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NF97-343 Returning CRP Land to Crops: Warm-Season Grass Management/Cropping Suggestions

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Returning CRP Land to Crops:

Warm-Season Grass Management/Cropping Suggestions

CRP to Crops Research Team,
Northeast Research and Extension Center*

Control of Warm-Season Grass Vegetation

1. Plan ahead and evaluate the field as soon as possible.
 - Evaluate feasibility of bringing CRP back into crops. If eligible, consider an early release from the CRP contract or use emergency haying or grazing options. This allows you to manage residue and kill existing vegetation at the appropriate time.
 - Scout the entire CRP acreage. Assess percent vegetative cover, vegetation composition (percent grass, forbs, weeds), wildlife damage (gopher mounds, badger holes, etc.), topography, erosion (ditches, gullies, etc.), soil type, drainage.
 - Develop a conservation plan with Natural Resources Conservation Service (NRCS) staff.
 - Take advantage of established grass vegetation for grass waterways, field border strips, sediment filter strips along intermittent streams, and wildlife strips.
 - Evaluate rodent population.
 - Consider using a prescribed burn in the spring to help remove plant residue and stimulate regrowth (EC90-121, *Conducting a Prescribed Burn*; G88-894, *Grassland Management with Prescribed Burning*). A burn permit must be obtained from the local fire department prior to a prescribed burn.
 - Sample and test soils for phosphorus, potassium, zinc, and sulfur (in sandy soils), pH, and

organic matter (see UNL Cooperative Extension G91-1000, *Guidelines for Soil Sampling*).

2. Vegetation control.

- Old grass residue needs to be removed, shredded, or burned in order to get good chemical kill.
- In the spring/summer before the first cropping season, control grass vegetation by one of the following methods:
 - a. Graze heavily with livestock to help remove and trample dead plant material. Stock densities of 60 to 80 head/acre on wet meadow, 5 to 10 head/acre on sands, and 1 to 5 head/acre on sandy dunes would be appropriate. Graze until grass is 3 to 4 inches. After heavy utilization allow regrowth. Continue to graze until mid-July or early August. Discontinue grazing to allow adequate regrowth of 6 to 12 inches for a chemical burndown of grass vegetation.
 - b. Shred with a rotary or flail-type mower. Cutting height depends on timing. Shredding in March and April can be shorter than mid-July. Avoid creating a mat of residue on the soil surface. The goal is to have adequate growth for chemical (6-10") burndown.
 - c. Burn when and where appropriate. To minimize impacts on pheasants and other ground-nesting birds, implement shred or burn before May 1 or after July 1.
- When old residue has been removed and new growth is stimulated, kill grass vegetation and perennial broadleaf weeds with a herbicide application between late August and mid-September. Apply before grass and some perennial broadleaf weeds go dormant. Procedure:
 - a. Allow 8 inches of regrowth on grass vegetation prior to chemical burndown.
 - b. Apply herbicide containing glyphosate (Roundup^{TM1}, etc.) for grass control. Add herbicide containing 2,4-D and/or dicamba (Banvel^{TM1}) to control perennial broadleaf weeds (see UNL Cooperative Extension Circular EC97-130, *Herbicide Use in Nebraska*).
- Scout fields for small mammals one month before planting. If more than five vole colonies are found, implement control measures.
- Level rough areas of the field in the fall prior to planting with light tillage, being careful to keep vegetation disturbance at a minimum.
- Wait at least three weeks after herbicide application before disking fields. If phosphorus, potassium, zinc, or lime is needed, apply before tillage.
- Implement rodent control measures as needed (see UNL Cooperative Extension NebGuides G92-1110, *The Thirteen Lined Ground Squirrels: Controlling Damage*, and G88-887, *Controlling Vole Damage*).

Consider conservation measures such as planting trees for windbreaks and other conservation techniques within the field (see UNL Cooperative Extension Circulars EC91-1767, *Windbreaks*

for Rural Living; EC91-1772, *Windbreaks in Sustainable Agricultural Systems*; EC91-1771, *Windbreaks and Wildlife*).

Cropping Systems Suggestions

1. No-till: Follow suggestions on killing warm-season grass vegetation.
 - A. Soybeans are recommended. Given the patchy nature of most warm-season grasses, drilled soybeans might perform better than those planted in wide rows. Reasons for growing soybeans include:
 - Yields for no-till, plow and disk are equal.
 - Late planting allows for warmer soil under grass residue.
 - Soybeans, when inoculated properly with *Rhizobium* sp., need no additional nitrogen. A small amount of early nitrogen (under 30 lbs) may prevent early yellowing.
 - Soybeans have more herbicide options to control grass escapes including effective post emergent herbicides. Roundup Ready¹ soybeans are suited for this situation.
 - Percent plant emergence was reduced under no-till. Overplant by 35 percent to insure adequate soybean populations.
 - Soybeans do not require any planting time insecticides or insecticide-based seed treatments, unless there is high organic matter (manure, decaying vegetation, etc.) present. Then, a seed treatment is advised to protect against seed corn maggots. Scout for bean leaf beetles and other pests throughout the growing season.
 - Narrow rows have been successful at the Northeast Research and Extension Center and may provide additional weed control through early canopy closure. Cultivation is difficult in newly cropped no-till CRP land so the early canopy closure is especially useful.
 - Soybeans are expected to enhance corn yields the following year.
 - B. Corn. Research at the Northeast Research and Extension Center has shown that corn yields are reduced about 20 percent per acre under first year no-till production compared to plow. No-till corn was slot planted producing conditions that were cooler and wetter than tilled conditions. Row cleaning equipment might reduce these effects and improve yields:
 - Increase nitrogen rate by 50 pounds over normal University of Nebraska recommendations. Follow University recommendations for other nutrients based on soil tests. A planter-applied starter is recommended for improved early season growth.
 - Make sure grass vegetation is killed before planting. Delay planting to apply a second herbicide if needed. There are few herbicide options to control grass escapes in corn. Soil conditions often make it difficult to cultivate in no-till CRP conditions.

- Percent plant emergence was reduced under no-till. Overplant by 30 percent to insure adequate corn population. Proper adjustment of planter weights is necessary to obtain the proper seed depth in the soil and improve plant stand.
 - Voles are more likely to cause damage in corn than in other row crops.
 - Seed treatments with insecticide should be used to protect against seed-attacking insects such as wireworms and seed corn maggots. A more expensive insurance treatment would be soil insecticides.
2. Tillage. Research showed that plowed ground produced higher yields than disked ground for corn. Plowing may be the best alternative for switchgrass. In subsequent years, switchgrass may continue to be a problem even after plowing. Dormant seed will germinate for a number of years after returning CRP to crop production. Scout for warm-season grass escapes in the fall of subsequent years and be prepared to treat as needed.
- Disking before plowing made plowing easier and produced smaller clods that could be more easily handled with secondary tillage.
 - If disking without plowing, vegetation needs to be killed with chemicals. Overplant crops at the same rate recommended for no-till to obtain desired plant population.
 - Plan to disk three times after plowing to achieve a satisfactory seedbed.
- A. Sorghum. At the Northeast Research and Extension Center sorghum yields followed the same pattern as corn: plowing increased yields above disking and disking increased yields compared to no-till. Similar considerations for cultural practices will hold true for sorghum as for corn.
- B. Wheat. Wheat was not planted at the Northeast Research and Extension Center. Others report disease and stand problems when planting wheat into CRP ground.

The suggestions provided here are based on our experience at the Northeast Research and Extension Center research site and discussion with various experts and farmers. With care and planning and a little luck with the weather, CRP can be brought into profitable crop production.

¹ Use of trade names does not imply endorsement of products named nor criticism of similar products not mentioned.

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