

## WARM SEASON GRASSES IN WEST VIRGINIA

### BENEFITS

- provide summer forage for livestock and wildlife (200-400 animal unit days, or 3-5 tons of hay per acre)
- provide forage, seed, and cover for wildlife at a different time of the year than cool season grasses
- survive with less moisture and fertility than cool season grasses
- tolerate more acidity (lower pH) than cool season grasses

### SPECIES AND CULTIVARS

- Switchgrass:  
'Cave-in-Rock'(IL)-forage oriented  
'Shelter'(WV)-wildlife oriented  
'Blackwell'(OK)-reclamation use
- Big Bluestem:  
'Niagara'(NY)-wildlife oriented  
'Roundtree'(IA)
- Indiangrass:  
'Rumsey'(IL)
- Little Bluestem:  
'Aldous'(KS)  
'Cimarron'(KS)-wildlife oriented
- Eastern Gamagrass:  
'Pete'(KS)

### ESTABLISHMENT

- no-till drilling best in herbicide-killed cool season sod to minimize weeds
- conventional tillage okay into firm seedbed following cropland without weeds
- cultipacking after seeding imperative
- herbicide should be used for weed control before seeding
- Post-emergence (e.g. Plateau) herbicide may be used for pre-emergence or post-emergence weed control on all species except Switchgrass

- critical for natives to get cool, moist stratification naturally: November 15 to April 15 stratified seed may be planted March 1 - April 15
- seeding depth critical: ¼ to ½ inch (1 inch for Gamagrass)
- adjust pH to 5.5-6.0 for best survival and growth
- fertilize to moderate levels of phosphorus and potassium (as for 100 bushel corn)
- apply no nitrogen until the stand is established and above weeds
- late summer of establishment year or June of the year following establishment 20-40 pounds per acre for half season, 40-80 pounds per acre for whole season

### MANAGEMENT

- maintain moderate levels of phosphorus and potassium (as for 100 bushel corn)
- maintain pH of 5.5-6.5 for best survival and growth
- fertilize with 40-80 (40 for wildlife-80 for forage) pounds of nitrogen per acre split in two applications: as growth begins and mid-summer
- graze at 8-12 inches down to 4-6 inches
- do not lower grazing height during the year
- control broadleaf weeds and cool season grasses with approved herbicide in the spring or fall when the warm season grasses are dormant, or with intense grazing until May 1
- control annual weeds by clipping tops after flowering and before seed production if necessary



**RATE OF SEEDING** (Rates are Pure Live Seed for a Solid Stand Drilled, Double Rates for Broadcast Stands and Wider Spaced Stands for Wildlife Cover)

Switchgrass	7-10 pounds of PLS per acre
Big Bluestem	7-10 pounds of PLS per acre
Indiangrass	7-10 pounds of PLS per acre
Little Bluestem	7-10 pounds of PLS per acre
Eastern Gamagrass	9-14 pounds of PLS per acre

**WARM SEASON MIXES**

**#1 Drier Sites**

Species	PLS lbs/acre
Big Bluestem	2
Little Bluestem	1
Indiangrass	2

(Optional: adapted forbs or wildflower mix @ 0.5 lbs/ac) for wildlife\*

**#2 Well Drained-Somewhat Poorly Drained Sites**

Species	PLS lbs/acre
Switchgrass	2
Big Bluestem	4
Indiangrass	1.5

(Optional: adapted forbs @ 0.5 lbs/ac) for wildlife\*

**#3 General Conservation Mix**

Species	PLS lbs/acre
Little Bluestem	1
Big Bluestem	1
Indiangrass	3
Switchgrass	1
Sideoats grama	1

(Optional: adapted forbs @ 0.5 lbs/ac) for wildlife \*

\*Forbs may include things such as black-eyed susan, goldenrods, sunflowers, coreopsis, coneflowers, wild bergamot, butterfly weed and coneflowers. Commercially available wildflower mixes could also be utilized.

**COST (4/10/00)**

Switchgrass	\$ 3- 6 per pound of PLS
Big Bluestem	\$12-16 per pound of PLS
Indiangrass	\$11-17 per pound of PLS
Little Bluestem	\$14-17 per pound of PLS
Eastern Gamagrass	\$ 7-11 per pound of PLS
Forbs	\$ Variable



**REFERENCES**

Glennon, R. U.S. Fish and Wildlife Service. Fact Sheet - *Warm Season Grass Establishment and Management in the Northeast.*, Edenton North Carolina., April 2000

U.S. Department of Agriculture, Ducks Unlimited Canada., *Vegetating with Native Grasses in Northeastern North America.*, March 1998

Strausbaugh, P.D. and E.L. Core, 1977., *Flora of West Virginia.*, Second Edition, Seneca Books Inc., Morgantown, WV