Food, Feed, and Fuel: How do we balance the three for optimal growth?

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What policies and investments are needed to ensure a balance between food, feed, and fuel production for optimal economic growth and sustainability in Iowa?
1st in Corn, 2.02 billion bushels (2006)
Tied for 1st in Soybeans, 502 million bushels (2006)
1st in Hogs, 16.4 million head (Dec. 1, 2005)
8th in Cattle, 3.8 million head (Jan. 1, 2006)
1st in Layers, 51.2 million (2005-06)
1st in Ethanol, 1.6 billion gallons of capacity
1st in Biodiesel, 107 million gallons of capacity
31.6 million acres of farmland
  25 million in crop production
    (23 million in corn and soybeans)
Iowa Ethanol Plants

Currently
25 plants
1.6 bill. gallons

Expansions
11 plants
0.8 bill. gallons

All proposed plants would raise production to 7 bill. gallons
Iowa Biodiesel Plants

Currently
8 plants
107 mill. gallons

Expansions
8 plants
235 mill. gallons

2006 biodiesel production in U.S.
200-250 mill. gallons
## Corn Utilization for 2005

<table>
<thead>
<tr>
<th></th>
<th>Feed</th>
<th>Food and Other</th>
<th>Trade</th>
<th></th>
<th>Feed</th>
<th>Food and Other</th>
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<tbody>
<tr>
<td></td>
<td>(thousand metric tons)</td>
<td>(thousand metric tons)</td>
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<td>(thousand metric tons)</td>
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<tr>
<td>World</td>
<td>469,538</td>
<td>218,258</td>
<td>75,098</td>
<td>India</td>
<td>6,100</td>
<td>7,300</td>
<td>100</td>
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<tr>
<td>U.S.</td>
<td>155,262</td>
<td>75,188</td>
<td>46,738</td>
<td>Indonesia</td>
<td>3,200</td>
<td>4,000</td>
<td>-550</td>
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<tr>
<td>Argentina</td>
<td>3,700</td>
<td>1,700</td>
<td>11,500</td>
<td>Japan</td>
<td>12,100</td>
<td>4,500</td>
<td>-16,500</td>
</tr>
<tr>
<td>Brazil</td>
<td>33,500</td>
<td>6,500</td>
<td>1,100</td>
<td>Mexico</td>
<td>12,900</td>
<td>15,500</td>
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<tr>
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<td>2,500</td>
<td>-1,350</td>
<td>South Africa</td>
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<td>4,700</td>
<td>800</td>
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<tr>
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<td>34,000</td>
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<td>Africa</td>
<td>3,750</td>
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<tr>
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<td>Asia</td>
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<tr>
<td>E.U.</td>
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<td>6,762</td>
<td>-910</td>
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Source: FAPRI, March 2006
Use of Iowa corn – 2005-2006

Source: Iowa Corn Growers Association
Integration of Agricultural Systems

Agriculture Energy Balance in a Nutrient Recycling System
Recycle Model

- Fossil energy
  - Fuel
  - Gas
- (Fertilizer)
- Solar
- Crops
  - Grain
  - Grain products
- Heat
- Livestock
- Exported
  - Ethanol
  - Livestock Prod
  - Products need to have energy available to animals

Exported energy is greater than imported fossil energy
- System requires less input of fossil energy
- Much of the economic activity stays in Iowa
- System is more ecologically sustainable
  - Greater diversification of crops

Source: Dr. Allen Trenkle, “Integration of Animal Agriculture with the Bioeconomy”, Presentation, August 28, 2006
Looking Beyond Corn and Soybeans

Current Iowa Policies and Incentives

- Ethanol Infrastructure Cost-Share Program
- Alternative Fuel Vehicle Grants
- Ethanol and Biodiesel Tax Credits
- Biofuels Infrastructure Grants
- Alternative Fuel Loan Program
- E85 Fuel Exclusivity Contract Regulations
- State Renewable Fuels Standard
- Alternative Fuel Vehicle Acquisition Requirements
- Alternative Fuel Use Policies
- Alternative Fuel Tax Rates
- Alternative Fuel Labeling Requirements