	<i>Rudbeckia hirta</i>	facu-	0.0625	1,750,000	2.51	SPD-WD
Canada golden rod	<i>Solidago canadensis/altissima</i>	facu	0.0156	4,600,000	1.65	SPD-ED
grass leaved golden rod	<i>Euthamia graminifolia</i>	fac	0.0313	5,600,000	4.02	SPD-MWD
boneset	<i>Eupatorium perfoliatum</i>	facw+	0.0313	2,880,000	2.07	PD-MWD
blue vervain ³	<i>Verbena hastata</i>	facw+	0.0625	1,544,000	2.22	PD-MWD
white vervain	<i>Verbena urticifolia</i>	facu	0.0625	1,000,000	1.43	SPD-WD
showy tick trefoil	<i>desmodium canadense</i>	fac	0.2500	72,000	0.41	SPD-WD
golden alexanders	<i>zizia aurea</i>	fac	0.2500	184,000	1.06	SPD-WD
giant sunflower	<i>Helianthus giganteus</i>	facw	0.0313	160,000	0.11	PD-MWD

¹ Due to the ability of some of these and other plants to colonize the plantings and the cost of the seed, the amount of seed planted is light. If some of these species are in adjacent areas, it would be beneficial to select other species to increase species diversity. Any species could be increased to 1 seed/ft², taking cost into consideration, which changes yearly.

² These species are predominantly native to the Midwest and have been found to occur in New York.

³ These species will benefit from stratification or may need to go through a winter to obtain full germination.