Colorado State University Extension
1001 South Main Street
Lamar, Colorado 81052
www.ext.colostate.edu/SEA

For Immediate Release

Contact: Wilma Trujillo
Southeast Area Agronomist
Phone: (719) 336-7734
Wilma.Trujillo@colostate.edu

Management Alternatives for Returning CRP to Crop Production

The Conservation Reserve Program (CRP) was established under Title XII of the Food Security Act of 1985 to control soil erosion and loss of productivity. The program has been credited with substantial reduction in wind and water erosion of marginal croplands. Between 2010 and 2012, 18.4 million acres of CRP contracts across the USA will expire. Because of recent higher commodity prices, farmers have increased interest in converting CRP acres to crop production. In addition to historically high grain prices, another factor driving the conversion of CRP acres to cropland is the 2008 Farm Bill, which lowered the cap on CRP acres from 39 million total acres through 2009 to 32 million acres for 2010-2012. Southeast Colorado has 630,000 acres under contract. Over the next 5 years, 96.6 % of the contracts will expire.

Retuning CRP to crop land is a difficult task, requiring planning and timely field operations. Cropping generates concerns about how to maintain the benefits to the soil that accrued during the CRP. Best management strategies to prepare CRP land for crop production include removal of the grass residues in early spring of the year the CRP contract expires. Burning, haying and tillage are three methods for removing excess biomass that can be used alone or in combination, to prepare a field for cropping. Effective cool-season grass control may be facilitated by using herbicides the previous fall when adequate moisture is available for fall growth. Timing of suppression of a warm-season grass cover is critical to conserving stored water in the first year. Cutting and shredding standing grass in late summer and allowing re-growth before spraying herbicides will improve grass kill. In addition, increasing glyphosate application rates may achieve a better perennial grass kill. Weed control has been proven much easier in broad-leaf crops such as soybean, because of there are post-emergent grass herbicides available to control any escapes following the fall spraying. The use of Roundup Ready corn or herbicide resistant corn hybrids may allow better perennial vegetation control. Corn can be grown successfully in perennial sod by using pre-emergent residual herbicides such as atrazine with glyphosate or paraquat followed by glufosinate. Dual-gene hybrids that tolerate both glufosinate and imidazolinone herbicides will further increase success of no-till corn into

perennial sod.

No-till practices most efficiently conserve stored water. However, intensive tillage may be necessary to break sod-bound clods and produce a smooth seedbed. A combination of deep sweep and secondary tillage operation or repeated disking and harrowing provides desired seeding conditions. On the other hand, additional stored water would be needed either through additional rainfall, fallow, or irrigation.

Low effectiveness of herbicides for killing CRP vegetation cover under no-till, even when large amounts of herbicides are applied, has suggested that tillage may be a cost-effective and satisfactory alternative. Although, tillage destroys the surface residues, wind erosion potential has been shown to be low. Therefore, the initial crop could be established through use of tillage. Subsequent crops then could be produced through reduce tillage or no-till, thus achieving the water conservation and erosion control benefits of these practices.

Soil fertility is an additional concern when returning CRP to crop production. Nitrogen is the nutrient most commonly limiting crop production. Decomposition of plant residues form CRP may result in N mineralization or immobilization depending on the proportion of legumes in the stand or the amount of applying at planting. Commercial fertilizers should be applied to improve nutrient status of previously CRP fields. Proper N fertilization has economic and environmental implications.

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