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1-1-2006

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Recommended Citation

Diersen, Matthew, "Economics of Grazing or Haying Conservation Reserve Program Land" (2006). *Extension Extra*. Paper 164.
http://openprairie.sdstate.edu/extension_extra/164

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Economics of Grazing or Haying Conservation Reserve Program Land

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In 2003 the USDA began a policy allowing managed haying and grazing of land under the Conservation Reserve Program (CRP). Harvest times are restricted under the managed program to protect wildlife habitat, and fall harvesting cannot occur until August 2 of each year in South Dakota. The USDA reduces the CRP payment by 25% on any acres harvested under the program.

In addition to the annually recurring managed harvesting option of CRP acres, the USDA can open up portions of CRP land for emergency grazing. In South Dakota, this usually applies to counties that have had extended periods of below-normal rainfall. Under this emergency option, grazing can begin as soon as producers obtain local approval, but haying cannot start until August 2. In counties with emergency-released CRP, the USDA usually reduces the CRP payment by 10%.

When CRP land is available for harvesting, producers must consider whether it is economical to do so and by what method. If feed supplies are not limited, a producer should compare the costs of grazing or haying CRP land to purchasing feedstuffs on an Animal Unit Month (AUM) basis. A producer needing feed for winter should compare the cost of haying CRP land to purchasing feedstuffs. In the examples here, the more general 25% reduction is used when computing the land charge for CRP land. Producers should contact their county's Farm Service Agency for more details.

In many cases, the choice of which harvest method to use is dominated by external factors. The absence of water, the need for extensive fencing, or the need for stockpiled feed supplies may make haying the CRP land the obvious choice. Similarly, especially rough land or a lack of haying equipment would make grazing a more obvious choice. Other demands on management time may be a factor also.

Forage from CRP land is likely to be of low feed value, and the cost of any supplements needs to be considered to effectively value the forage. Purchased hay or other feeds may be of high-enough quality to not require the same level of supplements. One additional consideration, especially when substantial acres of CRP are released, is the potential for significant downward price pressure on the hay market.

Grazing Alternatives

There are two alternatives when grazing CRP. The first is to graze all of the allowable acres at 75% of the stocking rate. The second is to graze 75% of the allowable acres at the full stocking rate.

The Natural Resources Conservation Service (NRCS) determines the carrying capacity of the land and gives field-specific stocking rates for grazing. Either choice is designed to use and leave the same amount of forage. However, the cost for each alternative is different, because the CRP rental payment is reduced on a per-acre-grazed basis. All else equal, the cost of grazing 75% of the allowable acres will be lower than the cost of grazing all of the allowable acres.

For example, assume a producer owns 100 acres of CRP land and receives a CRP rental payment of \$40 per acre. Assume the land is uniform in terms of terrain and grass cover with an NRCS prescribed full stocking rate of 0.8 AUMs per acre. The important variable is the forage cost per AUM.

For the alternative to graze 100% of the available acres the cost per AUM is calculated as follows. The land cost, calculated at \$10 per acre (25% of \$40 per acre) times 100 acres, is \$1000. To calculate total AUMs, multiply the stocking rate by the number of acres to be grazed. The stocking rate of 0.6 AUMs (75% of 0.8 AUMs) multiplied by 100 acres gives 60 total AUMs. The cost per AUM is

thus \$1000 divided by 60 AUMs or \$16.67. Additional costs of moving livestock, fencing, or water developments must be added if applicable.

For the alternative to graze 75% of the available acres at the full stocking rate, the cost per AUM is lower. The land cost, calculated at \$10 per acre (25% of \$40 per acre) times 75 acres, is only \$750. The full stocking rate of 0.8 AUMs multiplied by 75 acres again gives 60 total AUMs. The cost per AUM is thus \$750 divided by 60 AUMs or \$12.50. Again, other costs may need to be considered. For example, if additional fence needs to be strung to only graze 75% of the available acres, it may be cheaper to graze all the acres. Similarly, if the forage is not uniform across the CRP land, livestock may be able to selectively graze and consume more total forage from the full acres.

Haying

When haying CRP land, only 50% of the acres may be harvested. The cost of forage when haying will be the reduced CRP rent plus any harvest costs. Harvest costs will vary, but a proxy is available from South Dakota 2000 Custom Rates, published by the South Dakota Agricultural Statistics Service. Under normal conditions, the most frequently quoted rate for mowing and conditioning is \$8 per acre, for raking is \$3 per acre, and for baling is \$6 per bale for large round bales. At 1 ton per acre (assuming 1000-lb bales) baling would cost \$12 per acre, giving total harvest costs of \$23 per acre. Field conditions, expected yield, and local market conditions may result in other harvest costs being applicable.

Consider again the example of 100 acres of CRP land with a \$40 per-acre rental rate. The land cost is \$10 per acre (25% of \$40 per acre) multiplied by 50 acres (50% of 100 acres) or \$500. In addition, the harvest cost must be accounted for. The harvest cost is assumed to be the custom rate cost of \$23 per acre. Across the 50 acres the harvest cost is thus \$1,150 and the total cost is \$33 per acre. If the land yields 1 ton of hay per acre, the cost is \$33 per ton. Transportation costs of moving the hay to where it will be fed may also be a factor.

Purchasing Feedstuffs

Once the costs for grazing and haying are figured, they should be compared to the price of alternative feedstuffs.

The forage from CRP land is likely to be of relatively low quality compared to hay put up earlier in the year. Forage should be tested to determine if additional supplementation is needed.

Hay prices are quoted for much of the U.S. in *National Hay, Feed & Seed Weekly Summary*, published by the USDA Agricultural Marketing Service. Transportation costs and quality adjustments need to be considered for purchased hay. At some point, it may also be cheaper to transport the livestock for custom feeding rather than transporting in feed.

Comparing Alternatives

So which alternative should be undertaken? A cost comparison is one way to help decide. Grazing only 75% of the acres looks to be cheaper than grazing 100% of the acres, on a per AUM basis.

To compare grazing and haying costs, convert the tons of hay to a per AUM basis. Following the National Range and Pasture Handbook, published by the Natural Resource Conservation Service, 930 lb of forage (as-fed) is equivalent to an AUM. Assuming some waste occurs when feeding, 1/2 ton of hay is equivalent to an AUM. If haying costs \$33 per ton, it translates into \$16.50 per AUM, a more expensive alternative compared to grazing.

If hay of similar quality can be purchased at \$50 per ton, its cost would be \$25 per AUM. Thus, if forage is needed for the winter, then the hayed CRP may be cheaper than purchasing hay on the open market. The final choice will depend on the quality and quantity of the available forage on the CRP land, the CRP rental rate given up, and the cost of purchasing other feedstuffs.

Comparing CRP Alternatives

Choice	Example Cost (\$/AUM)	Producer Cost (\$/AUM)
Graze 75% of acres, full stocking rate	12.50	_____
Graze 100% of acres, reduced stocking rate	16.67	_____
Hay and incur harvest costs	16.50	_____
Purchase hay or other feedstuffs	25.00	_____

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