Agricultural Marketing Policy Center

B R I E F I N G

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Forage Production Risk Management in Montana-Crop Insurance

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Objective

Analysis

for Informed

Decision Making

Introduction:

Montana farm and ranch managers are increasingly seeking production risk management tools for forage production.

Producer production risks can be ameliorated to some degree by using multiple peril crop insurance products subsidized by the federal government through the Federal Crop Insurance Corporation with oversight provided through the USDA's Risk Management Agency (RMA). Multiple peril forage production crop insurance is available for alfalfa, alfalfa/grass and grass/alfalfa mixtures in all Montana counties. For other forages such as grass hay or grain harvested for hay, producers may use the Noninsured Disaster Assistance Program (NAP) administered by the USDA's Farm Service Agency (see Briefing No. 14-Revised) for financial assistance.

Forage Crop Production Insurance:

Forages that have been planted with the expectation of being harvested (as opposed to grazed) are insurable. Forages eligible for crop insurance coverage are **alfalfa, alfalfa/grass mixture, and grass/alfalfa mixture.** RMA distinguishes among these three types of forages by using the number of living alfalfa plants per square foot and the age of the stand beyond the establishment year (Table 1). Alfalfa, alfalfa/grass mixture, and grass/alfalfa mixture are covered under both irrigated and non-irrigated production practices.

As stands become older (overage), and the number of alfalfa plants per square foot declines, these stands may sometimes be insured as a different type within a practice. That is, irrigated alfalfa in the eighth year beyond the establishment year can be insured as an irrigated grass/alfalfa mixture if the alfalfa plant count is sufficient. This allows a forage producer additional years of insurance coverage. As long as the stand has at least 0.2 alfalfa plants per square foot, production may be insured as grass/alfalfa. As long as the forage stand qualifies as a grass/alfalfa mixture, NAP is not applicable.

For non-irrigated production, alfalfa stands become overage in the sixth year beyond stand establishment. Again, a producer can obtain additional years of coverage if a stand meets the criteria for non-irrigated grass/alfalfa. As long as the stand has at least 0.2 alfalfa plants per square foot, production may be insured as grass/alfalfa. As long as the forage stand qualifies as a grass/alfalfa mixture, NAP is not applicable.

The insurance period for forage production in Montana begins if an adequate stand exists on May 22 following the year of spring-seeded forage.

Table 1: Adequate Stand Required: Minimum Number of Living Alfalfa Plants per Square Foot, by Type, for each Year after the Year of Establishment

Type of Forage/ Practice	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year	7th Year	8th Year
Alfalfa/Irrigated	6.0	4.0	3.0	3.0	3.0	3.0	3.0	**
Alfalfa-Grass Mixture/ Irrigated	2.5	1.7	1.2	1.2	1.2	1.2	1.2	**
Grass Alfalfa Mixture/Irrigated	0.2	0.2	0.2	0.2	0.2	0.2	0.2	**
Alfalfa Non-Irrigated	4.8	3.2	2.4	2.4	2.4	*	*	**
Alfalfa Grass Mixture Non-Irrigated	2.0	1.3	1.0	1.0	1.0	*	*	**
Grass-Alfalfa Mixture Non-Irrigated	0.2	0.2	0.2	0.2	0.2	0.2	0.2	**

* Overage stands are not insurable as the Alfalfa type or Alfalfa Grass Mixture type must be insured as Grass Alfalfa Mixture type.
** The Grass Alfalfa Mixture type includes all overage Alfalfa and Alfalfa Grass Mixtures the eighth and succeeding years after year of establishment, as long as there are at least 0.2 living alfalfa plants per square foot. No maximum age limitation applies.

For fall seeded forage and established stands, insurance begins if an adequate stand exists on October 16 following the year of seeding. Insurance coverage ends the earliest of: (1) total destruction of the stand; (2) final adjustment of a loss; (3) abandonment of the forage crop; (4) removal from the windrow or field of each cutting; (5) the date grazing commences on forage production; or (6) October 16, 2006. The sales closing date for forage production in 2006 is September 30, 2005.

Grazing is allowed on acreage insured for forage production after the forage has progressed to winter dormancy. All livestock must be removed from the insured acreage prior to the end of winter dormancy.

All Montana counties report production of one or more of the covered forage types (Figure 1). MPCI forage production crop insurance is available in all Montana counties (Figure 2).

Figure 1: Montana Counties Producing Alfalfa/Grass or Grass/ Alfalfa Forage Types

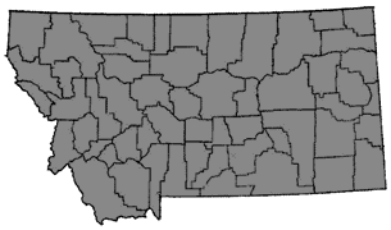
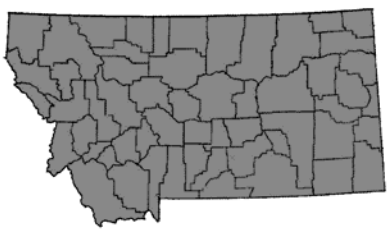


Figure 2: Montana Counties in which MPCI Forage Production Crop Insurance is Available



Multiple peril crop insurance products for forage production are based on actual production histories (APH). The average yield for forage production must be based on written, verifiable records of acreage and production, by type.

Producers can choose among coverage levels of 50, 55, 60, 65, 70 or 75 percent of their actual production history. Producers can choose price elections ranging from 55 to 100 percent of RMA-determined maximum prices. Maximum prices are established each year by the RMA prior to the sales closing date. Those applicable to Montana for the 2006 crop year are presented (Table 2). Maximum prices are announced for each production year approximately 30 days prior to the sales closing date.

Indemnities are paid when a producer's harvested production falls below the producer's production guarantee.

Table 2: 2006 Forage Production Maximum Price Election by Production Types

Forage Production Type	Price Per Ton
Alfalfa	$83
Alfalfa/Grass Mixture	$83
Grass/Alfalfa Mixture	$76

Forage crop insurance production examples:

Consider an irrigated alfalfa producer who has a proven actual production history yield (APH) of 4.0 tons per acre on 300 acres. Suppose this producer selects a 75 percent coverage election--which is the maximum available. Thus, the yield guarantee is 3.0 tons per acre (0.75 x 4.0 tons/acre). Furthermore, assume this producer selects 100 percent of the RMA maximum price ($83 per ton).

Under expected conditions, this producer would realize a gross revenue from hay production of $99,600 if the market price equaled $83/ton (4 tons/ acre x $83/ton x 300 acres).

Suppose the producer harvests 2 tons per acre from a first cutting, but only 0.5 tons per acre from a second (final) cutting because of limited irrigation water supplies. In this case, the producer would receive an indemnity equivalent to 0.5 tons/acre valued at $83/ton over the 300 acres, or $12,450 (3.0 tons/acre insured coverage - 2.5 tons actual production = 0.5 per acre insured loss x $83/ton = $41.50/acre indemnity x 300 acres = $12,450).

If the market price for the harvested hay averaged $83 per ton, the sales revenue plus the indemnity for the quantity loss would provide total gross revenue of $74,700. Therefore, the producer would suffer a $24,900 shortfall in gross revenue. However, in the absence of insurance, the producer would have realized a revenue short fall of $37,350.

Consider a different scenario in which a producer harvests the expected 2 tons per acre from a first cutting and obtains gross revenue of $49,800 (2 tons/acre x $83/ton x 300 acres). Suppose the producer harvests another 2 tons per acre from a second (final) cutting. However, excessive rain reduced the value of the second cutting from $83/ ton to $40/ton. Production from the second cutting yields a gross revenue of $24,000 (2 tons/acre x $40/ton x 300 acres). Total hay revenue equals $73,800 ($49,800 + $24,000). In this case, the producer does not receive an indemnity because 4 tons per acre were harvested which exceeds the production guarantee of 3.0 tons. Multiple peril forage insurance insures against yield losses, but not against quality losses.

Premium calculations:

Producers must pay a premium for multiple peril forage production insurance. However, this crop insurance is subsidized by the federal government through the Federal Crop Insurance Corporation.

Premium rates for a crop are influenced by the coverage level selected by a producer, crop location, and other rating factors. Premium rates are available from crop insurance agents and from premium calculators available on RMA's website. Premium discounts are available for basic units and/or upon the exclusion of certain perils. For coverage levels above CAT, a $30 administrative fee per contract is applicable.

A producer's premium equals the gross premium less the subsidy. Premium subsidy rates are lower at higher coverage levels (Table 3).

Premiums are calculated as:
Gross Premium = Maximum Liability x Premium Rate

Producer Premium = [Maximum Liability x Premium Rate] - [Maximum Liability x Premium Rate x Premium Subsidy].

Table 3: Subsidy Rates for Individual Yield for Multiple Peril Crop Insurance
Maximum liability is the maximum exposure for the insurance carrier.

Coverage Level	Subsidy Rate
50	0.67
55	0.64
60	0.64
65	0.59
70	0.59
75	0.55

This occurs if a complete yield loss occurs as the resulting of an insurable peril. Consider the previous irrigated alfalfa example. The per acre maximum liability would be $249/acre, (3.0 tons/acre - 0.0 tons/acre) x ($83/ton). Assuming a 6 percent premium rate, the gross premium would be $14.94/acre, ($249/acre x 0.06). The producer premium, at the 75 percent coverage level, would be $6.62/acre, [$14.94/acre - ($14.94 x 0.55]. For 300 acres of irrigated alfalfa, this producer would incur a total premium cost of $1,986.

Summary:

Forage production insurance is available for alfalfa, alfalfa/grass mixture, and grass/alfalfa mixture in all Montana counties. Producers need to consider their forage production risk associated to determine if multiple peril crop insurance is a useful risk management tool.

Grass hay and grains planted for forage are not covered under MPCI forage production insurance. Producers may use the NAP program for managing production risks associated with these crops.