NRCS Natural Resources Conservation Service

*Helping People Help the Land*

# Considering the Alternatives: Grazing Expired CRP Fact Sheet

**USDA Natural Resources Conservation Service - North Dakota** **February 2008**

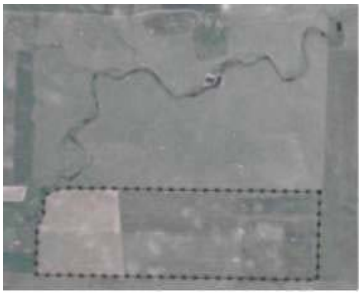
**This fact sheet outlines the methods and costs/income experienced by Gabe and Shelly Brown, Burleigh County, ND, in converting a piece of former CRP land to grazing production.**

## Adding Water and Adequate Fencing

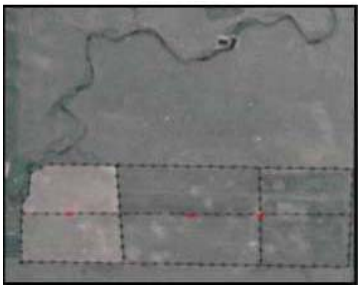
Most CRP land has a good grass cover for grazing by livestock or the production of hay. However, some CRP land may lack livestock water or adequate fencing to manage livestock. That was the case in 2003 for Gabe and Shelly Brown when they purchased 120 acres of land that had been in CRP. Gabe proceeded to develop water and fence using his own labor for most of the work. The Browns found that converting expired CRP to grazing was a very profitable use of the land while maintaining a grass cover and minimizing erosion of the soil.

## Establishing Fencing

A 3-wire electric fence was installed around the perimeter and a 2-wire electric fence was used as cross fencing to make 6 pastures of about 20 acres each. Steel T-posts were used for the most part and spaced according to the needs of the rolling topography. AC electricity was used to run the fencer as well as the pump for the well.



**Before**



**After**

## Establishing Water

Livestock water was established by drilling a well and installing a pipeline with tanks. Rolled polyethylene pipe (1.25 inches diameter) was heat fused at the joints using a fuser hot plate to make a leak proof joint. Brass fittings and hose clamps could also be used at the joints if a heat fuser is not available. The water line was then buried about 8 to 10 inches below the ground using an old tree planter modified to place the pipe.

Quick couplers were used to connect the pipe to the valve and float system at the tank. The tanks were heavy equipment rubber tires and were installed at three locations to accommodate the livestock water needs. An above ground pressure tank was used to pressurize the line.

**CRP Conversion Expenses**

Tanks $1,600.00

Pipe
$1,276.00

Posts, wire and clips
$1,622.00

Well, pressure tank
$ 5,370.00

Electrical Wiring
$420.00

Labor on pipeline
$120.00

Labor on fence-20 cents/ ft
$2,904.00

**Total cost of developments: $13,312.00**

$13,312 amortized over 20 yrs @ 6% equals $1,160/120 acre or $9.67/ac/yr

Annual Rural Electric Cooperative costs

$1.00/ac
Taxes: $4.40/ac
Land $450/ac

(20 yr note @ 6%)
$39.24/ac

**Total Annual Expense $54.31/ac**

## Livestock Rotations

The herd size rotating through the six pastures ranged from 62 to 121 pairs and varied by year. The herd was rotated either once or twice through the pastures during the growing season. The timing of livestock rotations were made based on grass utilization observed in the pastures. This 120-acre unit was part of a larger rotation to provide forage for the entire grazing season.

Calves were weighed at birth and when they were weaned, which resulted in an average daily gain (ADG). As summarized in the table below, records were also kept on the length of time and number of cow/calf pairs grazing the 120-acre six-pasture rotation. The number of grazing days, the number of head and ADG were multiplied to determine the pounds of beef (calf) produced on the 120 acres. Although calf prices have been higher and lower during this period, $1.25 per pound was used to calculate the value of beef produced, resulting in the income per acre.

The annual expense for developing the land for grazing was subtracted from the gross income from sale of the calves. This resulted in an average net income of about $55 per acre for the years 2004 and 2005. When the drought year of 2006 is added, the average return per year is just over $35 per acre. The next step was to determine at what calf price the project would break even for converting the CRP to grazing. (see table below)

**The economics of converting CRP to grazing**

| | 2004 | 2005 | **2006*** |
|---|---|---|---|
| Grazing pressure | 70 head for 51 days | 70 head for 31days<br>21 head for 12 days | 62 head for 26 days |
| Animal grazing days | 3,570 | 3,622 | 1,612 |
| ADG | 2.9 | 2.98 | 2.92 |
| Pounds of beef produced | 10,353 | 10,780 | 4,707 |
| Value of beef produced | $12,941 | $13,475 | $5,883 |
| Income per acre | $107.84 | $112.29 | 49.03 |
| Net income/ac | $53.53 | $57.98 | (5.27) |
| Break even calf price | .63/lb | .60/lb | --- |

**** 2006** was a drought year. Precipitation during the growing season of April, May, June, July was over 50% below normal. This 6 pasture rotation was also used less than needed because of other grazing available and plans are to go in early on these pastures in 2007. Thus pounds of beef produced on this land in 2006, income per acre and net income per acre do not reflect the true production of this system.*

**Combining herds** or having smaller pastures increases stock density. Higher stock densities (7 pairs per acre) increase the hoof impact and breaks the soil surface so more water infiltrates into the soil rather than runs off the land. The nutrient cycle is enhanced as litter comes in close contact with the soil. Higher stock densities also permit longer recovery times (deferment) in pastures where the livestock are not grazing.

**Soil temperatures** during the growing season have also declined. Grazing along with deferment encourages plants to produce more tillers which fill in the bare soil areas and puts litter on the soil surface. This reduces the soil temperature which reduces soil moisture loss and increases forage production.

**Rotation grazing** the former CRP acres appears to be increasing the diversity of plants available for grazing as compared to when the land was not grazed. Alfalfa, sweet clover and other species of grasses are appearing. Alfalfa has increased from about *2%* of the forage at the start of the project to about 10-15% now. The legumes are important for putting nitrogen back in the soil, increasing crude protein of the forage, and increasing the forage production on the land. These all benefit beef production.

**Grazing Mentors:**

| | |
|---|---|
| **Gabe Brown** | **701-222-8602** |
| **Kenny Miller** | **701-663-9350** |
| **Gene Goven** | **701-448-2405** |

**For more information, contact your local NRCS office.**

**Used with permission from Gabe and Shelly Brown and the Burleigh County Soil Conservation District.**