The Crop Producer’s Risk Management Decisions

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Corn Harvest Prices Projected on March 1

Probability

$/acre
“Time” in the Corn Market

Corn
Time Adjustment vs Approximate Date

Time Remaining Until Option Expires (in Years)

Time Adjustment
Actual Time Remaining

Time Adjustment vs Approximate Date
Monthly Iowa Corn Price Declines, 1979-80 Through 1999-00 Marketing years

Percent of time Prices Declined
Distribution of Harvested Yields on March 1
Revenue with Revenue Insurance

Probability

$/acre

0 40 80 120 160 200 240 280 320 360 400 440 480 520 560 600
Revenue with RA-HPO and Price Hedge

![Probability vs. $/acre graph]

- Probability on the y-axis
- $/acre on the x-axis
Iowa Corn and Soybeans Crop Insurance Decision in 2003

<table>
<thead>
<tr>
<th>Product</th>
<th>Acres Insured</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual Production History</td>
<td>6,525,920</td>
</tr>
<tr>
<td>Crop Revenue Coverage</td>
<td>1,725,168</td>
</tr>
<tr>
<td>Group Risk Income Protection</td>
<td>22,502</td>
</tr>
<tr>
<td>Group Risk Plan</td>
<td>283,791</td>
</tr>
<tr>
<td>Income Protection</td>
<td>6,959</td>
</tr>
<tr>
<td>Revenue Assurance</td>
<td>11,331,780</td>
</tr>
<tr>
<td>Total Insured Acres</td>
<td>19,896,119</td>
</tr>
<tr>
<td>Total Planted Acres</td>
<td>22,800,000</td>
</tr>
</tbody>
</table>
Government Programs

• Four primary forms of government support
  – LDP: Price guarantee on all harvested bushels (Iowa corn at about $1.90 per bushel)
  – CCP: Price guarantee on a fixed number of bushels for prices between $1.90 and $2.24 per bushel.
  – DP: Guaranteed payment of about $30 per acre ($0.19 per bushel)
  – Crop insurance: pays off when yield or revenue is low
Net Farm Income and Government Payments

Calendar Year

Billion Dollars

Net Farm Income

Government Payments

1993 1995 1997 1999 2001 2003 2005 2007 2009 2011

Net Farm Income: Yellow Squares
Government Payments: Red Diamonds
Structure of Payments for Corn

Target Price
- Fixed Payment
- Counter-Cyclical Payment

Loan Rate
- Loan Deficiency Payment

Regardless Of Market
Only If...
- $2.60
- $0.28
- $2.32
- $1.98

Not Tied To Prod
Prod Req.
Purpose of Farm Programs

• Commodity programs (DP, LDP, CCP)
  ❖ support aggregate income of sector

• Crop Insurance
  ❖ support farmers’ individual incomes
Revenue with LDP, CCP, and DP

Probability

$/acre
Revenue with Revenue Insurance and Government Payments

Probability

$/acre

0 40 80 120 160 200 240 280 320 360 400 440 480 520 560 600
Distribution of Revenue without Government Payments

Probability Distribution of Revenue without Government Payments

$/acre

Probability

$/acre
Change in Risk from Crop Insurance and Government Payments

Probability

$/acre
Is the “Farm Problem” Fixed?

• Farmers have raised their expectation of revenue
• Investment decisions and land rental agreements will reflect higher profitability
• What happens when revenue is less than projected?