

## Converting Monocultures of Introduced Warm Season Grass such as Old World Bluestems, Bermudagrass, and Weeping Lovegrass to Native Grasses

### What is range planting?

Range Planting is revegetating areas such as old fields to a permanent cover.

### How it helps the land

Plantings of native plants offer erosion control, water retention and a variety of other benefits. Native mixtures contain four or five grasses and may include a mixture of perennial forbs and legumes which provides wildlife habitat. Not only do these plantings provide a diversity of food plants for wildlife, the plantings offer other habitat components as well. This includes nesting cover, escape cover, protective cover, edge effects, bugging areas and loafing areas. Most of the introduced grasses are too thick for many species of wildlife, especially the young. Livestock also benefit from native mixtures. The variety of plants offer a broad spectrum of forage quality, especially when forbs and legumes are part of the planting. Many of the native species stand up during the winter time, while low growing forages are covered with snow.

### Where the practice applies

This practice can be used anywhere the intended purpose is to convert from introduced warm season grasses to native plantings.

### Where to get help

For assistance in converting monocultures to native mixes, contact the Natural Resources Conservation Service office.

### Applying the practice

This practice is considered applied when all the steps needed for conversion have been done and a permanent native cover has been established.

### Requirements for conversion

Introduced warm season grasses have the ability to regenerate quite readily following land disturbance. However, most of the viable "seed bank" in the soil should be depleted within two to three years. Table 1 below describes the calendar of activities for best results.

### Year One

✗ Burn in late spring to remove residue. Burning during dry conditions is preferred to get maximum crown damage. Burning can also be done later in the spring than normal if litter from past year's growth is present.

✗ When grass regrows to about 2/3 mature size and before seed formation, do primary tillage to kill the existing plants. Plow again as needed to keep crowns or stolons from re-sprouting and making seed. Plow enough to prepare a seedbed suitable for small grain and to break up plow pans.

✗ Fertilize as needed and plant small grain at 40 pounds per acre.

### Year Two

✗ Kill wheat with 16 ounces of glyphosate in late spring when 6 - 8 inches tall. To conserve moisture, approved herbicides

Table 1

Conversion of grass monoculture to native grass

Year	January	February	March	April	May	June	July	August	September	October	November	December
One				Burn		Tillage at 2/3 mature size			Fertilize & plant wheat			
Two				Kill wheat Herbicide/ Tillage		Tillage or Herbicide for plant control			Fertilize & plant wheat			
Three				Kill wheat Herbicide/ Tillage Plant Permanent Cover								

are preferred. However, tillage with shallow sweeps can work. Maintain as much surface residue as needed to control erosion.

✗ During mid-summer, till with either shallow sweep or use approved herbicides to control volunteer grasses.

✗ Prepare seedbed, fertilize and plant small grain at 40 pounds per acre.

**Year Three**

✗ Kill wheat in late spring prior to boot or joint stage. To conserve moisture, approved herbicides at 16 ounces per acre rate are desired. However, tillage with shallow sweeps can work. Maintain as much surface residue as needed to control erosion.

✗ Plant permanent cover no later than May 31.

**Pest control**

Unwanted annual weedy plants should be controlled when they exceed 3 per square foot or are anticipated to exceed a 50 percent canopy. Mowing to remove the growing tips of the weeds is preferred over chemical applications to maintain forb and legume populations.

**Fertilizer management**

Soil test to help determine the available nutrients needed for the small grain crop. Generally, additional nutrients are not needed to establish native plantings. Not applying fertilizer will give a competitive edge to the native grasses over the introduced grasses. If any soil amendments are needed to correct pH, this should also be done prior to seeding. Twenty pounds of N per acre may be needed to help break down plant residue the year permanent cover is planted.

**Maintaining the practice**

Generally native plantings need to be prescribed burned every three to five years. This prevents buildup of excessive litter and enhances the germination of legume species. Local NRCS offices can assist with prescribed burn intervals.

Prescribed burning on CRP land should be done so as to not destroy all the nesting cover during the critical nesting period between May 1 and July 1. Birds nest primarily in last year's growth of bunchgrasses, especially little bluestem. Burn according to a written fire plan developed from guidelines found in the Prescribed Burning standard and specifications of the NRCS Field Office Technical Guide.

**Site Specific Planting Recommendations**

Field#	Conversion steps and dates	Species	PLS/ac	Method of planting and timing

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# Expected Conversion Costs Worksheet

JSDA Natural Resources Conservation Service  
Stillwater, Oklahoma

Range Planting

<u>ITEM</u>	<u>PRICE</u>	<u>QUANTITY</u>	<u>UNIT</u>	<u>COST</u>
<b>YEAR ONE</b>				
Burn (Jun)	1.00	1	ac	1.00
Tillage (Jun/Jul/Aug) <sup>1</sup>	5.50	3	ac	16.50
Nitrogen (lbs N:urea w/seeding)	0.26	30	lbs	7.80
Wheat seed (Sep) <sup>3</sup>	5.00	.67	bu	3.35
Drill <sup>1</sup>	5.25	1	ac	5.25
Interest	10%	33.90		3.39
<b>Total Variable Cost/AC</b>				<b>37.29</b>
<b>YEAR TWO</b>				
Chemicals (Apr) <sup>2</sup>	6.25	1	ac	6.25
Spraying (Herbicide) <sup>1</sup>	3.00	1	ac	3.00
Offset disc (Jun/Jul) <sup>1</sup>	5.50	1	ac	5.50
Cultivate (Jul/Aug)	5.00	1	ac	5.00
Wheat Seed (Sep) <sup>3</sup>	5.00	.67	bu	3.35
Drill <sup>1</sup>	5.25	1	ac	5.25
Interest	10%	28.35		2.84
<b>Total Variable Cost/AC</b>				<b>31.19</b>
<b>YEAR THREE</b>				
Chemicals (Apr) <sup>2</sup>	6.25	1	ac	6.25
Spraying (Herbicide) <sup>1</sup>	3.00	1	ac	3.00
Seed (Apr/native grass mix)	7.18	4.05	#PLS	29.08
Fertilizer (18-46-0; w/seeding)	0.20	50	lb	10.00
Drill <sup>1</sup>	5.25	1	ac	5.25
Interest	10%	53.58		5.36
<b>Total Variable Cost/AC</b>				<b>58.94</b>
<b>Three year variable cost/ac</b>				<b>127.41</b>
<b>Minus expected cost share of 50%</b>				_____
<b>Minus new CRP contract rental income (3 years)</b>				_____
<b>Minus fish and wildlife incentive</b>				_____
<b>Three year net income/cost</b>				_____

<sup>1</sup>All equipment procedures charged at custom rates

<sup>2</sup>Apply 0.5 lb Roundup prior to seed production to kill wheat

<sup>3</sup>Wheat used as a cover crop; kill before seed production