Managing Rangeland and Forage Production Risks

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WORKSHOP OUTLINE

1. **GRP Rangeland Insurance**
    a. **Interactive Website Tool**
2. **NAP For Rangeland & Grazing**
3. **RMA Forage Insurance**
4. **NAP For Forages**
5. **Livestock Risk Protection**

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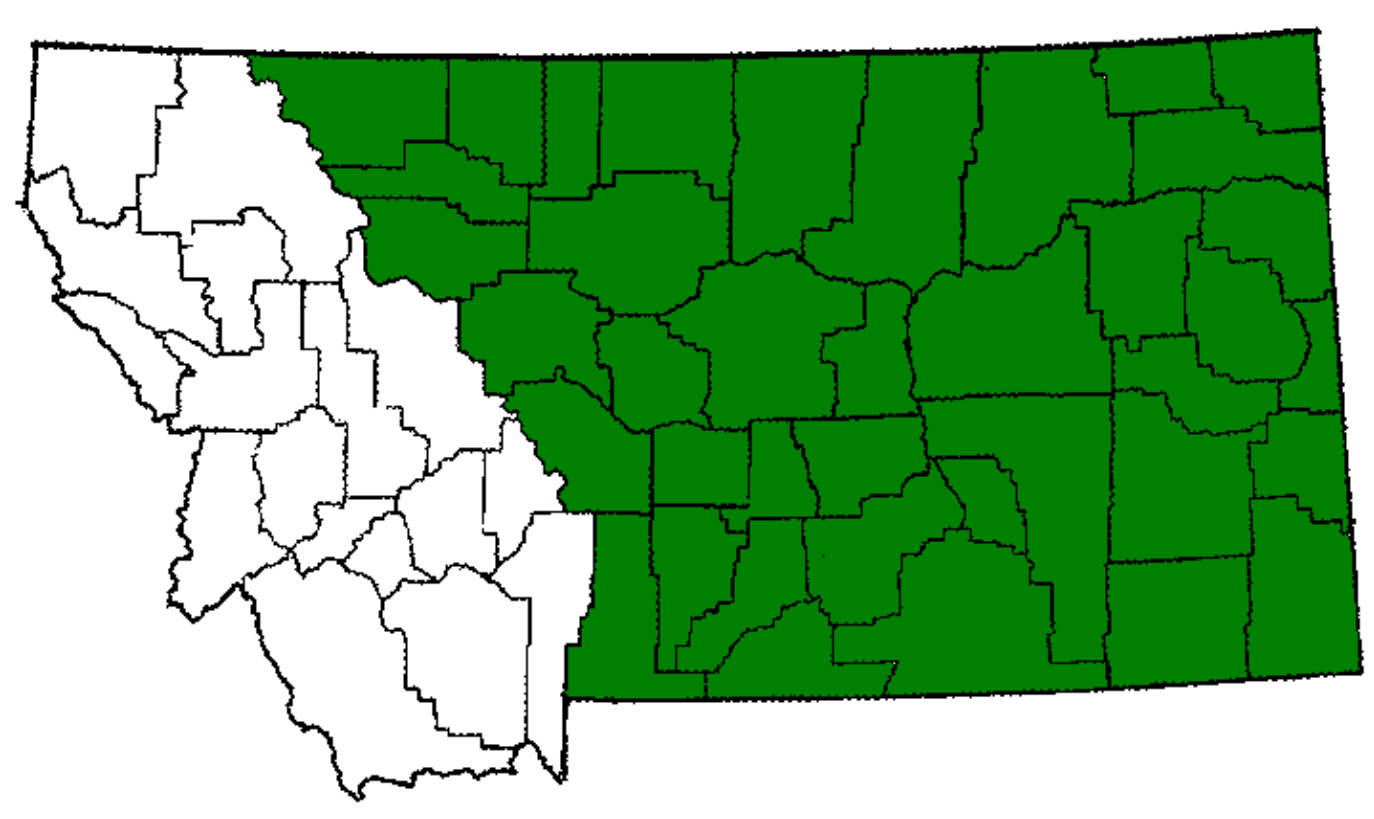
Rangeland Insurance

Counties in Which GRP Rangeland Insurance is Available in 2006



GRP Rangeland Insurance

1. **Pilot Group Risk Plan**
2. **Insured Crop Is Range Or Pasture Used For Grazing**
3. **Individual APH Is Not Required**
4. **NASS Records On Non-Irrigated Hay Production Are Used To Determine County "Yields"**
5. **Producer Receives An Indemnity If Actual County "Yield" Is Below The Producer's Trigger "Yield"**
   a. **Producer's Actual Yield Is Inconsequential**

GRP Rangeland Insurance: Basics

1. **County Base Production**
   a. **Historical Average Non-Irrigated County Hay Production As Estimated By RMA**
2. **Coverage Level**
   a. **Producers Select 70, 75, 80, 85, Or 90 Percent Of County Base Production**
   b. **The CAT Coverage Level Is Set At 65 Percent**

GRP Rangeland Insurance: Basics

3. **Trigger "Yield"**
   a. **Multiply Coverage Level By County Base Production**
4. **Net Hay Production (Payment Yield)**
   a. **NASS Estimate Of Net Non-Irrigated Hay Production In The Insured Year**
   b. **CRP And Small Grains Hay Are Subtracted From Total Non-Irrigated Hay Production**

GRP Rangeland Insurance: Basics

5. **County Base Revenue Per Acre**
   a. **Multiply Private State Grazing Fee/AUM By A County's Rangeland Productivity Factor (RMA)**
   b. **For 2006, $15.90/AUM In MT**
6. **Maximum Protection Per Acre**
   a. **Multiply County Base Revenue Per Acre By The Selected Coverage Level**

GRP Rangeland Insurance: Basics

7. **Price Election Percentage**
   a. **Producers Select From 60 – 100 Percent**
   b. **Most Select 100 Percent**
   c. **CAT Price Election Is Set At 45 Percent**
8. **Dollar Amount Of Protection Per Acre**
   a. **Multiply Maximum Protection Per Acre By The Selected Price Election Percentage**

GRP Rangeland Insurance: Example

Contract Data	Value	Calculation
County Base Production	20,000 tons	RMA
Coverage Level	90%	Producer
Trigger "Yield"	18,000 tons	20,000 tons x 0.90
Actual Net Hay Production (Payment Yield)	8,000 tons	NASS
Rangeland Productivity Factor	0.35 AUM/Acre	RMA
County Base Revenue Per Acre	$5.57/acre	$15.90/AUM x 0.35 AUM/acre

GRP Rangeland Insurance: Example

Contract Data	Value	Calculation
Maximum Protection Per Acre	$5.01/acre	$5.57/acre x 0.90 (coverage level)
Price Election Percentage	100%	Producer
Dollar Amount Of Protection Per Acre	$5.01/acre	$5.01/acre x 1.00

GRP Rangeland Insurance: Example

1. **Suppose Actual Net Non-Irrigated County Hay Production Was Only 8,000 Tons**
2. **Indemnity Calculation**
   a. **[(Trigger "Yield" – Net Hay Production)/Trigger "Yield"]**
   b. **Multiply That By Dollar Amount Of Protection Per Acre**

GRP Rangeland Insurance: Example

3. **[18,000 tons – 8,000 tons]/18,000 tons = 0.5556**

4. **0.5556 x $5.01/acre = $2.78/acre**

5. **If You Had 10 Sections**

   a. **Total Gross Indemnity Would Be $17,792 For The 10 Sections**

GRP Rangeland Insurance: Premium Calculation

1. **Total Premium**
   a. **Dollar Amount Of Protection Per Acre x Premium Rate**
2. **Premium Subsidy**
   a. **Total Premium x Subsidy Rate**
3. **Producer Premium**
   a. **Total Premium – Premium Subsidy**

GRP Rangeland Insurance: Premium Calculation

Coverage Level	Premium Rate* (%)	Premium Subsidy Rate (%)
70	7.4	64
75	8.5	64
80	9.6	59
85	10.9	59
90	12.4	55

*Premium Rates Are The Same For All GRP Rangeland Counties

GRP Rangeland Insurance: Premium Calculation

Contract Data	Value	Calculation
Total Premium Per Acre	$0.622/ac	$5.01/acre x 0.124
Total Gross Ranch Premium	$3,980.80	$0.622/acre x 6,400 acres
Per Acre Premium Subsidy	$0.342/ac	$0.622/acre x 0.55
Total Premium Subsidy	$2,188.80	$0.342/acre x 6,400 acres
Net Ranch Premium	$1,792.00	$3,980.80 - $2,188.80 ($0.28/acre)
Administrative Fee	$30.00 per contract	RMA

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Interactive Website Tool

1. Go To The Following Website:

http://agecon.uwyo.edu/RiskMgt/Default.htm

2. Click On "PRODUCTION"

3. Scroll Down To "Production Risk Management In Montana"

4. Click On Your County

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NAP For Rangeland And Other Grazing

1. **NOT Available Statewide**
   a. **Not Available In Counties With GRP Rangeland Insurance**
   b. **Available For AUM/AU Forest Service And BLM Leases In Counties Without GRP Rangeland Insurance**
2. **Forage For Grazing Is Categorized As**
   a. **Grass and Grass Mixtures**
   b. **Perennials**
   c. **Annually-Planted Forages**

NAP For Rangeland And Other Grazing

1. **Grass and Grass Mixtures**
   a. **Tame – Seeded Less Than 20 Years Ago**
   b. **Native – Never Seeded Or Seeded Over 20 Years Ago**
2. **Perennials**
   a. **Legumes and Legume Mixtures Such As Alfalfa, Clover, And Other Grasses**
3. **Annually Planted Forages**
   a. **Small Grains, etc.**

NAP For Rangeland And Other Grazing

4. **Fee Structure**
   a. **$100/Crop Not To Exceed $300/Producer Per County**
5. **Three Fee Groupings**
   a. **Alfalfa, Alfalfa Mixes, And All Grasses For Legumes (Collective)**
   b. **Seeded Small Grain Forages**
      - **Wheat, Barley, Oats, Triticale And Rye**
      - **$100 Each -- $300 Maximum**
   c. **Sorghum Forages**

NAP For Rangeland And Other Grazing Capacities

1. **Normal Carrying Capacity Is Expressed As Animal Unit Days Per Acre**

   a. **An Animal Unit Is The Daily Net Energy Needed To Provide 13.6 Mcal**

   b. **Equivalent To The Daily Net Energy Needs Of An 1,100 Pound Beef Cow In Her Sixth Month Of Pregnancy**

NAP For Rangeland And Other Grazing Capacities

Beaverhead County, 199 Days, May 1 - November 15

Forage Type	Acres/Animal Unit
Grass, Non-Irrigated	19.50
Grass, Irrigated Native	3.90
Tame, Non-Irrigated	19.50
Perennial, Non-Irrigated	5.85
Perennial, Irrigated Forage	2.28
Annual, Non-Irrigated Forage	4.88
Annual, Irrigated Forage	3.25

NAP Grazing Example

Contract Data	Value	Calculation
Total Acres Of Native Grass	640 acres	Producer
Expected Production	6,531 animal unit days	640 ac / 19.50 ac/AUD x 199 days
Yield Election	50%	FSA
Price Election	55%	FSA
Yield Guarantee	3,266 AUD	6,531 x 0.50
National Price	$0.5746/AUD	FSA
Price Guarantee	$0.316/AUD	0.5746 x 0.55

NAP Grazing Example

1. **Suppose You Had An Assessed AUD Production Loss Of 70%**
   a. **6,531 AUD x 0.70 = 4,571 AUD Loss**
2. **Compensated Production Loss**
   a. **4,571 AUD – (6,531 AUD x 0.50) = 1,305 AUD**
3. **Compensation For The Entire Section**
   a. **1,305 AUD x $0.316/AUD = $412/Section**
   b. **$412/640 acres = $0.644/acre**

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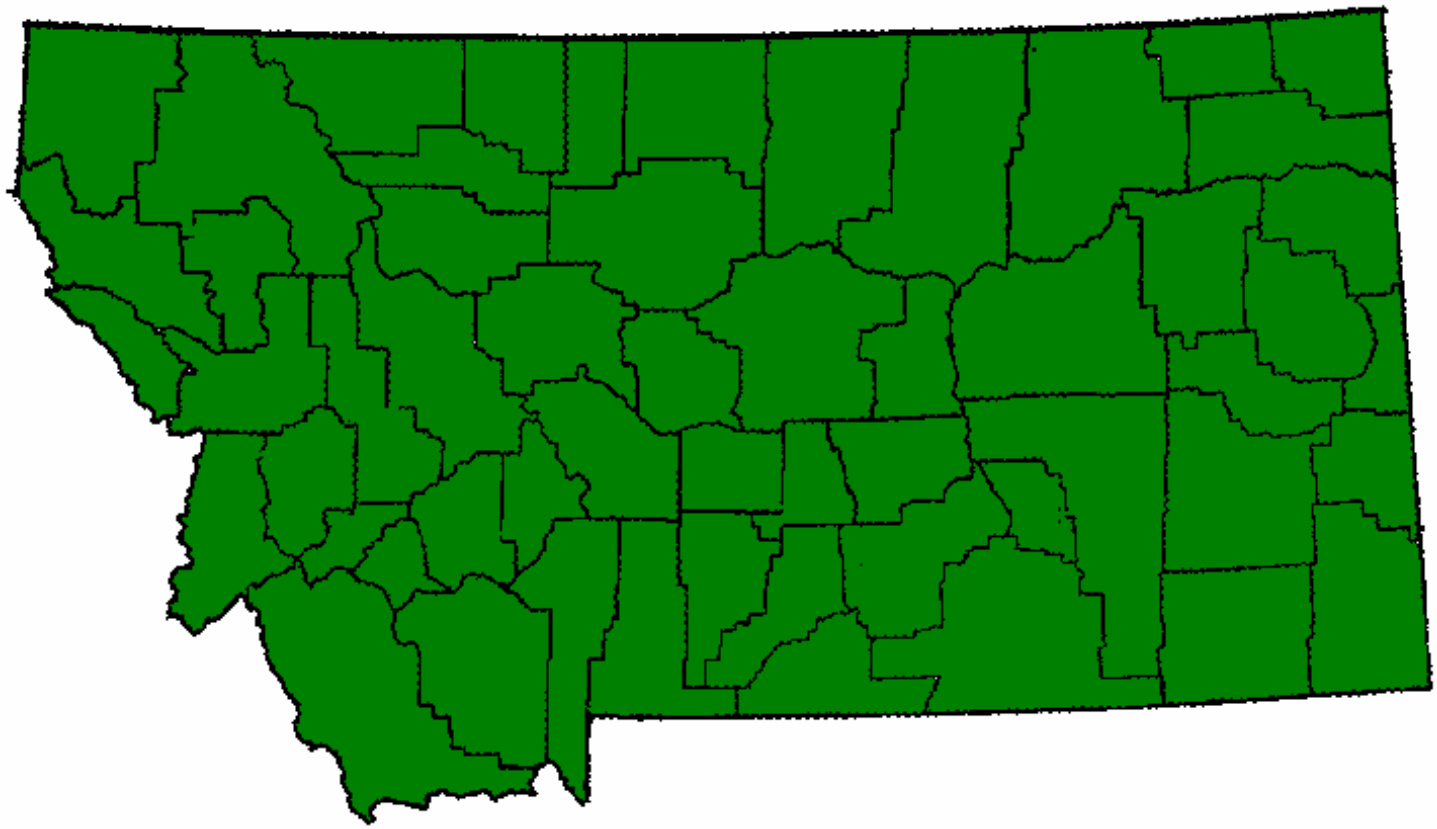
Forage: Non-Irrigated Alfalfa

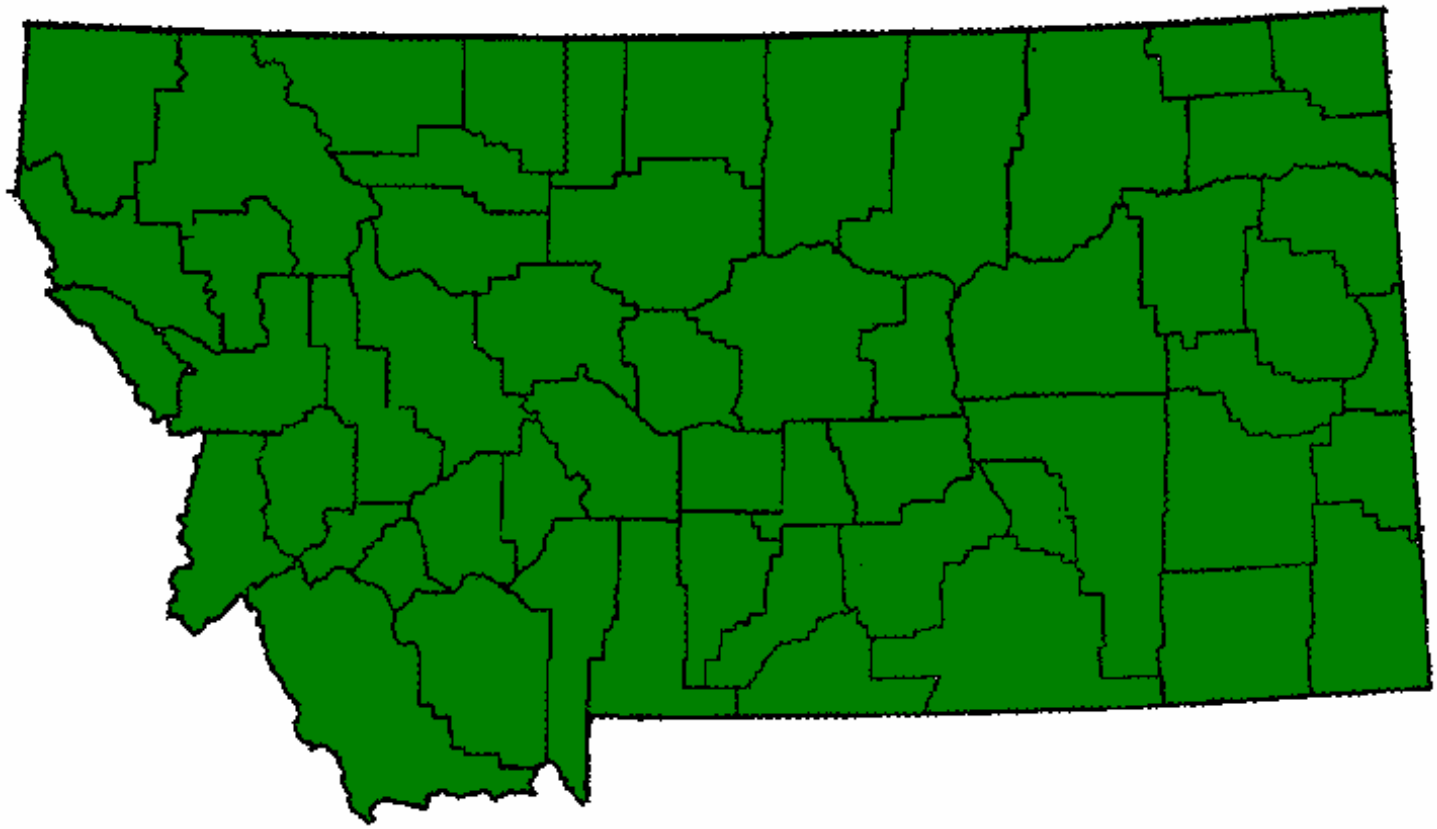
Counties In Which Insurance Coverage

For Non-Irrigated Alfalfa Hay Is Available For 2006



Forage: Irrigated Alfalfa

Counties In Which Insurance Coverage For Irrigated Alfalfa Hay Is Available For 2006



Forage Insurance

1. **MPCI For Three Types Of Forage**
   a. **Alfalfa**
   b. **Alfalfa/Grass**
   c. **Grass/Alfalfa**
2. **Forages Can Be Winter-Grazed**
3. **Basic, Optional, Or Enterprise Units**
4. **Must Establish An APH**
   a. **Sometimes Difficult**
   b. **Weigh Bales On Certified Scales**
   c. **Take Pictures Of Stacks**
   d. **Need Records By Unit, Type**

Forage Insurance

5. **Yield Election: 50, 55, 60, 65, 70, 75%**
6. **Price Election: 55 – 100%**
   a. **Alfalfa Price: $83/ton**
   b. **Alfalfa/Grass Price: $83/ton**
   c. **Grass/Alfalfa Price: $76/ton**
7. **CAT Coverage Is Available**
   a. **50% Coverage Level**
   b. **55% Price Election**

Forage Insurance Eligibility

1. Only Forages Planted For Harvesting Are Insurable (Not Those Planted For Grazing)

2. Forage Types Are Distinguished By The Number Of Living Alfalfa Plants Per Square Foot

    a. Illustrated On The Following Table

Stand Requirements

Minimum Number Of Living Alfalfa Plants Per Square Foot, By Type

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 Irrigated	2.5	1.7	1.2	1.2	1.2	1.2	1.2	**
Grass/Alfalfa 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 Non-Irrigated	2.0	1.3	1.0	1.0	1.0	*	*	**
Grass/Alfalfa Non-Irrigated	0.2	0.2	0.2	0.2	0.2	0.2	0.2	

Forage Insurance Eligibility

3. **Irrigated Alfalfa And Alfalfa/Grass Are Overaged After The 7th Year**

4. **Nonirrigated Alfalfa And Alfalfa/Grass Are Overaged After The 5th Year**

5. **Grass/Alfalfa Includes All Alfalfa And Alfalfa/Grass That Is Overaged**

   a. **Must Be At Least 0.2 Living Alfalfa Plants Per Square Foot**

   b. **No Age Limitation Applies**

Irrigated Alfalfa Example

Contract Data	Value	Calculation
APH Yield	4 tons/ac	Producer
Acres	300 acres	Producer
Yield Election	75%	Producer*
Yield Guarantee	3 tons/ac	4 tons/ac x 0.75
Price Election	100%	Producer*
Elected Price	$83/ton	1.00 x $83/ton

Irrigated Alfalfa Example

1. **Suppose You Actually Harvest**
   a. **2 Tons/Acre First Cutting**
   b. **0.5 Tons/Acre On The Final Cutting**
2. **Will You Receive An Indemnity?**

Irrigated Alfalfa Example

3. **3.0 tons/ac – 2.5 tons/ac = 0.5 tons/ac**

4. **0.5 tons/ac x $83/ton = $41.50/acre**

5. **$41.50/acre x 300 acres = $12,450**

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NAP Program: Forage Production

1. Offered By The Farm Services Agency (Not An RMA Product)
2. Available For Grass Hay (Mixed Forages < 0.2 Alfalfa Plants Per Square Foot) And Grains Harvested For Hay
3. Apply At FSA Offices
4. Costs $100 Per Crop Per County
5. Not To Exceed $300 Per Producer Per County
6. Offered At The Basic Unit Level Only

NAP Program: Forage Production

7. Covers Losses In Excess Of 50% Of Expected Production

8. Payment Rate Is 55% Of The Average Market Price As Specified By State FSA Committee

9. Payments May Be Reduced To Reflect Decreases In Production Costs If The Crop Is Not Harvested

NAP For Oat Hay: Example

Contract Data	Value	Calculation
Expected Yield	2 tons/ac	producer
Specified Market Price (2006)	$74.67/ton	FSA
Yield Election	50%	FSA
Price Election	55%	FSA
Yield Guarantee	1 ton/ac	2 x 0.50
Price Guarantee	$41.07/ton	$74.67/ton x 0.55

NAP For Oat Hay: Example

1. **Suppose Your Actual Yield Was 0.5 Tons/Acre**
2. **Will You Receive An Indemnity?**
3. **If So, Calculate The Indemnity In Tons/Acre**
4. **Calculate The Indemnity In Dollars/Acre**

NAP For Oat Hay: Example

5. **You Receive An Indemnity Because 0.50 Tons/Acre Is Less Than 1.0 Ton/Acre Yield Guarantee**
6. **You Receive The Difference In Tons/Acre**
    a. **[1.5 Tons/Acre – (2.0 Tons/Acre x 0.50)] = 0.50 Tons/Acre**
7. **Valued At Your Price Guarantee**
    a. **0.50 Tons/Acre x $41.07/Ton = $20.54/Acre**

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LRP Overview

1. **Available in 20 States**
   a. **Including Montana As Of 2005**
2. **Covers Feeder Cattle, Fed Cattle, And Swine**
3. **LRP Coverage For Feeder Cattle Was First Offered In 2003 In 10 States Other Than Montana**
4. **LRP For Feeder Cattle Was Suspended On December 24, 2003 Because Of BSE**
5. **LRP For Feeder Cattle Resumed On September 30, 2004**

LRP Overview

6. **LRP Is A Single-Peril Product**
   a. **Offers Only Price Insurance**
   b. **Protects Producers Against A Decline In Price Below An Established Coverage Price**
7. **LRP Does Not Insure Against**
   a. **Sickness Or Death Losses**
   b. **Cost Of Gain Increases**
   c. **Basis Price Risk**

LRP Feeder Cattle Concepts

1. **LRP Is Offered For 13, 17, 21, 26, 30, 34, 39, 43, 47, and 52 Week Periods**
   a. **These Periods Represent The Number Of Weeks Between Attaching Insurance And Marketing Feeder Cattle**
2. **An Application Must Be Completed Indicating Beneficial Interest In A Group Of Cattle**
3. **Specific Coverage Endorsement Is Required For Each Group Of Cattle**

LRP Feeder Cattle Concepts

Feeder Cattle Types and Weights Eligible for LRP Feeder Cattle Coverage

Insurable Type	Target Weight
Steers Weight 1	less than 6.0 hundredweight
Steers Weight 2	6.0 to 9.0 hundredweight
Heifers Weight 1	less than 6.0 hundredweight
Heifers Weight 2	6.0 to 9.0 hundredweight
Brahman Weight 1	less than 6.0 hundredweight
Brahman Weight 2	6.0 to 9.0 hundredweight
Dairy Weight 1	less than 6.0 hundredweight
Dairy Weight 2	6.0 to 9.0 hundredweight

LRP Feeder Cattle Concepts

4. **Endorsement Limits**
   a. **Limited To 1,000 Head Per Specific Coverage Endorsement**
5. **Annual Policy Limits**
   a. **Limited To 2,000 Head In Any Crop Year**
   b. **Crop Year Is July 1 To June 30**

LRP Operational Details

1. ***Expected Ending Value*** **Is The Expected Price For Feeder Cattle At The Time They Are Marketed And Are Reported Daily At**

   a. **www3.rma.usda.gov/apps/livestock_reports/**

2. ***Coverage Price*** **Represents A Price Floor For Cattle At The Time They Are Actually Marketed**

   a. **Also On Website**

LRP Coverage Table

October 24, 2005

Endorse-ment Length	Type	Crop Year	Exp. End Value	Cov. Price	Cov. Level	Premium Rate	End Date
13	Steer Weight 2	2006	$111.904	$106.00	0.9472	0.012066	1/23/06
13	Steer Weight 2	2006	$111.904	$104.00	0.9294	0.009577	1/23/06
17	Steer Weight 2	2006	$109.420	$103.42	0.9452	0.010432	2/23/06

LRP Operational Details

3. ***Coverage Levels*** **Are Jointly Determined With** ***Coverage Prices***

   a. **Range From 70 To 95%**

4. ***Coverage Prices*** **Have Been Adjusted For Animal Type And Weight**

5. ***Actual Ending Value*** **Is The Actual Value Of The Cash-Settled CME Feeder Cattle Reported Index**

   a. **An Indemnity Is Triggered If** ***Actual Ending Value*** **Is Less Than The** ***Coverage Price***

LRP Example: Coverage

Contract Data	Value	Source
Current Date	Oct 24, 05	producer
Number Of Steers	1,000	producer
Marketing Date	Jan 23, 06	producer
Expected Weight	800 lbs	producer
Endorsement Length	13 weeks	producer*
Expected Ending Value	$111.904	RMA
Coverage Level	94.72%	producer*
Coverage Price	$106.00	RMA

LRP Example: Premium

Contract Data	Value	Calculation
Insured Value	$848,000	1,000 hd x 8 cwt/hd x $106.00
Premium Rate	0.012066	RMA
Total Premium	$10,232	$848,000 x 0.012066
Subsidy Rate	13%	RMA
Subsidy Amount	$1,330	$10,232 x 0.13
Producer Premium	$8,902	$10,232-$1,330

LRP Problem #1

1. **Suppose You Actually Sold 1,000 800 Pound Steer Calves On Jan. 23, 2006**

   a. **Sold The Calves For $102.00/cwt**

2. **The CME-Reported Actual Ending Value On Jan. 23, 2006 Was $113.51/cwt**

3. **Would You Have Received An Indemnity?**

LRP Problem #1

4. **No Indemnity Because The CME Index Was Higher Than The Coverage Price**
   a. **Even Though Your Sales Price Was Less Than The Coverage Price**
5. **Revenue From Calves**
   a. **1,000 x 8 Cwt/Head x $102.00 = $816,000**
   b. **Less Premium Of $8,902**
   c. **Net Revenue = $807,098**

LRP Problem #2
Early 2006 Calves

Contract Data	Value	Source
Current Date	Jan 17, 06	producer
Number Of Steers	200	producer
Marketing Date	Oct 17, 06	producer
Expected Weight	675 lbs	producer
Endorsement Length	39 weeks	producer*
Expected Ending Value	$112.746	RMA
Coverage Level	88.74%	producer*
Coverage Price	$100.050	RMA

LRP Problem #2
Early 2006 Calves

1. **The Premium Rate For This LRP Coverage Is Given By The RMA As**

   a. **0.013973**

2. **Calculate The Total Premium For This Problem**

3. **Calculate The Producer's Premium For This Problem**

LRP Problem #2: Premium

Contract Data	Value	Calculation
Insured Value	$135,806	200 hd x 6.75 cwt/hd x $100.050
Premium Rate	0.013973	RMA
Total Premium	$1,887	$135,068 x 0.013973
Subsidy Rate	13%	RMA
Subsidy Amount	$245	$1,887 x 0.13
Producer Premium	$1,642	$1,887 - $245

LRP Problem #2

1. **Suppose You Actually Sell 196 650-Pound Steer Calves On Oct 17, 2006**
   a. **Reported The Death Loss Of 4 Calves When It Occurred**
   b. **Sold The Calves For $96.00/cwt**
2. **The CME-Reported Actual Ending Value On Oct. 17, 2006 Was $98.00/cwt**
3. **Will You Receive An Indemnity?**

LRP Problem #2

4. **Indemnity Calculation**
   a. **200 Head x 6.75 cwt/hd x ($100.05 - $98.00) = $2,767.50**
5. **Revenue From Calves**
   a. **196 x 6.50 Cwt/Head x $96.00 = $122,304**
   b. **Plus Indemnity Of $2,767.50**
   c. **Less Premium Of $1,672**
   d. **Net Revenue = $123,399.50**

LRP Summary

1. **Note That You Are Not Compensated For**
   a. **Death Loss**
   b. **Lower Rate Of Gain**
   c. **A Decline In YOUR Price**

Comparison Of LRP And Options

1. **LRP And CME Put Options BOTH Protect Against Downside Price Risk**
2. **BOTH LRP And Options Require The Payment Of A Premium**
3. **BOTH LRP And Options May Result In A Payout**
   a. **An Insurance Indemnity**
   b. **Option Premium**

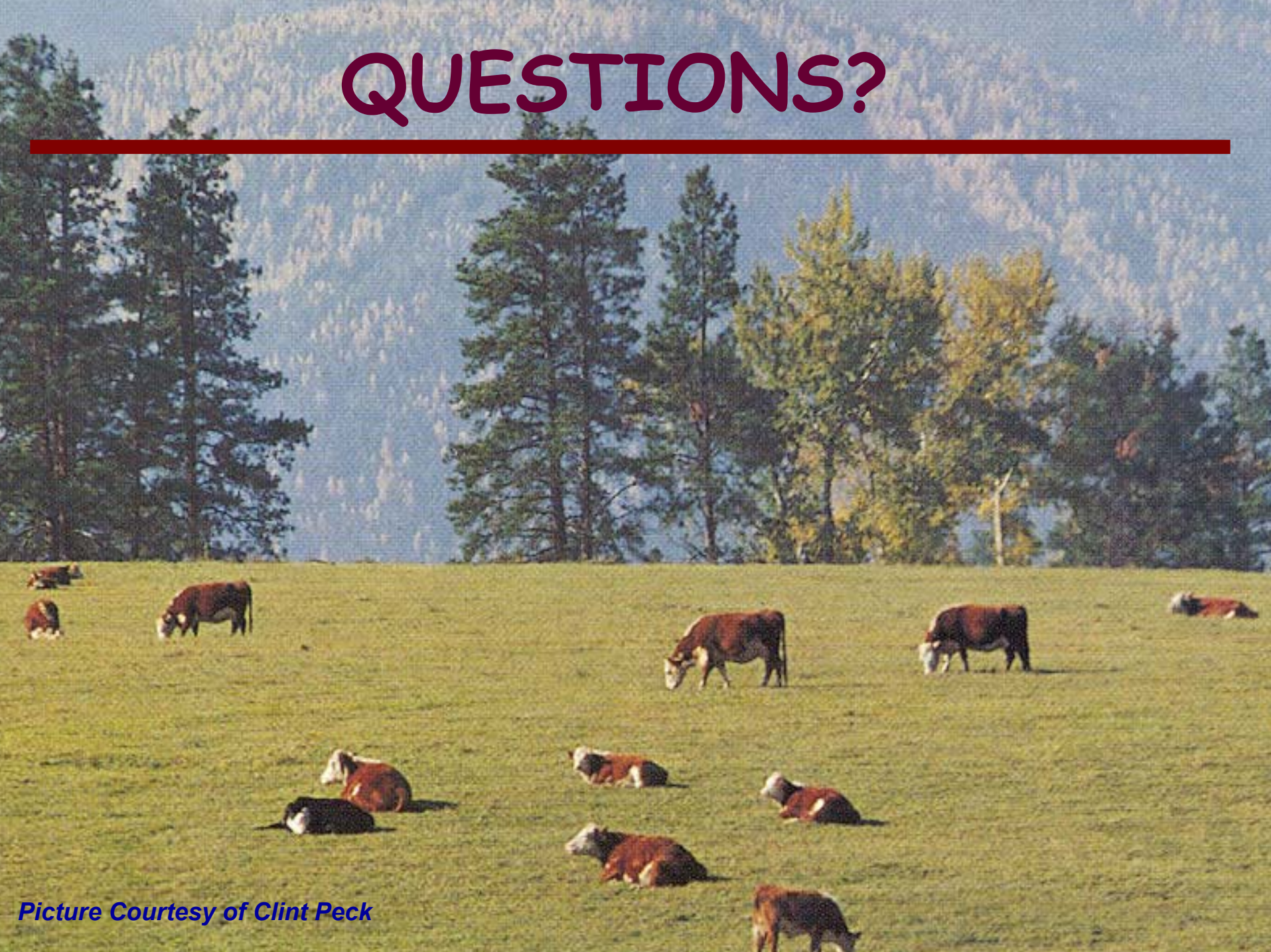
Comparison Of LRP And Options

4. **Payouts Are Received When Prices Decline Below An Insured Level**

5. **No Payouts Are Received If Market Prices Remain Above The Insured Level**

6. **BOTH LRP And Options Are Subject To Basis Risk**

QUESTIONS?



Picture Courtesy of Clint Peck