



UW Cooperative Extension Service Profitable &amp; Sustainable Agricultural Systems Risk Management Agency

## Southeast Wyoming farm owners ponder risk management strategies – part II

By James Sedman and John Hewlett

We discussed in the November issue the operations of John and Jen Colphers' Big Country Farms, a southeast Wyoming farm producing primarily dryland and some irrigated wheat.

The Colphers became concerned their previous risk management strategies utilizing yield-based crop insurance did not offer adequate protection for their bottom line. Their primary worries were drought and an unstable wheat market. After reviewing several options, the Colphers pursued a crop insurance policy for their dryland and irrigated wheat called Revenue Protection with Harvest Price Exclusion (RP-HPE); this policy covers their exposure to production losses associated with drought and falling wheat prices.

The Colphers' production year included two major perils – continued drought lowering their yields

and a glut of Black Sea wheat on the world market forcing prices down.

### Revenue Protection with Harvest Price Exclusion Policy

The Colphers actual production history (APH) yield for irrigated wheat was 72.3 bushels/acre and 22.9 bushels/acre for dryland wheat. These figures form the basis for their revenue guarantee. As part of their RP-HPE policy, they elected to carry the maximum available coverage for their area of 85-percent yield protection at the projected price of \$6.95 per bushel. The projected price is set by the Federal Crop Insurance Corporation (FCIC) following the Commodity Exchange Price Provisions. This results in a yield guarantee of 61.46 bushels per acre irrigated and 19.47 bushels per acre dryland. These yield figures times the projected price results in a revenue protection guarantee per acre of \$427.15 irrigated and \$135.32 dryland. These figures are summarized in Table 1.

### Actual Yields and Indemnity Calculations

Drought reduced the Colphers' irrigated yields to 45 bushels/acre and their dryland yields to 15 bushels per acre. The low yields, coupled with the harvest price dropping to \$4.50/bushel, results in an actual revenue per acre of \$202.50 and \$67.50 for irrigated and dryland wheat, respectively. The harvest price is determined by the FCIC and not the actual price the producer receives at harvest. The indemnity payment found by subtracting actual revenue from the revenue protection guarantee is \$224.65 for the irrigated wheat and \$67.82 for the dryland wheat, respectively.

### Comparisons of Strategies

Table 2 shows the results of the Colphers' crop insurance strategy using RP-HPE compared with an insurance plan that covers only reductions in yield (yield protection) and another alternative of not purchasing any crop insurance. There is a substantial difference in total revenue when comparing coverage for yield reductions only versus insuring against both yield and price reductions. This difference totals \$26,460 over 240 acres of irrigated wheat and \$91,875 for 2,500 acres of dryland wheat; this demonstrates

**Table 2. Revenue Comparison of Crop Insurance Options in Total Revenue per Acre and Total Acreage**

	Revenue Protection with Harvest Price Exclusion	Yield Protection	No Insurance
<b>Irrigated wheat:</b>			
Indemnity/acre	\$224.61	\$114.40	\$0.00
Total revenue/acre	\$427.15	\$316.90	\$202.50
Total revenue (240 acres)	<b>\$102,515.28</b>	<b>\$76,055.28</b>	<b>\$48,600.00</b>
<b>Dryland wheat:</b>			
Indemnity/acre	\$67.82	\$31.07	\$0.00
Total revenue/acre	\$135.32	\$98.57	\$67.50
Total revenue (2,500 acres)	<b>\$338,291.25</b>	<b>\$246,416.25</b>	<b>\$168,750.00</b>
<b>Whole Farm Revenue -- Irrigated + Dryland wheat</b>	<b>\$440,806.53</b>	<b>\$322,471.53</b>	<b>\$217,350.00</b>

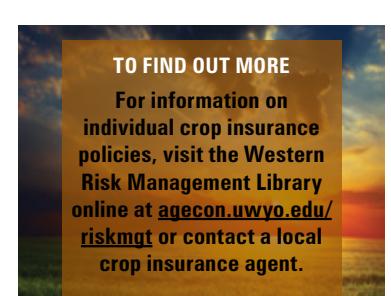
the Colphers were correct to be concerned about the effects of negative price moves on their bottom line.

Please note we have not considered premium costs associated with these insurance policies. Remember, premium costs will be higher as coverage guarantees increase. Even a substantial premium cost will seem reasonable when faced with such a severe revenue loss. In this case, total revenue losses resulting from purchasing no crop insurance for either irrigated or dryland wheat is greater than 50 percent of the total expected revenue.

This is just one example of how crop insurance can be an important part of a producer's risk management plan. The RP-HPE plan utilized by Big Country Farms shows how the

Colphers can protect against declines in both price and yield.

James Sedman is a consultant to the Department of Agricultural and Applied Economics in the University of Wyoming College of Agriculture and Natural Resources, and John Hewlett is a farm and ranch management specialist in the department. Hewlett may be reached at (307) 766-2166 or [hewlett@uwyo.edu](mailto:hewlett@uwyo.edu).



**Table 1. Production and Guarantee Information**

	Irrigated Wheat	Dryland Wheat
APH yield (bushels/acre)	72.3	22.9
Yield guarantee (85%) (bushels/acre)	61.46	19.47
Projected price per bushel (100%)	\$6.95	\$6.95
<b>Revenue Protection Guarantee (per acre)</b>	<b>\$427.15</b>	<b>\$135.32</b>
Actual yield (bushels/acre)	45	15
Actual revenue (per acre) (harvest price \$4.50/bushel)	\$ 202.50	\$ 67.50

## When and how much to feed? Here are considerations when feeding or supplementing the cow herd

By Stave Paisley

As the holiday season approaches, temperatures drop, snow begins to accumulate, and everyone is preparing for the winter months and the upcoming calving season. Here are a few considerations, regardless of when calving begins.

- 1) Providing adequate energy is critical during winter. Providing that cows have adequate nutrition and are in adequate condition (body condition score 5, minimum), for every 1 degree drop in wind chill below 20 degrees, the cow's feed requirements are increased by 1 percent. If effective wind chill is minus 10 degrees, mature cows would require 30 percent more additional feed to maintain constant weight during the below zero wind chill. Based on typical hay analysis, this ends up being approximately 6-7 pounds of additional hay.

- 2) Several recent research studies emphasize the importance of proper nutrition during gestation. This includes adequate nutrition during early pregnancy to ensure



proper fetal development and also during late gestation. Providing adequate energy, protein, and mineral balance during late gestation is critical for getting the cow rebred in the spring, ensuring that calves will get up quickly and nurse, and are essential for providing adequate, high-quality colostrum to the calf.

- 3) If cows are still consuming winter range or stalks, consider supplementing to minimize any weight

loss during late pregnancy and to have cows in good condition heading into calving. When selecting protein supplements, begin by pricing the supplements per pound of protein. For example, 18 percent CP alfalfa hay, priced at \$80/ton, would provide protein at approximately \$.26/lb of protein. Price per pound of protein is calculated as follows: The cost of the hay or feed first needs to be adjusted to a dry, or dry-matter (DM), price. This adjustment allows us to correctly compare prices for liquid feeds, silages, and forages.

Since hay is typically 86 percent DM (14 percent moisture), we know that a ton (2,000 lbs) of hay is actually 1,720 lbs of dry hay with 280 lbs of water. Next, we convert the purchase price to price/lb of DM, so \$80/ton ÷ 1,720 lbs DM in each ton = \$.0465/lb of DM. Finally, to find the actual cost per pound of protein, we divide this cost by the percent protein in the feed, or \$.0465/18% = \$.26/lb of protein. A commercial 32-percent crude protein cube, priced at \$180/ton, would provide protein at approximately \$.31/lb

of protein. Solid blocks, lick tubs, and liquid supplements can also be compared in the same manner but make sure to calculate everything on a similar dry matter basis and to consider the amount of supplement required to deliver the same amount of protein/day.

- 4) Late gestation is a good time to consider sorting cattle into two or three groups to better meet each group's nutrient requirements. Typically, first- and second-calf heifers are managed separately to address their additional requirements for growth as well as give them a fighting chance to consume the right amount of feed. Consider sorting off thin and timid cows and managing them with first- and second-calf cows to improve their energy status and overall condition.

- 5) Managing cattle with their requirements in mind. Energy requirements for gestating cows increases approximately 25 to 30 percent during late gestation and another 30 to 35 percent from calving through the peak of lactation. Adjusting feed amounts delivered

will help ensure cattle maintain condition throughout calving and rebreeding.

Studies at the University of Nebraska and the University of Wyoming have continued to focus on the importance of nutrition during late gestation, especially the last 90 days of pregnancy. For March calving herds, that last 90-day period starts now, in December.

These studies indicate both short-term and longer term benefits. Short-term benefits include more rapid weight gain in calves and improved carcass quality. Longer term benefits indicate that gestational management impacts when heifers reach puberty and overall fertility.

Strategic, cost-effective management of the cow when the cold weather hits can have lasting benefits.

Steve Paisley is the University of Wyoming Cooperative Extension Service beef cattle specialist. He can be reached at (307) 837-2000 or at [spaisley@uwyo.edu](mailto:spaisley@uwyo.edu).