

Production Risk Management in Montana

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Listing of Production Risk Management Publications and Presentations

- For the publications, go to:
<http://ampc.montana.edu/publications/AMPC%20briefings.html>
- For the presentations, go to:
<http://ampc.montana.edu/Presentations/presentations.html>
- See handout for listing of publications and presentations.

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Ways to Manage Production Risk

1. Self Insure: Many producers with harvested forage and range have historically used this method for managing their risks.
2. Single peril insurance: When this method is used the likely peril is hail.
3. Multiple peril insurance: This method has received heavy use through time for the management of production risks associated with Montana's traditional annually-planted crops.

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Ways to Manage Production Risk, cont.

- Producers pay a premium for this insurance coverage that is underwritten by the Federal Crop Insurance Corporation with oversight from the Risk Management Agency, USDA.
 - The next page is an unofficial summary of the multiple peril coverage in Montana for the 2003 crop year.
4. Noninsured Crop Disaster Assistance Program (NAP)-managed by Farm Service Agency.

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Ways to Manage Production Risk, cont.

- Crop insurance actuarial table cannot be available in the county for the subject crop.
 - Producers pay a \$100 service fee per crop not to exceed \$300 per county.
5. Compensation from the Agricultural Assistance Act of 2003
- Details will be forthcoming, but don't expect action soon.
 - The ad hoc relief will pertain to the 2001 or 2002 crop year, not both, on an individual farm.

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Producer Production Risk Management Concerns

1. Management of production risks of harvested forage:
- Crop Insurance:
 - Alfalfa
 - Alfalfa/grass
 - Grass/alfalfa
 - NAP
 - Grass hay
 - Grains planted for hay
 - Older stands of irrigated alfalfa and alfalfa/grass

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Producer Production Risk Management Concerns, cont.

2. Management of production risks associated with range and pasture:
 - Crop Insurance:
 - Group Risk Plan in 12 Montana counties
 - NAP:
 - Grass and grass mixtures
 - Perennials, including legumes and legume mixtures
 - Annually-planted forages for grazing
3. Erosion of APH Yields due to continuous drought.

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Crop Insurance for Harvested Forage

- Multiple peril crop insurance for forage production is offered at the basic and optional unit level and based on actual production history (APH).
- Producers can choose among yield coverages of 50, 55, 60, 65, 70, or 75 percent of their actual production history.

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Crop Insurance for Harvested Forage

- Producers can choose price elections ranging from 55 to 100 percent of RMA-determined maximum price elections. Those applicable to Montana for the 2003 crop year are:

Forage Production Type	Price Per Ton
Alfalfa	\$84
Alfalfa/Grass Mixture	\$84
Grass/Alfalfa Mixture	\$75

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Crop Insurance for Harvested Forage

- Indemnities are paid when a producer's harvested yield falls below the guaranteed yield.

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A Crop Insurance Example for Harvested Forage

- A producer has 500 acres of grass/alfalfa
- The producer selects a yield coverage of 70 percent on an APH yield of 1.5 tons/acre
- The producer's price election is 100% of the \$75/ton maximum
- The producer's actual per acre yield is 0.75 tons
- What is the producer's per acre and total indemnity?

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A Crop Insurance Example for Harvested Forage

- $1.5 \text{ tons/acre} \times 0.7 = 1.05 \text{ tons/acre}$
- $0.75 \text{ tons} < 1.05$, so producer will receive indemnity
- $(1.05 \text{ ton/acre yield guarantee}) - (0.75 \text{ ton/acre actual yield}) = 0.30 \text{ ton/acre insured loss}$
- $(0.30 \text{ ton/acre insured loss}) \times \$75/\text{ton} = \$22.50/\text{acre}$
- $\$22.50/\text{acre indemnity} \times 500 \text{ acres} = \$11,250 \text{ total indemnity}$

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NAP Coverage for Harvested Forage

- Coverage is based off of an approved yield, established by written verifiable records of acres and production.
- Payment is made in the case of loss due to natural disaster.
- NAP provides financial assistance for losses in excess of 50% of the producer's expected production.
- The payment rate is 55% of the FSA-defined average market price.

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A NAP Harvested Forage Example

- A producer has an approved yield of 2.0 tons/acre of oat hay.
- The state FSA committee sets an oat hay average price of nearly \$70/ton.
- The producer has 300 acres of oat hay.

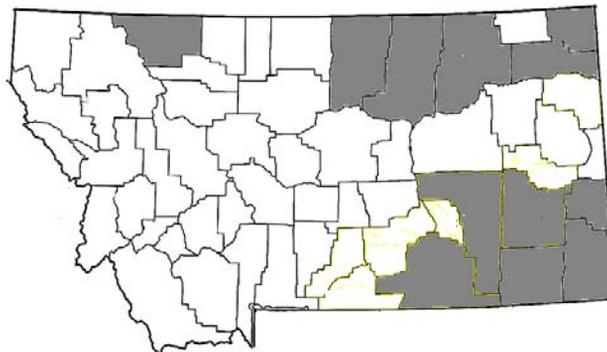
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A Nap Harvested Forage Example

- The producer harvest only 0.5 ton/acre due to drought.
- The payment per acre is:
 - Loss per acre = (2.0 tons/acre – 0.5 tons/acre) = 1.5 tons/acre
 - Payable loss = [(1.5 tons/acre) – (2.0 tons/acre x 0.50)] = 0.5 tons/acre
 - Financial payment = [(0.5 tons/acre)] x [\$70/ton x 0.55] = [(0.5 tons/acre) x \$38.50 ton] = \$19.25 acre
- Total Financial payment = 300 acres x \$19.25 = \$5,775

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Montana Counties with Rangeland Group Risk Plan Coverage, 2003



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Rangeland Group Risk Plan Particulars

- GRP coverage is expressed in dollars of protection per acre.
- Producers can select 60 to 100 percent of maximum dollar protection per acre (similar to price election).
- Producers select a county-level yield election ranging from 70 to 90 percent in 5 percentage point increments.

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Rangeland Group Risk Plan Particulars, cont.

- A producer's trigger yield is determined by multiplying the expected county-level yield by the producer's selected yield election.
- Trigger yields for rangeland are based on county-level all non-irrigated hay production (reported by NASS).
- If county-wide all non-irrigated hay production declines below a producer's trigger yield, the producer will receive an indemnity.
- Because estimates for county-level all non-irrigated hay are not available until after the season, indemnities are not made until the following May.

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Rangeland Group Risk Plan Insurance Example

- Consider a county where the maximum protection per acre is \$8.00:
 - The producer selects a dollar amount of protection at 70% of the maximum, or \$5.60 per acre.
 - The expected county-yield is 1.25 tons/acre for all non-irrigated hay.
 - The producer selects a coverage level of 75% of the expected county yield, or 0.9375 tons/acre is the yield guarantee.
 - The producer has 640 acres of rangeland to insure.

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Rangeland Group Risk Plan Insurance Example, cont.

- The premium:
 - If the county had a maximum dollar protection of \$8.00 per acre
 - \$0.031 per \$1.00 of coverage
 - \$0.0248 per acre gross premium
 - 64 percent federal subsidy, so net premium is \$0.089 per acre.
 - \$56.96 per section
 - Plus \$30 fee per crop per county

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Rangeland Group Risk Plan Insurance Example, cont.

- The actual all non-irrigated hay yield for the county is 0.85 tons per acre.
- The actual yield, reported after the season by NASS, is below the producer's yield guarantee.
- $[(0.9375 \text{ ton/acre yield guarantee}) - (0.85 \text{ tons/acre actual yield})] = 0.0875 \text{ tons/acre loss}$
- $[(0.0875) \times (\$5.60/\text{acre dollar coverage})] = \$0.49/\text{acre indemnity}$
- $[(\$0.49/\text{acre indemnity}) \times (640 \text{ acres})] = \313.60
Total Indemnity

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NAP Coverage of Rangeland and other Grazing

- NAP coverage is available statewide for forage that is grazed (including the 12 counties with the pilot GRP insurance program).

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NAP Rangeland Particulars

1. Grass and Grass Mixtures: *tame*, seeded less than 20 years ago; and *native*, never seeded or seeded over 20 years ago.
2. Perennials: includes legume and legume mixtures such as alfalfa, alfalfa mixtures, clover, etc.—other than grasses.
3. Annually-planted forages: includes, but not limited to, small grains.

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NAP Rangeland Particulars-cont.

- Each pertinent type of forage for grazing in each county is assigned a normal carrying capacity.
- Normal carrying capacity is expressed in *animal unit days* per acre.
- An *animal unit* is specified to have a daily net energy for maintenance requirement of 13.5 Mcal.
- This is equivalent to the daily net energy for maintenance required by a 1,100 beef cow in her sixth month of pregnancy.
- Or alternatively, an animal unit that would require 16 pounds of TDN per day.

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NAP Rangeland Particulars-cont.

- Consider carrying capacity be looking at Carter County as an example.
- FSA specified at 215 day grazing period beginning May 1 and ending December 1.

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NAP Rangeland Particulars-cont.

- Carrying capacities for forage types pertinent to Carter County are:

Forage Type	Acres/Animal Unit
Grass, non-irr. native	20.30
Grass, irr.	n/a
Tame, non-irr.	10.50
Perennial, non-irr. forage	6.30
Perennial, irr. forage	2.45
Annual, non-irr. forage	5.25
Annual, irr. forage	3.50

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NAP Fee Structure for Grazing

- The payment is \$100 per crop not to exceed \$300 per producer in a county.
- The fee structure for grazing is determined by three fee groupings:
 1. Alfalfa, alfalfa mix, and all other grasses and legumes;
 2. Seeded small grain forages and
 3. Sorghum forages

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NAP Loss Adjustment for Grazing

- In the case of a loss in grazing carrying capacity due to a natural disaster, the county FSA committee will require an independent assessment of the average loss in grazing.
- Sometimes you will be called upon for the assessment.

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NAP Loss Adjustment for Grazing, cont.

- Under NAP, only losses in excess of 50 percent of the normal carrying capacity will be financially compensated at 55 percent of the established rate.
- For the 2003 grazing year, the nationally-established rate is \$0.5772 per animal unit day.

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NAP Grazing Loss Example

- This Carter County operation has 640 acres of non-irrigated grass.
- Calculations for compensation are as follows:
 - Normal Production:
 $(640 \text{ acres} / 20.3 \text{ acres per animal unit}) \times (215 \text{ days}) = 6,788 \text{ animal unit days}$
 - Assessed Production Loss:
70%, or $(4,751 \text{ animal unit days} \times 0.70) = 4,751 \text{ animal unit days}$

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NAP Grazing Loss Example, cont.

- Compensation Production Loss:
[(4,751 animal unit days) – (6,788 animal unit days x 0.50)] = 1,356 animal unit days
- Compensation:
[(1,356 animal unit days) x (\$0.5772 per animal unit day) x 0.55] = \$430
- Per acre:
\$430/640 acres = \$0.673/acre
- If 5 sections, \$\$2,150.

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APH Yields and Low Yields

- Producers have had some years with usually low yields
 1. Can replace those years with 60% of the t-yield.
 2. Called “Plugs”

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APH Yields and Low Yields

Year	Original	Adjusted
1993	52	52
1994	40	40
1995	10*	24
1996	43	43
1997	52	52
1998	15*	24
1999	45	45
2000	30	30
2001	37	37
2002	10*	24
APH	33	37

If the county t-yield was 40 bushels per acre
60% of 40 bushels (1995, 1998, 2002)

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APH Yields and Low Yields

- A producer uses plug yields, premiums will be higher.
 1. Higher APH Increases maximum indemnities, so, total premium is higher.
 2. If a plug is used, the higher premium rate from the old APH is used on the new plugged APH.

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