Changes to Crop Insurance

Keith Coble
Crop Insurance had grown by five-fold
--- apparently supplanted Ad hoc programs
--- Insured price risk
--- Insured area yield and revenue
Current Rice Coverage Levels

2013 Rice Average Coverage Level

Avg_cover_level  |  50–65  |  65–70  |  70–75  |  75–85
Current Corn Coverage Levels

2013 Corn Average Coverage Level

Avg_cover_level  50–65  65–70  70–75  75–85
Current Soybean Coverage Levels

2013 Soybean Average Coverage Level

Avg_cover_level  |  50–65  |  65–70  |  70–75  |  75–85  

[Map of the United States showing varying soybean coverage levels across different regions.]
Current Wheat Coverage Levels

2013 Producer Paid Premium Per Acre

Wheat
Title XI Crop Insurance

- Creates two new shallow loss county triggered programs
  - Supplemental Coverage Option (SCO)
  - Stacked Income Protection Program (STAX) for cotton
- Conservation Compliance for crop insurance
Agricultural Act of 2014 Budget Implications (Total Savings of $23,008 million)

- $14,307 Commodity Programs
- $6,400 Sequester
- $3,967 Conservation
- $8,000 Nutrition
- $694 Horticulture
- $879 Energy
- $1,145 Research & Extension
- $228 Rural Development
- $0 Credit
- $10 Forestry
- $5,722 Crop Insurance
- $953 Miscellaneous

Change in Baseline Funding (Millions)
Title XI Crop Insurance

- Traditional crop insurance changes
  - Enterprise units by dryland/irrigated practice
  - Separate coverage level by practice
  - Beginning farmers (provides 10 percentage point discount for all crop insurance premiums)
  - Authority to do peanut revenue insurance
  - Establishes fund to combat crop insurance fraud
  - Crop margin coverage & peanut revenue coverage
Title XI Crop Insurance

– Adjustment in APH insurable yields
  • Producer may opt to exclude any year from APH if yield in county in that year is less than 50% of ten-year county average; Also applies to contiguous counties and allows for the separation of irrigated and non-irrigated acres

– Studies or policies are also required on insuring:
  • Specialty crop producers for food safety and contamination-related losses,
  • Swine producers for a catastrophic disease event,
  • Producers of catfish against reduction in the margin between the market prices and production costs,
  • Commercial poultry production against business disruptions caused by integrator bankruptcy,
  • Poultry producers for a catastrophic event,
  • Producers of biomass sorghum or sweet sorghum grown as feedstock for renewable energy,
  • Alfalfa crop insurance.
  • Whole farm diversified risk management insurance plan
Supplemental Coverage Option (SCO)

- RMA delivered beginning in 2015.
- 65% premium subsidy.
- No payment limit.
- Top coverage of 86% coverage
- County-level optional endorsement for crop insurance policies.
  - “Tops up” crop insurance to cover deductible.
  - Yield or revenue triggered depending on underlying crop insurance policy.
  - Expected county yield = GRP trend yield. Expected revenue = GRP trend yield x crop insurance base price.
  - Actual county yield = County yield. Actual revenue = county yield x crop insurance harvest price.
  - Coverage ceases at coverage level for underlying insurance policy.

- May purchase STAX and SCO, but not on same acres.
- Must purchase underlying insurance policy
Example of SCO with underlying RP insurance

Payment per Acre

\[
= \left( \frac{(86\% - \text{county revenue \% of expected})}{86\% - \text{Crop Insurance Coverage level}} \right) \times \text{Liability per Acre}
\]

\[
= \left( \frac{(86\% - 78\%)}{86\% - 70\%} \right) \times \text{Liability per Acre} = \left( \frac{(8\%)}{16\%} \right) \times \text{Liability per Acre}
\]

Note: the term in the bracket is bounded between 0 and 1.

where

\[
\text{Liability per Acre} = \]
\[
\text{Farm APH yield} \times \max(\text{Planting time Price, Harvest Price}) \times (86\% - \text{CI Coverage Level\%}).
\]
<table>
<thead>
<tr>
<th>Row</th>
<th>Calculation/value</th>
<th>1</th>
<th>2</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Projected price (1/15-2/14 average for Dec corn contract)</td>
<td>$3.92</td>
<td>$3.92</td>
<td>$3.92</td>
<td>$3.92</td>
</tr>
<tr>
<td>2</td>
<td>APH yield</td>
<td>160</td>
<td>160</td>
<td>160</td>
<td>160</td>
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<tr>
<td>3</td>
<td>Crop insurance coverage level</td>
<td>70%</td>
<td>70%</td>
<td>70%</td>
<td>70%</td>
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<tr>
<td>4</td>
<td>Expected farm revenue (Row 1 x Row 2)</td>
<td>$627.20</td>
<td>$627.20</td>
<td>$627.20</td>
<td>$627.20</td>
</tr>
<tr>
<td>5</td>
<td>SCO coverage (86% – Row 3) x Row 4</td>
<td>$100.35</td>
<td>$100.35</td>
<td>$100.35</td>
<td>$100.35</td>
</tr>
<tr>
<td>6</td>
<td>Expected area-wide yield (bu.) per planted acre (higher of trend yield or 5-year moving average)</td>
<td>140.0</td>
<td>140.0</td>
<td>140.0</td>
<td>140.0</td>
</tr>
<tr>
<td>7</td>
<td>Area-wide projected income (Row 1 x Row 6)</td>
<td>$548.80</td>
<td>$548.80</td>
<td>$548.80</td>
<td>$548.80</td>
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<tr>
<td>8</td>
<td>SCO coverage level</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
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<tr>
<td>9</td>
<td>November average of December corn futures price</td>
<td>$3.40</td>
<td>$3.40</td>
<td>$3.40</td>
<td>$3.40</td>
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<tr>
<td>10</td>
<td>Actual area-wide yield per planted acre (bu.)</td>
<td>140.0</td>
<td>130.0</td>
<td>110.0</td>
<td>100.0</td>
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<tr>
<td>11</td>
<td>Area-wide realized income (Row 9 x Row 10)</td>
<td>$476.00</td>
<td>$442.00</td>
<td>$374.00</td>
<td>$340.00</td>
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<tr>
<td>12</td>
<td>Revenue ÷ expected revenue (Row 11 ÷ Row 7)</td>
<td>87%</td>
<td>81%</td>
<td>68%</td>
<td>62%</td>
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<tr>
<td>13</td>
<td>Percent shortfall as a percent of deductible % [Row 13 ÷ (Row 8 – Row 3) Bounded at 100%]</td>
<td>0%</td>
<td>34%</td>
<td>100%</td>
<td>100%</td>
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<tr>
<td>14</td>
<td>Indemnity (Row 5 x Row 14)</td>
<td>$0.00</td>
<td>$34.25</td>
<td>$100.35</td>
<td>$100.35</td>
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</tbody>
</table>
## Crop Insurance Choices

<table>
<thead>
<tr>
<th>Coverage Level</th>
<th>Basic &amp; Optional Subsidy %</th>
<th>Enterprise Unit Subsidy %</th>
<th>SCO Subsidy</th>
<th>STAX Subsidy %</th>
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</thead>
<tbody>
<tr>
<td>50%</td>
<td>67%</td>
<td>80%</td>
<td>65%</td>
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<td>55%</td>
<td>64%</td>
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<td>60%</td>
<td>64%</td>
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<td>75%</td>
<td>55%</td>
<td>77%</td>
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<td>80%</td>
<td>48%</td>
<td>68%</td>
<td>65%</td>
<td>80%</td>
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<tr>
<td>85%</td>
<td>38%</td>
<td>53%</td>
<td>65%</td>
<td>80%</td>
</tr>
</tbody>
</table>
Area Products – SCO & STAX
- a shallow loss version of area insurance

Example County Yield Trend

- Actual Yield
From the history one must predict expected yield two years out.
Now for the hard part- Using Historic Deviations from trend to assess the odds of deviation from trend next year

Example County Yield Trend

What will the weather of 1976 for do to yields today?
Now for the hard part- Using historic deviations from trend to assess the odds of deviation from trend next year
Many counties lack long series
- How to augment rating short series?
- How to accommodate missing series?
Final thoughts

• Crop risk management portfolio
  – Commodity programs
  – Crop Insurance
  – Input cost
  – Finances

• Learn about crop insurance
  – Ask about enterprise units and SCO
Questions

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