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Information to Action: Providing Management Recommendations to Agricultural Users Affected by Drought

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Information to Action:
Providing Management Recommendations to Agricultural Users affected by Drought

Bruce Erickson
Director of Cropping Systems Management

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Yields Up 40-50% or More in 30 Years

U.S. Corn Yield

U.S. Soybean Yield

U.S. All Cotton Yield

U.S. Rice Yields

DDAD Symposium 2011
New Corn & Bean Demand

- Soybean Acres to China
- Corn Acres to Ethanol (DDG Adjusted)

Million Acres

U.S. Harvest Year

2000 01 02 03 04 05 06 07 08 09 2010

DDAD Symposium 2011
Efficiency Has Increased
Fertilizer Use Has Leveled Off

http://www.ers.usda.gov/Data/FertilizerUse/
Soil Erosion Down Nearly Half

Agriculture is Doing More With Less Energy

http://www.usda.gov/oce/climate_change/AFGG_Inventory/5_AgriculturalEnergyUse.pdf
Fertilizer Prices

[Graph showing Illinois Retail Prices Paid: USDA Market News with different fertilizer types and their prices over time.]
Inflation Adjusted & Nominal Indiana Average Land Value

Value per acre

Nominal

Inflation Adj. (2010)
Indiana Seed Price Trends

Dollars Per Bu. Of Soybean or Per 80,000 Kernels of Corn

- Biotech Corn
- Biotech Soybean


## 2011 Purdue Crop Cost & Return Guide

### January 2011 Estimates

Both product prices and input prices may have significantly changed since these estimates were prepared.

### Table 1. Estimated per Acre Crop Budgets for Low, Average, and High Productivity Indiana Soils

<table>
<thead>
<tr>
<th></th>
<th>Low Productivity Soil</th>
<th>Average Productivity Soil</th>
<th>High Productivity Soil</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Expected yield per acre</strong></td>
<td>121</td>
<td>129</td>
<td>39</td>
</tr>
<tr>
<td><strong>Harvest price</strong></td>
<td>$5.54</td>
<td>$5.54</td>
<td>$13.12</td>
</tr>
<tr>
<td><strong>Market revenue</strong></td>
<td>$670</td>
<td>$715</td>
<td>$512</td>
</tr>
</tbody>
</table>

**Less variable costs**

<table>
<thead>
<tr>
<th></th>
<th>Low Productivity Soil</th>
<th>Average Productivity Soil</th>
<th>High Productivity Soil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fertilizer</td>
<td>$151</td>
<td>$162</td>
<td>$174</td>
</tr>
<tr>
<td>Seed</td>
<td>82</td>
<td>99</td>
<td>99</td>
</tr>
<tr>
<td>Pesticides</td>
<td>35</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td>Dryer fuel</td>
<td>26</td>
<td>33</td>
<td>39</td>
</tr>
<tr>
<td>Machinery fuel @ $3.10</td>
<td>23</td>
<td>23</td>
<td>23</td>
</tr>
<tr>
<td>Machinery repairs</td>
<td>14</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Hauling</td>
<td>11</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Interest</td>
<td>11</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>Insurance/misc.</td>
<td>24</td>
<td>23</td>
<td>23</td>
</tr>
<tr>
<td><strong>Total variable cost</strong></td>
<td>$377</td>
<td>$397</td>
<td>$415</td>
</tr>
<tr>
<td><strong>Contribution margin</strong></td>
<td>(Revenue - variable costs)</td>
<td>$293</td>
<td>$357</td>
</tr>
</tbody>
</table>

1. Estimated yields and costs are for yields with average management for three different soils representing low, average, and high productivity. The high productivity soils represent soils capable of producing corn and soybeans with yields about 20% higher than average soils. Low productivity soils represent soils capable of producing corn and soybeans with yields about 20% lower than the average soils.

2. These yields assume average weather conditions and timely plant/harvest date, except soybean double-crop yield, which is based on a July 1 planting date. Continuous corn, soybean, and wheat yields are a percent of rotation corn yield: continuous corn 94%; rotation soybeans 30%; rotation soybeans 48% on low productivity soil, 43% on average and high productivity soils; and double-crop soybeans 18%. Continuous corn yields assume a chisel plow tillage system. Double-crop soybean yields apply to central and southern Indiana. Rotation corn yields for average soils are based on the twenty-year trend in state average yields reported by the Indiana office of the National Agricultural Statistics Service.

3. Harvest corn price is December 2011 CME Group futures price less $0.35 basis. Harvest soybean price is November 2011 CME Group futures price less $0.40 basis. Harvest wheat price is July 2011 CME Group futures price less $0.80 basis. Harvest prices were based on closing prices on January 25, 2011. Wheat prices rose sharply this year because of lowered yield forecasts for the 2010 corn crop in the US. These prices will change.
Sources of Risk—TFCW Surveys

Crop Prices  | Crop Yields  | Cost of Inputs | Land Rent | Cost of Capital Items | Gov't Programs
---|---|---|---|---|---
2005  | 2007  | 2008
Field Crops Roundtables

- Two-way dialogue
- Real-time, every two weeks
- Learning enhanced by seeing, hearing
- Teleconference with Webinar
- Link campus experts with field staff
- Can be deployed on short notice for special situations
  - June Floods of 2008
  - Moldy Corn Fall 2009
  - Late Planting 2011
Adult Learning

• Need to know why the information being taught is important
• Integrate new information into what they already know
• Directly relevant to their needs
• Tend to prefer experience over theory
Rescue N Applications
Rescue nitrogen (N) applications to corn may be needed when wet conditions prevent N applications or when the loss of applied N is suspected due to wet conditions. However, crop injury when N is broadcast applied may counteract the yield benefits of a rescue N application.

Read More Information

How Plants Absorb Pollutants
Alfalfa Management Guide
New Method to Measure Soybean Rhizobia
Cover Crop Use for Managing Broiler Litter

Soil Science Fundamentals
Announcing, "Fundamentals in Soil Science," an introductory course designed to build knowledge and skills in the topics needed for a fundamental understanding of soil science. This is a weekly course taught online, with the first class beginning Aug. 22. Registration deadline is Aug. 17.
Information & Registration>

2011 Annual Meetings
The 2011 ASA-CSSA-SSSA Annual Meetings, "Fundamental for Life: Soil, Crop, & Environmental Sciences," will be held Oct. 16-19, 2011 in San Antonio, TX. Several speakers announced:

- Opening Keynote Oct. 18: Sam Dryden, Gates Foundation
- CSSA Plenary Oct. 17: Marianne Banziger, CIMMYT
- ASA Plenary Oct. 19: John F. Soper, Pioneer Hi-Bred
- Closing Reception Oct. 19: commentator & author Jim Hightower with comedian Don
Fundamentals in Applied Agronomy

An Online Course from the American Society of Agronomy
Spring 2011, January through March

Orientation Thursday January 6, then Tuesdays from January 11 to March 29

Classes on Tuesday Nights
7:00 to 9:15 p.m. Eastern/ 6:00 to 8:15 p.m. Central/ 6:00 to 7:15 Mountain/ 4:00 to 6:15 p.m. Pacific

Registration is closed (deadline January 3, 2011)

"Fundamentals in Applied Agronomy" is a preparatory course for those who want to become a Certified Crop Adviser (CCA) or Certified Professional Agronomist (CPAg). This course will follow the 2010 CCA Exam Performance Objectives, transforming book knowledge into real management skills.

Costs: $475 plus the cost of additional resources (for a list of additional resources/books to purchase, please see the Spring 2011 Course Syllabus link below.)

CEUs: Full participants in the course, who are certified, will automatically receive CEUs. CCAs will receive 24.0 CEUs with 6.0 CEUs in each of the following categories of Nutrient Management, Soil and Water Management, Integrated Pest Management and Crop Management. CPAg, CPES and CPSC certificates will receive 24.0 CEUs in Professional Development.

Lecture quizzes must be passed in order to receive the CEUs for this course.

Course Description:
Fundamentals in Applied Agronomy is an introductory crops and soils course designed for the practitioner hoping to build their knowledge and skills in the topics that are most needed for a Certified Crop Adviser. Upon completion the learner should have a fundamental knowledge of soil and water, nutrient management, pest management, and crop management. Topics include basic soil physical and biological characteristics, resource conservation, irrigation, drainage, water quality, soil and tissue analysis and interpretation, fertilizers and other nutrient sources, soil pH and liming, pest identification, sampling, and control, cropping systems, planting practices, crop growth and development, harvest, storage, and managing production risk, among many others.

The course is taught using distance education technology, but a variety of practical examples and case situations will be woven into content delivery to maximize understanding and its application in the field. Whether you are personally involved in production agriculture, advising farmers as an agricultural retailer or consultant, a representative for an agricultural business or government agency, or just looking to build your expertise, this course will cover topics that should be of direct interest to you. While this course is not designed to teach a student how to take the Certified Crop Adviser exams or to cover all the topics included in local or international performance objectives, it will complement an individual’s...
INTERNATIONAL CERTIFIED CROP ADVISER

PERFORMANCE OBJECTIVES

Prepared for The American Society of Agronomy by the Department of Agronomy Purdue University
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Information Must be Utilized to Have Economic Value

- **Immediate Decisions**
  - Crop management
  - Diseases, insects
  - Crop quality
  - Feeding, utilization

- **Long-term decisions**
  - Crop choice
  - Hybrid/variety selection
  - Rates of inputs
Top Farmer Crop Workshop
July 17-20, 2011
Main Purdue West Lafayette Campus
http://www.agecon.purdue.edu/topfarmer/
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Coordinator, Top Farmer Crop Workshop
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