Lockhart Small Acreage Sheep and Goat Workshop:
Cost of Production Analysis and PRF Insurance

August 29, 2013
Lockhart, TX

Coordinated by: Michael Haynes, Caldwell County CEA-AG
Presented by: Bill Thompson, Extension Economist, San Angelo, TX
Today’s Agenda

• Cost of Production Analysis
  – Meat Goats
  – Hair Sheep

• PRF Insurance –
  – Introduction and review of program
  – Caldwell county usage data
http://sanangelo.tamu.edu/extension/west-central-agricultural-economics/
Cost of Production Analysis:
Meat Goats

• Production Budget
  – Gross Income
    • Assumes: 40 acres
      20 Acres/ AU
      12 Nannies
      1 Billy
      120% weaned kid crop (14 kids per year)
      Sell 12 kids and 2 nannies per year
      Sell billy every other year (.5 each year)
Cost of Production Analysis:
Meat Goats

– Direct Expenses (selected):
  • Let me know if you want to discuss a particular line item
  • Purchased feed:
    – No purchased forage budgeted, in drought there may be some purchased. See risk management.
    – We are not going to supplement with grain to flush prior to breeding.
    – We are going to supplement with grain (cottonseed) during late gestation/lactation
  • Marketing expense:
    – Typical sale/auction barn expenses are listed here. Private treaty sale may cost less.
Cost of Production Analysis:
Meat Goats

– Repairs & Maintenance
  • See fixed costs

– Fuel
  • I am allocating very limited fuel to this enterprise
  • Essentially one tank of fuel

– Risk Management
  • I did purchase PRF insurance. Any indemnities can be used to purchase supplemental feed in a drought
Cost of Production Analysis:
Meat Goats

– Other expenses
  • You will need to visit with your tax preparer.
    – Hobby farm losses are an issue.
      » IRS Fact Sheet FS-2008-23

An activity is presumed for profit if it makes a profit in at least three of the last five tax years, including the current year (or at least two of the last seven years for activities that consist primarily of breeding, showing, training or racing horses).

If an activity is not for profit, losses from that activity may not be used to offset other income. An activity produces a loss when related expenses exceed income. The limit on not-for-profit losses applies to individuals, partnerships, estates, trusts, and S corporations. It does not apply to corporations other than S corporations.
Cost of Production Analysis:

Meat Goats

– Fixed Cost Analysis

### Small Acreage: Fixed Assets Cost Analysis

<table>
<thead>
<tr>
<th>Description</th>
<th>Size</th>
<th>Fair Market Value</th>
<th>Original Purchase Price</th>
<th>Estimated Life</th>
<th>Remaining Life</th>
<th>S.V. as % of Cost</th>
<th>Accumulated Depr.</th>
<th>Remaining Basis</th>
<th>Total Annual Depreciation</th>
<th>R&amp;M as % of cost</th>
<th>R&amp;M Cost Per Year</th>
<th>2 AU Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Livestock Panels - 10</td>
<td>8 ft</td>
<td>$700</td>
<td>$1,750</td>
<td>20</td>
<td>15</td>
<td>40</td>
<td>$263</td>
<td>$1,488</td>
<td>0</td>
<td>55</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Misc Livestock equip, (drench guns, Hoof trimmers, Syringes, etc.)</td>
<td>N/A</td>
<td>$250</td>
<td>$350</td>
<td>10</td>
<td>3</td>
<td>0</td>
<td>$245</td>
<td>$105</td>
<td>2</td>
<td>35</td>
<td>1</td>
<td>100%</td>
</tr>
<tr>
<td>Pickup (1/8 interest)</td>
<td>3/4 t</td>
<td>$4,375</td>
<td>$4,707</td>
<td>8</td>
<td>5</td>
<td>35</td>
<td>$1,147</td>
<td>$3,559</td>
<td>12</td>
<td>2</td>
<td>1</td>
<td>100%</td>
</tr>
<tr>
<td>Livestock trailer - bumper hitch</td>
<td>16</td>
<td>$990</td>
<td>$4,500</td>
<td>10</td>
<td>0</td>
<td>22</td>
<td>$4,500</td>
<td>-</td>
<td>0</td>
<td>1</td>
<td>10</td>
<td>100%</td>
</tr>
<tr>
<td>Perimeter and cross fences</td>
<td>1.5</td>
<td>$10,500</td>
<td>$15,000</td>
<td>40</td>
<td>2</td>
<td>10</td>
<td>$12,825</td>
<td>$2,175</td>
<td>20</td>
<td>338</td>
<td>75</td>
<td>100%</td>
</tr>
<tr>
<td>Llamas</td>
<td>$1</td>
<td>$100</td>
<td>$200</td>
<td>7</td>
<td>7</td>
<td>50</td>
<td>$100</td>
<td>$200</td>
<td>0</td>
<td>14</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Poly tub w/ float</td>
<td>400 g</td>
<td>$150</td>
<td>$200</td>
<td>10</td>
<td>8</td>
<td>75</td>
<td>$100</td>
<td>$190</td>
<td>0</td>
<td>5</td>
<td>0</td>
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</tr>
<tr>
<td>Property Taxes and Insurance</td>
<td></td>
<td>$56</td>
<td>$56</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>$56</td>
<td>$56</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>100%</td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td>$17,065</td>
<td>$26,707</td>
<td>$18,990</td>
<td>$7,717</td>
<td>$827</td>
<td>$191</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Cost of Production Analysis:

*Meat Goats*

- Residual Returns
  - Total Enterprise **-$112.00**
  - Per A.U. **-$56.00**
  - Per head **-$9.33**

<table>
<thead>
<tr>
<th>Weaning %</th>
<th>Gross sales</th>
<th>Average Break Even Kid Price to Cover</th>
<th>Average Break Even Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>140%</td>
<td>$1,764.90</td>
<td>$51.27</td>
<td>$163.76</td>
</tr>
<tr>
<td>130%</td>
<td>$1,642.80</td>
<td>$55.79</td>
<td>$178.21</td>
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<tr>
<td>120%</td>
<td>$1,480.00</td>
<td>$61.19</td>
<td>$195.46</td>
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<tr>
<td>110%</td>
<td>$1,398.60</td>
<td>$67.75</td>
<td>$216.40</td>
</tr>
<tr>
<td>100%</td>
<td>$1,276.50</td>
<td>$75.88</td>
<td>$242.36</td>
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</table>
Cost of Production Analysis:

Meat Goats

<table>
<thead>
<tr>
<th>Table 1. Weighted Average Kid and Nanny Prices at San Angelo, TX Auction.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Selection 1 Kids</strong></td>
</tr>
<tr>
<td><strong>Total Hd</strong></td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td><strong>Annual Data</strong></td>
</tr>
<tr>
<td>2009</td>
</tr>
<tr>
<td>2010</td>
</tr>
<tr>
<td>2011</td>
</tr>
<tr>
<td><strong>Quarterly Data</strong></td>
</tr>
<tr>
<td>2012 I</td>
</tr>
<tr>
<td>2012 II</td>
</tr>
<tr>
<td>2012 III</td>
</tr>
<tr>
<td>2012 IV</td>
</tr>
<tr>
<td>2013 I</td>
</tr>
<tr>
<td>2013 II</td>
</tr>
<tr>
<td>2013 III</td>
</tr>
<tr>
<td>2013 IV</td>
</tr>
</tbody>
</table>

Table Updated: 8/14/2013
Figure 1. Monthly Weighted Average Selection 1 Kid Price at San Angelo, TX Auction.
Figure 2a. Monthly Weighted Average and Seasonal Price Index for Selection 1 Kids at San Angelo, TX Auction.
Figure 3. Monthly Weighted Average Nanny Selection 1 and 2 Price at San Angelo, TX Auction.
Cost of Production Analysis:
Hair Sheep

- Production Budget
  - Gross Income
    - Assumes: 40 acres
    - 20 Acres/AU
    - 12 Ewes
    - 1 Ram
    - 120% weaned lamb crop (14 lambs per year)
    - Sell 12 lambs and 2 ewes per year
    - Sell ram every other year (.5 each year)
Cost of Production Analysis:

Hair Sheep

- Only real difference is I have eliminated drenching due to the hair sheep’s natural parasite resistance.
Cost of Production Analysis:

Hair Sheep

• Residual Returns
  – Total Enterprise -$475.69
  • Per A.U. -$237.84
  • Per head -$39.64

<table>
<thead>
<tr>
<th>Weaning %</th>
<th>Gross Sales</th>
<th>Average Break Even Lamb Price to Cover</th>
<th>Average Break Even Lamb Price to Cover</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Variable Cost</td>
<td>Total Cost</td>
</tr>
<tr>
<td>140%</td>
<td>$1,386.00</td>
<td>$49.55</td>
<td>$132.04</td>
</tr>
<tr>
<td>130%</td>
<td>$1,287.00</td>
<td>$65.69</td>
<td>$143.70</td>
</tr>
<tr>
<td>120%</td>
<td>$1,155.00</td>
<td>$72.04</td>
<td>$157.60</td>
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<tr>
<td>110%</td>
<td>$1,089.00</td>
<td>$65.48</td>
<td>$174.49</td>
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<tr>
<td>100%</td>
<td>$990.00</td>
<td>$73.33</td>
<td>$195.43</td>
</tr>
</tbody>
</table>
Cost of Production Analysis:

Hair Sheep

Table 2. Weighted Average Feeder Lamb, Slaughter Lamb and Ewe Prices at San Angelo, TX Auction.

<table>
<thead>
<tr>
<th></th>
<th>Feeder Lambs, 1 and 2s</th>
<th>Slaughter Lambs</th>
<th>Ewes, Utility and Good</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Hd</td>
<td>Avg Wgt</td>
<td>Price ($/Cwt.)</td>
</tr>
<tr>
<td>Annual Data</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>19,155</td>
<td>75</td>
<td>$ 109.40</td>
</tr>
<tr>
<td>2010</td>
<td>23,082</td>
<td>76</td>
<td>$ 150.85</td>
</tr>
<tr>
<td>2011</td>
<td>18,894</td>
<td>69</td>
<td>$ 221.97</td>
</tr>
<tr>
<td>Quarterly Data</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012 I</td>
<td>788</td>
<td>78</td>
<td>$ 193.89</td>
</tr>
<tr>
<td>2012 II</td>
<td>4,492</td>
<td>79</td>
<td>$ 151.99</td>
</tr>
<tr>
<td>2012 III</td>
<td>3,134</td>
<td>82</td>
<td>$ 97.78</td>
</tr>
<tr>
<td>2012 IV</td>
<td>1,877</td>
<td>86</td>
<td>$ 101.43</td>
</tr>
<tr>
<td>2013 I</td>
<td>7,759</td>
<td>79</td>
<td>$ 130.85</td>
</tr>
<tr>
<td>2013 II</td>
<td>6,670</td>
<td>75</td>
<td>$ 103.26</td>
</tr>
<tr>
<td>2013 III</td>
<td>4,936</td>
<td>77</td>
<td>$ 100.14</td>
</tr>
<tr>
<td>2013 IV</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
Figure 7. Monthly Weighted Average Slaughter Lambs (1-2s) Price at San Angelo, TX Auction.
Figure 8. Seasonal Price Index and Weighted Average Monthly, Good and Choice 1-2 Slaughter Lamb Price at San Angelo, TX Auction.
Figure 9. Monthly Weighted Average Price for Utility and Good Ewes at San Angelo, TX Auction.
FSA Disaster Programs

1. SURE
   Crop losses incurred before September 30, 2011

2. Livestock Indemnity Program (LIP)
   Livestock losses (deaths) before September 30, 2011

3. Livestock Forage Program (LFP)
   Grazing losses incurred before September 30, 2011

4. NAP – We should be familiar with this program by now.
Pasture Rainfall Forage (PRF), Indexed Rainfall Insurance

2013 and Succeeding Crop Years - Pasture, Rangeland, Forage Availability
PRF Usage: Caldwell County, TX
245,937 acres of Rangeland

• 2011
  – 28 contracts covering 13,118 acres (5.3%), 469 ac/pol
    • $455,522 insured value
    • $248,627 pd indemnities

• 2012
  – 41 contracts covering 28,931 acres (12%), 706 ac/pol
    • $1,128,731 insured value
    • $270,112 pd indemnities.

63% of policies at 90% coverage!
PRF Insurance – Caldwell Co.

• County Base per Acre:
  – Grazing Land = $16.15
  – Hay land= $223.26

• Coverage Level
  – 70% to 90% of indexed rainfall

• Productivity Factor
  – 60% to 150% (of County Base)
Caldwell County Grazing Land Example

When do you need the rain most?
What are your objectives?

Insure periods where precipitation is essential to forage production
Spread coverage over entire year
Maximize returns – Analysis of deviation of each two month interval

• There are eleven 2-month intervals to allocate coverage as a percentage
• Must chose at least two;
  – At least 10% in selected interval,
  – Not more than 50% in any interval
Eleven 2 Month Intervals

1 Jan/Feb
2 Feb/Mar
3 Mar/Apr
4 Apr/May
5 May/Jun
6 Jun/Jul
7 Jul/Aug
8 Aug/Sep
9 Sep/Oct
10 Oct/Nov
11 Nov/Dec
http://agforceusa.com/rma/ri/prf/maps
Notice:
The year selected has not been completed. Policy total indemnities are provided as a courtesy, but indemnity values from intervals where such information is not available have not been included in the calculation of the totals.

Please Select a Location:
- State: Texas
- County: Caldwell
- Grid: 11830

Protection Information
- Intended Use: Grazing
- Coverage Level (%): 90
- Productivity Factor (%): 127
- Insurability Interest (%): 100
- Insured Acres: 640
- Sample Year: 2013

Table
- Percent of Value (%): 16, N/A, 17, N/A, 17, N/A, 17, N/A, 16
- Policy Protection per Unit: $1,890, $0, $2,008, $2,008, $2,008, $2,008, $2,008, $2,008, $1,890
- Total Premium: $399, $0, $427, $0, $388, $0, $501, $0, $429
- Premium Subsidy: $198, $0, $217, $0, $187, $0, $255, $0, $218
- Producers Premium: $191, $0, $210, $0, $181, $0, $246, $0, $211
- Actual Index Value: 89.9, 27.7, 59.4, 58.6, 41.0, N/A, N/A, N/A, 41.0
- Indemnity: $65, $0, $683, $0, $1,093, N/A, N/A, N/A, $1,093

Graph
- Type: Index Values
- Estimated Indemnities
- Range: Start 2009, End 2013

- County Base Value: $16.15
- Dollar Amount of Protection: $18.46
- Total Insured Acres: 640
- Total Policy Protection: $11,812
- Subsidy Level: 51%
- Maximum Percent of Value per Index Interval: 50.0%
Historical Per Acre Net Returns

Caldwell County Grid: 11830 Coverage Level: 90% Productivity Factor: 127%

Positive returns 71%
Average Indemnity $3.52
PRF Insurance – Lampasas Co.

• At 75% coverage and 129% protection
  – For every $1 of premium paid, $1.76 was returned over a 28 year period (1985-2012).

• A significant disaster program! (but still not perfect)
Historical Per Acre Net Returns

Caldwell County Grid: 11830 Coverage Level: 90% Productivity Factor: 127%

Positive returns 71%
Average Indemnity $3.52
Historical Per Acre Net Returns

Caldwell County Grid: 11830 Coverage Level: 90% Productivity Factor: 127%

Positive returns 71%
Average Indemnity $ 3.52
2011 Analysis as a Disaster Program

• 2011 net returns were $7.72/Ac.
  
  $7.72 per acre
  
  X 20 acres per A.U.
  
  $154.40/AU for supplemental feed purchases.
The U.S. Drought Monitor is produced in partnership between the National Drought Mitigation Center at the University of Nebraska-Lincoln, the United States Department of Agriculture, and the National Oceanic and Atmospheric Administration.
U.S. Seasonal Drought Outlook
Drought Tendency During the Valid Period
Valid for August 15 - November 30, 2013
Released August 15, 2013

KEY:
- Drought persists or intensifies
- Drought remains but improves
- Drought removal likely
- Drought development likely

Author: Brad Pugh, Climate Prediction Center, NOAA

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance. Use caution for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor.

NOTE: The Green and Brown hatched areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period although drought will remain. The Green areas imply drought removal by the end of the period (D0 or none).
Now What?

• Contact a local crop insurance vendor.
  – These guys have picked this product up and have done an impressive job of mastering the program.
  • Contact me if you don’t have a continuing relationship with a crop insurance vendor.
Questions?

• Thank You
Give me a call or an email

Bill Thompson
Texas A&M AgriLife Extension Economist
San Angelo, TX
325-653-4576
w-thompson@tamu.edu