Crop Insurance Options, Updates, and Strategies for 2010

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GOALS TODAY

• Provide a basic overview of crop insurance alternatives for major crops in NC
• Provide a brief description of how some of these insurance alternatives work
• Present updates and some strategies to consider in light of the new Farm Bill

Introduction

• Crop insurance is one of the most important tool for managing risk in U.S. agriculture
• USDA-Risk Management Agency (RMA) introduced a number of different insurance products over the years
• In the future, one “Combo” product with options (revenue vs. yield)
Introduction

• Why is the choice of crop insurance product important?
• Each producer face different kinds/levels of risk depending on their own situation
• Not properly addressing production risks has financial consequences
  – Affects your bottomline

Introduction

• Profit = (output price x output) – (input price x input)
  Price Risk
  Production Risk

• Negative risks affect ability to:
  – Pay bills
  – Meet farm business goals
  – Maintain lifestyle

Introduction

• Crop insurance is one strategy to manage production and/or price risk
  – Yield-based and revenue-based plans
• Not costless – weigh premium (cost) with the expected risk reduction (benefits)
  – Assess your own situation
Introduction

- Need to find most appropriate crop insurance product(s) to properly address their own risk situation
- Information on the different products and how to evaluate them is valuable
- Information on related risk management policies from Farm Bill is important as well (they are related now!)

Crop Insurance Alternatives

- **Farm level Products**
  - Actual Production History (APH)
    - Catastrophic Coverage (CAT)
  - Crop Revenue Coverage (CRC)
  - Revenue Assurance (RA-BP/HP)
  - Indexed Income Protection (IIP)
  - Adjusted Gross Revenue – Lite (AGR-Lite)
- **County level Products**
  - Group Risk Plan (GRP)
  - Group Risk Income Plan (GRIP BP/HP)

Crop Insurance Alternatives

- **Farm level Products**
  - Yield-based Insurance
    - APH
  - Revenue-based Insurance
    - Without guarantee increase
      - RA-BP (base price option) and IIP
    - With guarantee increase
      - RA-HP (harvest price option) and CRC
    - Multi-crop – AGR-Lite
Crop Insurance Alternatives

- County level Products
  - County Yield-based
    - GRP
  - County Revenue-based
    - GRP-BP option
    - GRP-HP option

Crop Insurance Alternatives

- For Revenue-based Products (not AGR-lite):
  - Base Price – price before planting (i.e. corn BP for CRC is Feb. ave. closing price for CBOT Dec. futures contract CRC)
  - Harvest Price – price at harvest (i.e. corn HP for CRC is Oct. ave. closing price for CBOT Dec futures contract for RA)

Crop Insurance Alternatives

- For Revenue-based Products:
  - Products with guarantee increase allows revenue guarantee to be calculated using HP if HP > BP
  - Actual price received by producers NOT used in calculating your actual revenue
Livestock Insurance Options

- Livestock Risk Protection (LRP)
  - Feeder Cattle
  - Fed Cattle
  - Swine
- Designed to insure against declining prices
  - Available at different coverage levels and insurance periods

Crop Insurance Alternatives

- Corn - APH, CRC, RA, IIP, GRP, GRIP
- Soybeans - APH, CRC, RA, IIP, GRP, GRIP
- Wheat – APH, CRC, GRP, GRIP
- Cotton – APH, CRC, GRP, GRIP
- Tobacco – APH
- Livestock – LRP, AGR-Lite
- Vegetables (some) – APH, AGR-Lite

How Does It Work? APH Policy

- Insures farm-level yields
- Yield coverage – 50% to 85% of APH yield
- Price coverage – 60-100% of RMA price
- Unit coverage – Basic and Optional units
- Premiums – depends on county, unit, APH yield, yield and price coverage
How Does It Work? APH Example

• APH Yield Guarantee:

<table>
<thead>
<tr>
<th>Approved APH Yield</th>
<th>140 bu/ac</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coverage Level</td>
<td>70%</td>
</tr>
<tr>
<td>Yield Guarantee</td>
<td>98 bu/ac</td>
</tr>
</tbody>
</table>

Yield Guarantee: 
(140 bu/ac × 0.7)

How Does It Work? APH Example

• APH Indemnity Payment

<table>
<thead>
<tr>
<th>Yield Guarantee</th>
<th>98 bu/ac</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price Election (100%)</td>
<td>$4.00/bu</td>
</tr>
<tr>
<td>Actual Yield</td>
<td>88 bu/ac (88 &lt; 98)</td>
</tr>
<tr>
<td>Indemnity*</td>
<td>$40/ac</td>
</tr>
</tbody>
</table>

* (98 - 88) × $2 = $40

How Does It Work? RA-BP and IIP

• Insures farm-level revenue
• Rev. coverage – 50% to 85% (IIP up to 75%)
• Price coverage – Base Price
• Unit coverage – Basic, optional, enterprise, whole farm units; IIP – enterprise
• Premiums – depends on county, unit, APH yield, coverage level
How Does It Work? RA-BP/IIP Example

• Revenue Guarantee:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Approved APH Yield</td>
<td>140 bu/ac</td>
</tr>
<tr>
<td>Coverage Level</td>
<td>70%</td>
</tr>
<tr>
<td>Base Price</td>
<td>$4.00</td>
</tr>
<tr>
<td>Revenue Guarantee</td>
<td>$392</td>
</tr>
</tbody>
</table>

Revenue Guarantee = (140 x 4.00 x 0.7)

Note: IIP is indexed to county yield and may be lower or higher than actual APH yield. But same payment principle as in the example.

How Does It Work? RA-BP/IIP Example

• RA-BP/IIP Indemnity Payment

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue Guarantee</td>
<td>$392</td>
</tr>
<tr>
<td>Harvest Price</td>
<td>$3.90/bu (HP &lt; BP)**</td>
</tr>
<tr>
<td>Actual Yield</td>
<td>88 bu/ac</td>
</tr>
<tr>
<td>Actual Revenue</td>
<td>343.20</td>
</tr>
<tr>
<td>Indemnity*</td>
<td>$48.80/ac</td>
</tr>
</tbody>
</table>

*($392 - 343.20) = $48.80

**If HP = 4.50 (HP-BP), No indemnity! Actual revenue (4.5 x 88 = 396) > revenue guarantee ($392)

How Does It Work? RA-HP & CRC

• Insures farm-level revenue
• Rev. coverage – 50% to 85%
• Price coverage – BP or HP (Allows guarantee to increase if HP > BP at harvest)
• Unit coverage – Basic, optional, enterprise; in RA-HP – plus whole farm
• Premiums – depends on county, unit, APH yield, coverage level

packpromise
How Does It Work? RA-HP/CRC Example:

- Revenue Guarantee:
  - Approved APH Yield: 140 bu/ac
  - Coverage Level: 70%
  - Base Price: $4.00
  - Revenue Guarantee*: $392
    \[ (140 \times 4.00 \times 0.7) \]

  *If HP > BP, then use HP to calculate revenue guarantee. If HP = 4.50, revenue guarantee = 441

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How Does It Work? RA-HP/CRC Example

- RA-HP/CRC Indemnity Payment (Case 1)
  - Revenue Guarantee: $392
  - Harvest Price: $3.90/bu (HP < BP)**
  - Actual Yield: 88 bu/ac
  - Actual Revenue: 343.20 (88 x 3.90)
  - Indemnity*: $48.80/ac

  *\((392 - 343.20) = 48.80\)

  **If HP < BP, then payment with RA-HP/CRC same as RA-BP/IIP

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How Does It Work? RA-HP/CRC Example

- RA-HP/CRC Indemnity Payment (Case 2)
  - Revenue Guarantee: $392** ($441 with HPO)
  - Harvest Price: $4.50/bu (HP > BP)**
  - Actual Yield: 88 bu/ac
  - Actual Revenue: 396 (88 x 4.50)
  - Indemnity*: $45/ac

  *\((441 - 396) = 45\)

  **Since HP > BP, then recalculate revenue guarantee = 441 (140 x 4.50 x 0.7). In RA-BP/IIP, no indemnity ($396 > $392).
How Does It Work? AGR-Lite

- Whole-farm revenue protection plan
  - Insures adjusted gross revenue of whole farm (multiple crops/livestock) rather than individual crops
- Most farm-raised crops, animals, and animal products covered
- Can stand alone or with other insurance plans (APH)
  - Get discount if combined with APH

How Does It Work? AGR-Lite

- Uses producer’s 5-year historical farm average revenue as reported on IRS tax form (Schedule F) and annual farm report
- Have liability limits and other eligibility requirements
  - Lots of paperwork!
  - Mar. 17 – Sales Closing Date

How Does It Work? GRP

- Based on county-level yields
  - Can have low individual yield and not get a payment
- Coverage level – 70% to 90%
- Protection level – % of $ max. value set by RMA for the county (60% to 150%)
- GRP premiums depend on county, coverage and protection level
How Does It Work? GRP Example

• GRP Guarantee:

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expected County Yield</td>
<td>140 bu/ac</td>
</tr>
<tr>
<td>Coverage Level</td>
<td>70%</td>
</tr>
<tr>
<td>County Yield Guarantee</td>
<td>98 bu/ac</td>
</tr>
<tr>
<td>(140 bu/ac x 0.7)</td>
<td></td>
</tr>
</tbody>
</table>

• GRP Indemnity Payment

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>County Yield Guarantee</td>
<td>98 bu/ac</td>
</tr>
<tr>
<td>Protection level (100%)</td>
<td>$572.4</td>
</tr>
</tbody>
</table>

*$572.40 is set by RMA for the county

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual County Yield</td>
<td>88 bu/ac</td>
</tr>
<tr>
<td>Indemnity**</td>
<td>$26.12/ac</td>
</tr>
</tbody>
</table>

**($572.40 x [(98 - 88) / 98]) = $58.41
(protection level x percent shortfall)

Notes on GRP Payments:
- Dependent on county yield reported by NASS
- Released in March of the year following harvest – thus payments will take longer to receive
- Less paperwork – no yield reports (only acreage reports) and no unit structures to worry about
How Does It Work? GRIP

• Based on county-level revenues
  – Can have low individual revenue and not get a payment
  – Use “base” price and “harvest” price
• Coverage level – 70% to 90%
• Protection level – % of $ max. value set by RMA for the county (60% to 150%)
• GRP premiums depend on county, coverage and protection level

How Does It Work? GRIP

• Notes on GRIP Payments:
  – Have “harvest” price option (to increase guarantee if HP > BP)
  – BP and HP used in calculations, NOT based on actual prices received by producers
    • Set by RMA based on CBOT prices
  – Also rely on NASS county estimates, thus payments can take awhile

How Does It Work? Premium Costs Across Products

• Group products are typically less expensive than others
• Revenue products with HP options are typically more expensive
• APH product and revenue products without HP option somewhere in the middle
How Does it Work? Premium Cost Example

- Corn in Guilford County, NC (2009), non-irrigated, optional unit, 140 bu/ac APH, 70% Coverage Level

<table>
<thead>
<tr>
<th>Product</th>
<th>Est. Premium ($/ac)</th>
</tr>
</thead>
<tbody>
<tr>
<td>APH</td>
<td>16.00</td>
</tr>
<tr>
<td>CBC</td>
<td>40.00</td>
</tr>
<tr>
<td>RA-HP</td>
<td>32.00</td>
</tr>
<tr>
<td>RA-BP</td>
<td>26.00</td>
</tr>
<tr>
<td>HMP</td>
<td>18.00</td>
</tr>
<tr>
<td>GRF</td>
<td>9.00</td>
</tr>
<tr>
<td>GRIP</td>
<td>18.00</td>
</tr>
</tbody>
</table>

Additional Considerations from the New Farm Bill

- New Farm Bill added more complexity to crop insurance and risk management decisions
- Consider:
  - ACRE (Average Crop Revenue Election)
  - SURE (Supplemental Revenue Disaster Assistance Program)
  - Enterprise Unit Subsidies
Additional Considerations from the New Farm Bill

- ACRE – revenue-based program as alternative to counter-cyclical payments
  - Also give up 20% of direct payments
  - State-level and farm-level triggers
- SURE – revenue-based disaster assistance program
  - Tied to crop insurance coverage levels
- Both programs “overlap” with revenue insurance policies

### Additional Considerations from the New Farm Bill

<table>
<thead>
<tr>
<th>Coverage levels</th>
<th>Subsidy Before</th>
<th>Subsidy Now</th>
</tr>
</thead>
<tbody>
<tr>
<td>50%</td>
<td>0.67</td>
<td>0.80</td>
</tr>
<tr>
<td>55%</td>
<td>0.64</td>
<td>0.80</td>
</tr>
<tr>
<td>60%</td>
<td>0.64</td>
<td>0.80</td>
</tr>
<tr>
<td>65%</td>
<td>0.59</td>
<td>0.80</td>
</tr>
<tr>
<td>70%</td>
<td>0.59</td>
<td>0.80</td>
</tr>
<tr>
<td>75%</td>
<td>0.55</td>
<td>0.77</td>
</tr>
<tr>
<td>80%</td>
<td>0.48</td>
<td>0.68</td>
</tr>
<tr>
<td>85%</td>
<td>0.38</td>
<td>0.53</td>
</tr>
</tbody>
</table>
Strategies and Recommendations

• Issues to keep in mind when choosing the right crop insurance product for you:
  – Year-to-year yield variability
  – Cash flow requirements
  – Cash Reserves
  – Subsidized premium

<table>
<thead>
<tr>
<th>Coverage Level</th>
<th>50</th>
<th>55</th>
<th>60</th>
<th>65</th>
<th>70</th>
<th>75</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premium subsidy</td>
<td>80</td>
<td>85</td>
<td>90</td>
<td>95</td>
<td>100</td>
<td>105</td>
</tr>
<tr>
<td>Your Premium Share</td>
<td>33</td>
<td>36</td>
<td>39</td>
<td>41</td>
<td>41</td>
<td>46</td>
</tr>
</tbody>
</table>

Strategies and Recommendations

• Evaluate the different products based on the “Risk-Return” Framework
• Returns (over time):
  – Which product gives the highest net payments (net of premiums)?
  – Which product pays out more often?
  – Which product has the lowest premiums?

Strategies and Recommendations

• Risks (over time):
  – How do the different products change the likelihood of a profit shortfall?
  – What is the probability of receiving below breakeven revenues for the different products?
• After using Risk-Return framework, look at policy details and consider the following product-specific recommendations
Strategies and Recommendations

• APH Policy
  - Only protects yield losses, need to protect price declines with hedging/forward contracts or counter-cyclical payments, ACRE, SURE
  - Use as much optional units as you can (more flexible); But now consider enterprise units given large subsidies
  - Consider getting at least CAT
    • For producers with fairly stable production

Strategies and Recommendations

• RA-BP and IIP
  - Provides yield and price protection
  - May not be for aggressive users of forward contracts (can eliminate risk protection from insurance)
  - Not advisable in a volatile market (with a high chance of price upswings)
  - Consider interaction with SURE and ACRE

Strategies and Recommendations

• RA-HP and CRC
  - Provides yield and price protection
  - For aggressive users of forward contracts or futures (HP option tempers hedging losses)
  - Better suited for a volatile market (with a high chance of price upswings)
  - Typically more expensive (lowers returns but provides good risk protection)
  - Consider interaction with SURE and ACRE
Strategies and Recommendations

* GRP and GRIP
  - County-level yield/revenue protection
  - Good for farms that track county yields fairly well (i.e. no farm yields significantly below county in the past, no high risk ground)
  - Less expensive but payments come later
  - For producers in a strong financial position (one bad hit won’t terminate business)
  - Combine with hail/fire insurance for indiv. Coverage
  - Overlap with ACRE?

Strategies and Recommendations

* AGR-Lite
  - Revenue protection for multiple crops
  - For diverse operations
  - For producers with good records
  - For producers that can sell crop at prices higher than price elections/BP/HP

Strategies and Recommendations

* Contact your insurance agent for more details about the policies
* Effectively communicate your risk management goals to your agent!
Additional resources

- USDA-RMA Website (http://www.rma.usda.gov)
  - Fact Sheets; Premium Calculators
  - Official Announcements
- USDA-RMA Raleigh Regional Office
  - Information pertaining to North Carolina
- NC State Crop Insurance Website
  - Go to the NCSU Ag. and Resource Econ. Extension website: http://www.ag-econ.ncsu.edu/extension.htm
  - I will put my presentations & extension materials here

More Questions?

- Contact me:
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  - Email: rod_rejesus@ncsu.edu