Status of the 2007 Farm Bill and the Bio-Economy

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Williamsburg, Iowa
Farm Bill Progress

• The House has passed its version (7/27/2007, Vote 231-191)
• The Senate Agriculture Committee has passed its version (10/25/2007), but the full Senate has not finished debate on it
• Leaders are still pushing to pass the farm bill this year
• Both proposed farm bills face veto threats
Let’s Start with the House Version

• Continues direct payment, counter-cyclical payment, and marketing loan programs
• Rebalances target prices and loan rates
• Opens up an optional revenue-based counter-cyclical program
• Modifies payments limits for commodity programs
• Extends the Milk Income Loss Contract Program until 2012
# House Target Price Changes

<table>
<thead>
<tr>
<th>Crop</th>
<th>Unit</th>
<th>Current TP</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn</td>
<td>$/bu.</td>
<td>2.63</td>
<td>0.00</td>
</tr>
<tr>
<td>Soybeans</td>
<td>$/bu.</td>
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<td>0.30</td>
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<tr>
<td>Barley</td>
<td>$/bu.</td>
<td>2.24</td>
<td>0.49</td>
</tr>
<tr>
<td>Wheat</td>
<td>$/bu.</td>
<td>3.92</td>
<td>0.23</td>
</tr>
<tr>
<td>Oats</td>
<td>$/bu.</td>
<td>1.44</td>
<td>0.06</td>
</tr>
<tr>
<td>Cotton</td>
<td>$/lb.</td>
<td>0.724</td>
<td>-0.024</td>
</tr>
<tr>
<td>Minor Oilseeds</td>
<td>$/lb.</td>
<td>0.101</td>
<td>0.014</td>
</tr>
<tr>
<td>Crop</td>
<td>Unit</td>
<td>Current DP</td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>--------</td>
<td>------------</td>
<td></td>
</tr>
<tr>
<td>Corn</td>
<td>$/bu.</td>
<td>0.28</td>
<td></td>
</tr>
<tr>
<td>Soybeans</td>
<td>$/bu.</td>
<td>0.44</td>
<td></td>
</tr>
<tr>
<td>Wheat</td>
<td>$/bu.</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Sorghum</td>
<td>$/bu.</td>
<td>0.35</td>
<td></td>
</tr>
<tr>
<td>Cotton</td>
<td>$/lb.</td>
<td>0.0667</td>
<td></td>
</tr>
<tr>
<td>Rice</td>
<td>$/cwt.</td>
<td>2.35</td>
<td></td>
</tr>
<tr>
<td>Crop</td>
<td>Unit</td>
<td>Current LR</td>
<td>Change</td>
</tr>
<tr>
<td>------------------</td>
<td>------</td>
<td>------------</td>
<td>--------</td>
</tr>
<tr>
<td>Corn</td>
<td>$/bu.</td>
<td>1.95</td>
<td>0.00</td>
</tr>
<tr>
<td>Soybeans</td>
<td>$/bu.</td>
<td>5.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Wheat</td>
<td>$/bu.</td>
<td>2.74</td>
<td>0.19</td>
</tr>
<tr>
<td>Malt Barley</td>
<td>$/bu.</td>
<td>1.85</td>
<td>0.65</td>
</tr>
<tr>
<td>Feed Barley</td>
<td>$/bu.</td>
<td>1.85</td>
<td>0.05</td>
</tr>
<tr>
<td>Oats</td>
<td>$/bu.</td>
<td>1.33</td>
<td>0.13</td>
</tr>
<tr>
<td>Minor Oilseeds</td>
<td>$/lb.</td>
<td>0.093</td>
<td>0.014</td>
</tr>
</tbody>
</table>
Revenue Counter-Cyclical Option

• Gives producers a one-time option to choose between revenue- or price-based counter-cyclical payments

• Actual revenue = National average yield \times \text{Max(Season-average Price, Loan Rate)}

• Target revenue determined by Congress
## House Per Acre Target Revenues

<table>
<thead>
<tr>
<th>Crop</th>
<th>TR</th>
<th>Crop</th>
<th>TR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn</td>
<td>344.12</td>
<td>Wheat</td>
<td>149.92</td>
</tr>
<tr>
<td>Soybeans</td>
<td>231.87</td>
<td>Oats</td>
<td>92.10</td>
</tr>
<tr>
<td>Sorghum</td>
<td>131.28</td>
<td>Cotton</td>
<td>496.93</td>
</tr>
<tr>
<td>Barley</td>
<td>153.30</td>
<td>Rice</td>
<td>548.06</td>
</tr>
<tr>
<td>Minor Oilseeds</td>
<td>129.18</td>
<td>Peanuts</td>
<td>683.83</td>
</tr>
</tbody>
</table>
National Payment Rate

• \( \frac{\text{Target revenue per acre} - \text{Actual revenue per acre}}{\text{National payment yield}} \)

• Puts payment on a per yield unit basis

• Payments to producers are equal to \( \text{National payment rate} \times \text{Current CCP payment acres} \times \text{Current CCP payment yield} \)
### House National Payment Yields

<table>
<thead>
<tr>
<th>Crop</th>
<th>PY</th>
<th>Crop</th>
<th>PY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn</td>
<td>114.4 bu.</td>
<td>Wheat</td>
<td>36.1 bu.</td>
</tr>
<tr>
<td>Soybeans</td>
<td>34.1 bu.</td>
<td>Oats</td>
<td>49.8 bu.</td>
</tr>
<tr>
<td>Sorghum</td>
<td>58.2 bu.</td>
<td>Cotton</td>
<td>634 lb.</td>
</tr>
<tr>
<td>Barley</td>
<td>48.6 bu.</td>
<td>Rice</td>
<td>5,128 lb.</td>
</tr>
<tr>
<td>Minor Oilseeds</td>
<td>1,167.6 lb.</td>
<td>Peanuts</td>
<td>1.496 tons</td>
</tr>
</tbody>
</table>
Revenue Counter-cyclical Example

- National Average Yield = 150 bu./acre
- Season-Average Price = $2.10/bu.

- Actual Revenue = $315/acre
- Revenue CCP Payment Rate = $0.25/bu.
  
  \[
  \frac{344.12 - 315.00}{114.4}
  \]

- Current CCP Payment Rate = $0.25/bu.
But the Payments Will Differ

- National Average Yield = 145 bu./acre
- Season-Average Price = $2.10/bu.
- Revenue CCP Payment Rate = $0.35/bu.
- Current CCP Payment Rate = $0.25/bu.
But the Payments Will Differ

• National Average Yield = 155 bu./acre
• Season-Average Price = $2.10/bu.

• Revenue CCP Payment Rate = $0.16/bu.

• Current CCP Payment Rate = $0.25/bu.
Counter-cyclical Payout Regions
Marketing Loan Adjustments

• Separate loan rates for:
  – Long vs. short grain rice
  – Feed vs. malt barley

• Equalized county loan rates between corn and sorghum

• Changed definition of adjusted world price for cotton
Payment Limitations

- Eliminates the 3-entity rule
- Direct attribution
- AGI cap of $1 million (3-year average)
- If AGI > $500K, 2/3 of income from agriculture
- Direct payment cap = $60K
- Counter-cyclical payment cap = $65K
- Marketing loan payment cap eliminated
Other Provisions in Commodity Title

- No payments under $25
- Extends MILC and sugar programs
- Mandates use of surplus sugar for ethanol
  - Surplus = Imports – U.S. food demand
- Pilot program in Indiana: allowing tomatoes on base acreage (payment base temporarily reduced)
Conservation Title

• Expand EQIP ($1.9 billion over 5 years)

• Prohibit additional CSP signups until 2012

• Change CSP structure (no more tiers)

• Extend CRP, WHIP, and WRP
Energy Title

- Renews Biobased products program
- Extends loan guarantees for biorefineries, along with many of the energy programs in the current farm bill
- Research money for alternative feedstocks
- Feasibility study of ethanol pipeline
- Creation of Biomass Inventory Report and Biomass Energy Reserve
• Drop crop insurance administrative and operating expense rate to a max of 21.6%
• Raise fee for catastrophic coverage to $200 per crop per county
• Target loss ratio moved from 1.075 to 1
• COOL by 2008 for red meats only
<table>
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<tr>
<th>Title</th>
<th>Change, 2008-12 ($ million)</th>
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<tbody>
<tr>
<td>Commodity</td>
<td>-973</td>
<td>Research</td>
<td>265</td>
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<tr>
<td>Conservation</td>
<td>2,792</td>
<td>Forestry</td>
<td>41</td>
</tr>
<tr>
<td>Trade</td>
<td>601</td>
<td>Energy</td>
<td>2,429</td>
</tr>
<tr>
<td>Nutrition</td>
<td>4,205</td>
<td>Hort. and Organic</td>
<td>548</td>
</tr>
<tr>
<td>Credit</td>
<td>-378</td>
<td>Misc. and Additional</td>
<td>-6,130</td>
</tr>
<tr>
<td>Rural Dev.</td>
<td>114</td>
<td>Total</td>
<td>3,514</td>
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Now on to the Senate Version

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<td>0.101</td>
<td>0.0264</td>
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<td>1.95</td>
<td>0.00</td>
</tr>
<tr>
<td>Soybeans</td>
<td>$/bu.</td>
<td>5.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Wheat</td>
<td>$/bu.</td>
<td>2.74</td>
<td>0.20</td>
</tr>
<tr>
<td>Barley</td>
<td>$/bu.</td>
<td>1.85</td>
<td>0.10</td>
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<td>0.093</td>
<td>0.0079</td>
</tr>
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Average Crop Revenue Option

• Gives producers a one-time option (over a three year window) to choose a revenue-based counter-cyclical payment program

• Producers choose between the current stable of programs or Average Crop Revenue (ACR) with a fixed payment ($15 per base acre for 100% of base) and recourse loans
ACR

• State-level revenue counter-cyclical program starting in 2010

• Expected state yield based on linear trend yield per planted acre for state (1980-2006)

• ACR state pre-planting price is the average of revenue insurance planting prices for current year and previous 2 years
ACR Structure

• Target Revenue = 90%*Expected State Yield*ACR State Pre-Planting Price

• Actual State Revenue = Actual State Yield per Planted Acre*Revenue Insurance Harvest Price

• Payment triggered when actual revenue is below target revenue
ACR Payments

- Payment Rate = 90% * (Target Revenue – Actual State Revenue) * Ratio of Producer Insurance Yield to Expected State Yield

- Payments made on 85% of base acres
### ACR Parameters for Iowa Corn

<table>
<thead>
<tr>
<th>Year</th>
<th>Trend Yield (bu/acre)</th>
<th>Year</th>
<th>Insurance Price ($/bu)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>162.8</td>
<td>2005</td>
<td>2.32</td>
</tr>
<tr>
<td>2008</td>
<td>165.2</td>
<td>2006</td>
<td>2.59</td>
</tr>
<tr>
<td>2009</td>
<td>167.6</td>
<td>2007</td>
<td>4.06</td>
</tr>
<tr>
<td>2010</td>
<td>170.0</td>
<td>Average</td>
<td>2.99</td>
</tr>
<tr>
<td>2011</td>
<td>172.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>174.8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For 2007, target revenue would be $438.09 per acre.
ACR Payout Region

ACR Harvest Price ($/bu.)

Yield per Planted Acre (bu./acre)
Marketing Loan Adjustments

• Separate loan rates for:
  – Long vs. medium grain rice

• Equalized county loan rates between corn and sorghum

• Changed definition of adjusted world price for cotton
Payment Limitations

- Direct attribution
- For 2009, AGI > $1 million, 2/3 of income from agriculture
- For 2010 and beyond, AGI > $750K, 2/3 of income from agriculture
- Direct payment cap = $40K
- Counter-cyclical payment cap = $60K
- Marketing loan payment cap eliminated
- No cap on ACR payments
Other Provisions in Commodity Title

• Changed title name to Producer Income Protection (PIP)
• Extends MILC and sugar programs
• Mandates use of surplus sugar for ethanol
  – Surplus = Imports – U.S. food demand
• Pilot program in Indiana: allowing tomatoes on base acreage (payment base temporary reduced)
Crop Insurance in PIP Title

- Reduced target loss ratio from 1.075 to 1
- Removes authority for Premium Reduction Plan
- Moves timing of producer-paid premiums (earlier) and insurance company reimbursements (later)
- Reduces administrative & operating expense reimbursement on area insurance plans
- Increases fees for catastrophic insurance and NAP
Conservation Title

- Rename and expand CSP (targeting nearly 80 million acres by 2017)
- Combining CSP and EQIP in the Comprehensive Stewardship Incentives Program (CSIP)
- Extend EQIP (no additional funds)
- Extend CRP, WHIP, and WRP
Energy Title

- Renews Biobased products program
- Extends loan guarantees for biorefineries, along with many of the energy programs in the current farm bill
- Research money for alternative feedstocks
- Feasibility study of ethanol pipeline
Livestock Title

• COOL by 2008 for beef, pork, lamb, goat meat, fish, agricultural commodities, peanuts, and macadamia nuts
<table>
<thead>
<tr>
<th>Title</th>
<th>Change, 2008-12 ($ million)</th>
<th>Title</th>
<th>Change, 2008-12 ($ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Producer Income Protection</td>
<td>-7,501</td>
<td>Research</td>
<td>-152</td>
</tr>
<tr>
<td>Conservation</td>
<td>4,424</td>
<td>Forestry</td>
<td>0</td>
</tr>
<tr>
<td>Trade</td>
<td>175</td>
<td>Energy</td>
<td>1,020</td>
</tr>
<tr>
<td>Nutrition</td>
<td>5,271</td>
<td>Livestock</td>
<td>1</td>
</tr>
<tr>
<td>Credit</td>
<td>-278</td>
<td>Misc.</td>
<td>-153</td>
</tr>
<tr>
<td>Rural Dev.</td>
<td>355</td>
<td>Total</td>
<td>3,163</td>
</tr>
</tbody>
</table>
Timing

- Right now, the farm bill is on the Senate floor
- Sides trying to reach agreement on the number and relevance of amendments
  - Nearly 100 amendments have been offered
- Sen. Reid may seek cloture to shorten time frame (would need 60 votes)
Timing

• Could leave little time for House-Senate conference to pass a farm bill this year (more likely, early next year)
• Harkin will chair conference committee
• With money outside of agriculture used for offsets, conference committee will need to include members from other committees (Finance, Ways and Means)
• Both House and Senate bills face veto threats
Ethanol Boom

Billion Gallons

Oil Prices as of 11/9/2007

$ per barrel

Dec. 2007
Dec. 2008
Dec. 2009
Dec. 2010
Dec. 2011
Dec. 2012
### Corn Prices as of 11/9/2007

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>$ per bushel</td>
<td>3.40</td>
<td>3.60</td>
<td>3.80</td>
<td>4.00</td>
</tr>
</tbody>
</table>

**Note:** Prices are in $ per bushel.

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**Graph:**
- **Y-axis:** $ per bushel
- The graph shows a significant increase in corn prices from Dec. 2007 to Dec. 2010.
Historical Ethanol Margins

$ per gallon


Ethanol Gross Margin
Net Cost of Corn
Cost of Nat. Gas
Projected Ethanol Margins
Cellulosic Ethanol

Earlier this year, the U.S. Department of Energy announced support for 6 pilot projects for cellulosic ethanol (up to $385 million in funding over 4 years)

Goal: to make cellulosic ethanol cost-competitive with gasoline by 2012
Pilot Plants

- Kansas (Abengoa Bioenergy Biomass)
  - 11.4 million gallons per year
  - Will use 700 tons of feedstock per day
  - Corn stover, wheat straw, sorghum stubble, switchgrass, etc.
  - Attached to corn-grain dry mill ethanol plant
Pilot Plants

• Florida (ALICO, Inc.)
  – 13.9 million gallons per year
  – Will use 770 tons of feedstock per day
  – Yard, wood, and vegetative waste and energycane
  – Plan to also produce electric power, hydrogen, and ammonia
Pilot Plants

• California (BlueFire Ethanol, Inc.)
  – 19 million gallons per year
  – Will use 700 tons of feedstock per day
  – Green and wood waste from landfills

• Idaho (Iogen Biorefinery Partners)
  – 18 million gallons per year
  – Will use 700 tons of feedstock per day
  – Wheat straw, corn stover, switchgrass, and rice straw
Pilot Plants

• Georgia (Range Fuels)
  – 40 million gallons per year
  – Will use 1,200 tons of feedstock per day
  – Wood residues and wood based energy crops
  – Also plan to produce 9 million gallons of methanol
Pilot Plants

• Iowa (POET)
  – 32 million gallons per year
  – Will use 842 tons of feedstock per day
  – Corn fiber, cobs, and stalks
  – In combination with an existing corn-based ethanol plant
  – Combined production: 125 million gallons per year