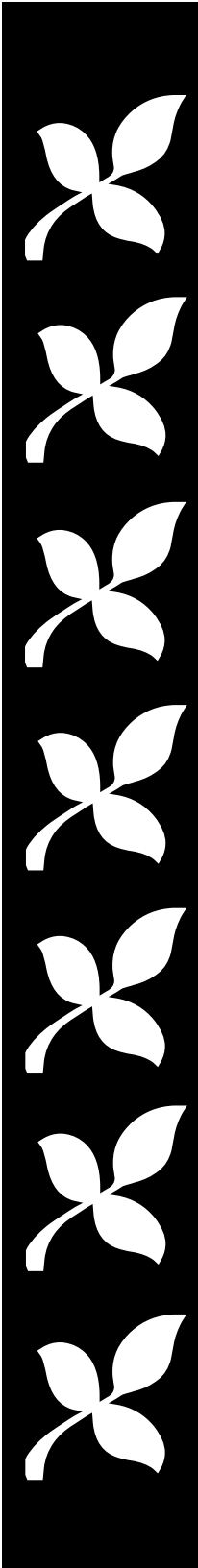




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Soil & Crop Sciences

Returning CRP Land to Crop Production

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Overview

Once the decision has been made to convert Conservation Reserve Program (CRP) land to crop production, consideration must be given as to how this can best be accomplished to maximize short- and long-term return to the land. The vast majority of crops produced on post-CRP land will be dryland farmed.

The most limiting factor to producing an initial crop will be soil moisture. After 10 years of grass production, most fields will be extremely dry immediately following the expiration of the CRP contract. Only under the wettest of years will a successful crop be grown on post-CRP land without allowing for a fallow period to replenish the soil profile moisture.

The length of fallow period necessary will vary depending on year to year climatic conditions, different soil water holding capacities, the desired first crop, and how quickly the grass can be terminated following the contract expiration date.

The second limiting factor will be a lack of nutrients, particularly nitrogen and phosphorus, necessary to produce a successful crop. Nitrogen can be added after the crop has emerged. However, phosphorus replacement should be considered as the land is being prepared for crop production.

Tillage Options

Tillage options for converting CRP land to crop production include:

- ✓ no-tillage
- ✓ reduced-tillage
- ✓ clean-tillage

The advantages and disadvantages of the three options are:

No-Tillage

The advantages are: a) Maximizes benefits of 10 years of continuous grass to the soil. These include increased organic matter content which in turn increases soil water holding capacity, improves water infiltration, increases potential mineralization of nitrogen, and reduces water runoff and soil erosion. b) Research has shown no-tillage consistently outperforms clean tilled cropping systems.

The disadvantages are: a) Total reliance on herbicides to effectively terminate CRP grass and to control weeds and grass in the subsequent crops. b) May require the purchase of new equipment or the modification of existing equipment to successfully plant into the CRP grass residue. This will largely be dependent on soil conditions and density of the grass sod and residue at planting.

Reduced-Tillage

Reduced-tillage systems will likely involve a combination of herbicides and tillage operations using sweep, chisel, or field cultivator implements with the goal of leaving significant residue on the soil surface. Its advantage is that at least some of the benefits of no-tillage are retained while the likelihood of having to purchase additional equipment is significantly reduced.

Clean-Tillage

Clean-tillage systems will likely involve the use of a disk and possibly a moldboard plow. Little residue will remain on the soil surface to control erosion or to reduce water evaporation or runoff. The advantage of this system is the grass can be effectively controlled soon after expiration of the CRP contract. The disadvantage is that several tillage operations may be necessary to prepare the land for planting.

Plan Ahead

All crop land receiving transition payments must meet conservation compliance regulations. Evaluate the land for its suitability for cropping. Some areas such as waterways, playa lakes, and highly erodible land may be best left in grass. These areas can potentially be used for haying, grazing or wildlife habitat. The type of weeds that are present may dictate which crop should be planted and the role tillage and herbicides will need to play on those acres.

Regardless of the crop that will be planted, or the tillage system selected, the grass must be killed as soon as possible to allow the soil to begin storing moisture that can be used for growing a crop. The earliest date that a herbicide can be applied or the land plowed will likely be July 1. This is three months prior to the expiration of most CRP contracts.

The most effective herbicide under most conditions will be Roundup Ultra. Roundup Ultra works best when good coverage is achieved and the grass is actively growing. If old grass residue is abundant enough to interfere with herbicide application, consider burning or haying to remove old growth at least six weeks prior to July 1. This will allow enough time for 6 - 10 inches of regrowth to occur prior to herbicide application, assuming good conditions exist. Simply mowing the grass may do more harm than good since the resulting loose residue can interfere with grass regrowth and herbicide application.

Best control will be achieved with 2 qts/acre of Roundup Ultra applied in 5-10 gallons of water. If grass is stressed at the time of application, add 17 lbs of spray- grade ammonium sulfate for every 100 gallons of water to increase control. If broadleaf weeds such as bindweed are present add 1-2 pints of 2,4-D.

If tillage is used for initial grass control a fall application of one quart per acre of Roundup Ultra should be sufficient to control regrowth of most grasses. The addition of 0.5-1 pint of Banvel will aid in bindweed control in the fall. Be sure to comply with label requirements for the interval before planting after Banvel is used.

Conversion to Wheat

Producing a wheat crop the year the CRP contract expires will be exceptionally difficult due to the dry soil profile following the grass and a lack of sufficient fallow time to replenish soil moisture prior to wheat planting. A no-tillage system may have the best potential for success since soil moisture storage will be optimized during the short fallow period. Removal of old grass residue by burning or mowing and haying will improve the planting operation. In most cases a no-tillage drill will be required to seed into the grass sod.

If no-tillage is not an option consider disking the grass once or twice followed by sweep tillage as necessary to control grass and weeds. This approach will provide better seedbed conditions than planting directly into the sod but will not conserve as much moisture.

Delay wheat planting as long as possible in the fall. Early planting will simply deplete what soil moisture is present and will not add to grain production. The ideal planting date for the Texas Panhandle is considered to be October 4. As one moves south, this date is progressively later and is considered to be October 16 for the Vernon area.

If moisture is inadequate for stand establishment three weeks after the optimum planting date, consider leaving the land fallow or plant a summer crop in the spring. If planting is possible, applying 30 lbs of phosphorus as 10-34-0 in the seed furrow at planting will increase emergence and seedling vigor. Grain yield response to the phosphorus will largely be dependent on the amount of spring rainfall. Nitrogen (30-40 lbs) should be top dressed around the first of March if moisture conditions are favorable for producing a crop.

Conversion to Grain Sorghum

If grass is controlled soon after July 1, the potential for making a grain crop the following year is good. A yield advantage can be expected most years if sorghum is planted no-till. This is primarily because of the increased soil moisture storage potential of no-tillage over clean-tillage. Running a coulters in front of a conventional planting unit to cut through residue works well in no-till planting sorghum.

A reduced tillage system using sweep plowing would be the next best option. Sweep plowing should begin on July 1 and repeated as necessary to control grass and weeds prior to sorghum planting. One advantage of this system is that nitrogen and phosphorus could be applied with one of the sweep plowing operations. A 60 lb rate of nitrogen and 40 lb rate of phosphorus per acre will be adequate for dryland sorghum production. On sandy soils delay nitrogen application until three to four weeks prior to planting.

A good grass herbicide such as Dual or Lasso should be applied at or immediately after planting to help control annual grass. These can be applied in combination with atrazine or Milo-Pro if broadleaf weeds are expected to be a problem. In order to minimize cost consider applying the herbicide in a band over the planted sorghum row and cultivating the middles as needed.

Conversion to Cotton

Planting no-till cotton in standing CRP stubble may require the addition of coulters to conventional planters or the use of no-till planters designed specifically for sowing into heavy residue. If suitable planting equipment is available, the grass should be terminated with Roundup Ultra as soon after July 1 as is practical to conserve the soil moisture. However, for Roundup Ultra to be effective, the grass must not be overly stressed for moisture. It may be necessary to wait for rainfall to promote active growth before the herbicide is applied.

Fertilizer needs should be based on the results of soil tests. If the resulting fertilizer recommendations call for the addition of phosphorus, this element and some or all of the nitrogen (depending on soil type) may be applied pre-plant by chiseling it into the soil to a depth of 4-6 inches and 2-4 inches to the side of the seedbed at some point prior to planting or as an early side dress.

Pre-emergence herbicides, determined by the soil type and weeds apt to be present, should be applied at planting. Lay-by herbicide treatments may be needed to control later emerging weeds and can be applied with post-directed shielded sprayers.

If plowing is to be used to terminate the CRP grass, a moldboard plow may be the best option. This will bury the grass crowns, whereas disking would leave most of the crowns on the surface where they can interfere with the planting operation. Even if the field is moldboarded, additional conditioning of the soil will probably be needed to prepare a good seedbed for planting.

Initial lands preparation should begin as soon after July 1 as possible. This will minimize additional water use by the grass, store any rainfall that may occur during the summer and fall, and leave the land in a condition that will minimize wind erosion.

Fertilizers and pre-plant incorporated (PPI) herbicides may be applied in the usual manner prior to bedding. A pre-emergence herbicide application may be needed to control weeds not controlled by the PPI treatment. If the grass can be terminated early, rainfall is adequate to replenish soil moisture reserves to field capacity, and land is prepared in time for normal planting, the potential for a successful crop will be good. Again, soil moisture and timely in-season rainfall will likely be the key to successful cotton production.

CRP Decisions

To assist landowners in evaluating CRP decisions, the Texas Agricultural Extension Service has developed a series of publications (listed below).

For copies of the publications, contact your county Extension agent.

- ✓ Conservation Reserve Program (CRP): Final Rules - Questions and Answers
- ✓ Background on the CRP Program as of January 1996
- ✓ The CRP Decision Process
- ✓ Cattle Grazing on Land Formerly Enrolled in the CRP Program
- ✓ Wildlife Habitat Management on Former CRP Lands
- ✓ CRP Computer Program

A CRP Computer Software Program is available to guide you through the various steps of the CRP decision process and reduce the time required to consider multiple alternatives. The program will run on any IBM compatible computer with 4 megabytes of RAM, and DOS 3.3 or higher or Windows 3.1 or Windows 95. The cost of the software is \$25. To obtain this program, print the following order form:

Make check payable to: TAEX 222100

Amount: \$25

Mail to: Regina Linder, Texas A&M Research and Extension Center
6500 Amarillo Blvd. West, Amarillo, TX 79106

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