

September 20, 2018

Dairy Revenue Protection Insurance

Background

In recent years, dairy farmers have experienced low milk prices. From 2015 to the present, milk prices received by dairy farmers have averaged 20% lower than the relatively high price period of 2011-2014. Many dairy producers believe the 2014 farm bill's dairy Margin Protection Program (MPP), a commodity support program under Title I of the 2014 farm bill, has been an ineffective safety net and have been seeking alternatives.

On August 8, 2018, the U.S. Department of Agriculture (USDA) Risk Management Agency (RMA) announced the forthcoming Dairy Revenue Protection (Dairy-RP) insurance policy. Dairy-RP is to be available starting October 9, 2018, according to the American Farm Bureau Federation (AFBF). The policy was developed by the AFBF and the American Farm Bureau Insurance Services through the Federal Crop Insurance Corporation's (FCIC) 508(h) private submission process that is authorized by the Federal Crop Insurance Act (7 U.S.C. 1501 *et seq.*).

Dairy-RP policies are to be sold by Approved Insurance Providers (AIPs) who choose to offer the policies in the states in which they operate. The policies will be available every business day except on days when USDA releases major dairy reports, when futures prices hit their daily limit, or as unforeseen situations arise as determined by RMA.

RMA has offered a Livestock Gross Margin insurance policy for dairy cattle (LGM-D) that insures the margin between milk and feed prices. But few dairy producers have purchased it. From 2015 to 2017, LGM-D covered about 2.9 billion pounds of milk annually. During those years, total U.S. milk production averaged about 212 billion pounds annually. Many considered its formula for determining feed values overly complex. Participation was also limited in part because of a previous \$20 million cap on expenditures on livestock insurance policies—since removed by the Bipartisan Budget Act of 2018 (P.L. 115-123)—and a 2014 farm bill provision that prohibited the use of LGM-D and MPP concurrently.

Dairy-RP is to insure against unexpected declines in milk revenue. Participation is voluntary and offered on a quarterly basis for the dairy crop year (July-June) for up to five quarters. If a producer's actual milk revenue falls below an expected revenue guarantee, the producer receives an indemnity payment. A producer's revenue guarantee is based on a series of choices described below. In developing the Dairy-RP policy, the AFBF sought to create a simpler policy than the existing LGM-D federal crop insurance policy. Dairy producers may participate in both Dairy-RP and MPP.

Dairy-RP

A producer makes five choices when purchasing a policy: (1) the amount of milk production to cover; (2) how to value milk, either by milk class price or component price; (3) the level of revenue to cover; (4) which quarters to cover; and (5) whether to purchase an optional protection factor. Also, if multiple producers own the milk, they declare their share and would receive any indemnities proportionally.

Most dairy producers are familiar with the prices and price calculations used in Dairy-RP. The policy uses CME Class III (cheese) and Class IV (butter and powder) futures prices for the class option. CME futures prices for butter, cheese, and dry whey are used for the component price option. Actual revenue is based on the USDA Agricultural Marketing Service (AMS) reported class prices.

Milk Production

Dairy producers can tailor a policy to their individual needs by declaring how much milk production to cover in each quarterly policy and the value (or price) level of that milk. The amount of milk covered and the pricing choice are used to set an expected "revenue guarantee" (**Figure 1**) for each quarter covered, thus allowing producers to account for seasonality in milk production or individual dairy circumstances.

Milk Pricing Options

Producers choose to price their milk production for calculating an expected revenue guarantee by using either class prices or component prices. When choosing the class option, a simple average of the Class III and Class IV CME future prices are used to establish expected revenue during a given quarter. Producers also choose a weighting factor for the class prices. For example, a producer might opt for 50%-50% share of the two prices, in which case a Class III futures price of \$18 per hundredweight (cwt.) and Class IV futures price of \$16 per cwt. would yield an average expected class price of \$17 per cwt. to value producer milk.

Alternatively, dairy producers might choose to price butterfat and protein components of their milk production to determine an expected revenue guarantee. In that case, producers choose their expected butterfat test and protein test (pounds of butterfat and protein in a cwt of milk). The declared butterfat test may range from 3.5 to 5.0 pounds and the protein test may be from 3.0 to 4.0 pounds, both in 0.05 pound increments. The other solids (primarily lactose) test is fixed at 5.7 pounds. The ratio of butterfat test to protein test must be no less than 1.15 and not greater than 1.30. The expected milk price for calculating revenue guarantees would be the sum of the expected butterfat, protein, and other solids prices multiplied by the selected tests. To calculate expected component prices, the policy uses CME butter, cheese, and dry whey futures in the

Federal Milk Marketing Order price formulas used to calculate class milk and component prices in the marketing order system.

Coverage Levels

After declaring the amount of milk production to cover and the pricing method to value that production, a producer chooses the percentage of expected revenue to insure or guarantee for the quarter. The producer may choose to guarantee from 70% to 95% of revenue in 5% increments.

Optional Protection Factor

Producers also have the option to buy additional protection coverage. The protection factor may range from 1.0 to 1.5 in 0.05 increments. The protection factor does not increase the revenue guarantee but is applied to expected revenue for the purposes of calculating a producer premium. If an indemnity is earned on the policy, the protection factor is also applied to an indemnity to determine the total indemnity payment (**Figure 1**).

Covered Quarters

Beginning in October 2018, producers may buy Dairy-RP policies starting with the 2019 January-March quarter. They may buy policies for five quarters into the future through January-March 2020 at the outset of the program.

Premium Rates and Subsidies

The premium rating model was developed by AFBF and approved by RMA. AIPs use the rating model published by RMA to calculate premiums. AIPs apply the established premium rate to a producer's selected revenue guarantee—adjusted for a protection factor, if chosen—then apply the appropriate premium subsidy. The premium subsidy is paid by FCIC and will vary depending on the coverage level, from a 59% subsidy for 70% coverage to a 44% subsidy on 95% coverage (**Table 1**).

Table 1. Dairy-RP Coverage and Premium Subsidies
Percentages

Coverage Level	70	75	80	85	90	95
Premium Subsidy	59	55	55	49	44	44

Source: RMA.

Actual Revenue

A producer's actual revenue is calculated after the final milk prices and milk production data are available for the quarter of insurance coverage. A producer's actual revenue is determined by the final Class III and Class IV prices and final component prices, as reported by AMS, and applied to covered quarterly production. The revenue calculation is adjusted by the revenue guarantee adjustment on production and the yield adjustment if they are applicable (see below). If actual revenue falls short of the revenue guarantee, dairy producers receive an indemnity payment (**Figure 1**).

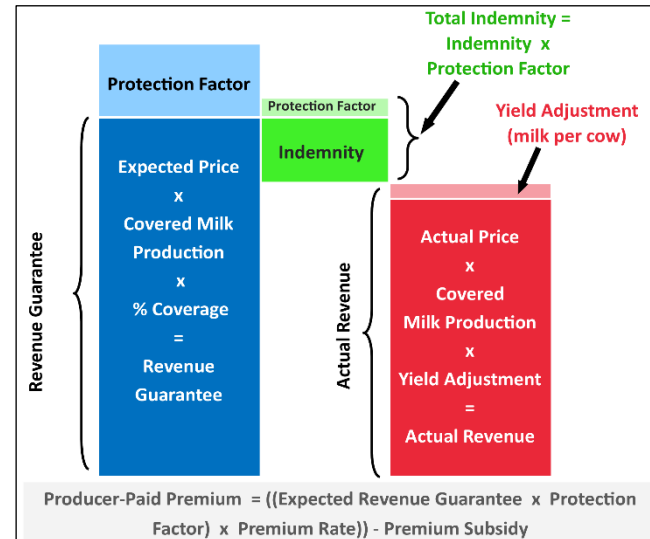
Revenue Guarantee Adjustments

A policyholder's actual milk production must be verified against declared production. Documentation from a cooperative or milk handler would suffice as evidence of production and butterfat and protein tests. Under the terms of the policy, a producer's actual milk production must be at least 85% of declared covered production. If it is 85% or more of declared production, the entire declared amount is

used to calculate actual revenue and the indemnity if earned. Less than 85% of actual production would result in a reduced indemnity payment.

Similarly, for a policy based on butterfat and protein, the actual tests must be at least 90% of declared values. Similar to the production adjustment, lower test values would result in a reduced indemnity payment.

Figure 1. Dairy-RP Indemnity Trigger and Calculation



Source: CRS using the FCIC *Dairy-RP Insurance Standards Handbook*.

Yield Adjustment Factor

The second adjustment to actual revenue is a yield adjustment factor. The yield adjustment factor is equal to the actual quarterly milk per cow, or yield, as reported by the USDA National Agricultural Statistics Service (NASS), divided by an RMA determined expected milk per cow. NASS reports milk per cow for 23 states. For the yield adjustment for producers in other states, RMA assigns them a regional milk per cow by production region. This ratio is applied to determine the final actual revenue. The yield adjustments link actual revenue to productivity, which varies for producers across the United States.

Indemnity Calculation

If actual revenue exceeds the insured revenue, no indemnity is due the producer. However, if the actual is lower, the producer is paid the difference. In addition, the final indemnity payment is increased by the protection factor if the producer has chosen one for the policy period.

Costs of Program

Premiums are based on risk and would vary based on the amount of total liability and other actuarial factors. Premiums would rise for succeeding quarters as risk increases further out. The total cost of the program will depend on the number of dairy producers who decide to utilize the policy and the coverage levels that they select. Producers may be less inclined to participate when milk prices are low because they could be locking in a low revenue level. However, if a producer expects prices to move even lower, a Dairy-RP policy could be attractive. Conversely, at times of higher prices, producers may be inclined to lock in higher revenue levels to protect against the risk of price declines that would lower actual revenue.

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