

**Agriculture and Natural Resources Extension**  
**2009-2013 Plans of Work Update**  
**100 Corn and Soybean Production and Protection**

**Statement of Issues:**

Nearly two-thirds of Iowa's land surface (~23 million of 36 million acres) is annually dedicated to production of corn or soybean. Because of the importance of these crops to Iowa's economy and emerging bioeconomy, planned Extension programming focuses on enhancing profitable corn and soybean production and the other issues related to crop protection. These include efforts focused on the prevention or limitation of losses from weed, insect, crop disease and non-pathogen related damage. Soil, water and nutrient management issues are inherent to the two crops grown in annual monoculture and are likewise addressed. In addition, economical production of forages and small grains are issues that many farmers share, and the advent of alternative agronomic crops presents additional information needs for Extension to provide.

**Performance Goals:**

- Corn and soybean production
  - 1) Increase use of research-based crop management practices.
  - 2) Adapt current agronomic crop production practices to specialty trait or cropping systems.
  - 3) Increase the rate of yield increase sustainably.
  
- Crop protection
  - 1) Enhance the knowledge of persons involved in production agriculture (farmers, ag supply personnel, crop consultants, etc.) on the biology, ecology and management of important crop pests. This knowledge will lead to implementation of more effective and economic pest management systems.
  - 2) Continuously modify crop protection recommendations to anticipate the changing mix of products being grown and used.
  
- Forages, small grains and new opportunities
  - 1) Increase adoption of Best Management Practices (BMP) for forages and the production of non-traditional crops, including, but not limited to, Identity Preserved, Value-Added, and biomass crops.
  - 2) Improve the communication of the value of forages in organic production and in Conservation Security plans to all producers.

- Soil, water and nutrient management
  - 1) Increase the adoption of conservation systems in corn and soybean production in Iowa.
  - 2) Assist producers who bring USDA-conservation reserve program (CRP) acreage back into crop production to employ appropriate best management practices for nutrient and soil quality on those acres that includes no-till, chisel plow, sod-based rotations, improved waterways and conservation buffers.
  - 3) Educate producers and service providers on the use and benefits of diagnostic and other resource tools, including the Iowa P-Index, RUSLE2, soil nutrient testing, plant-based nutrient testing, etc., so that they are eligible for state and Federal conservation programs benefits.
  - 4) Increase the adoption of specific, economically appropriate practices of N and P from both fertilizer and animal manures including application timing and rates that integrate with the producer's cropping system.
  - 5) Evaluate effective BMP's for biomass removal for livestock and fuel production.

**Objectives:**

1. 50% of producers who attend the 2008 Crop Advantage Series will understand how to evaluate crop conditions to determine whether or not to apply a fungicide to corn in 2008.
2. 15% of producers who attend the 2008 Crop Advantage Series will apply crop evaluation techniques before determining whether or not to apply a fungicide to corn in 2008.
3. 15% of subscribers to ICM News will use results from monitoring programs on crop pests to guide their decisions in applying pesticides to corn, soybean, small grain, or hay acres in 2008.

**Outputs (number of activities, contacts, products):**

1. Establish 5+ monitoring programs for appropriate crop pests, depending on growing conditions (adult corn rootworms beetles, Asian soybean rust, aflatoxin, Western bean cutworm, bean leaf beetle, soybean aphid, etc)
2. Post and/or publish monitoring results to inform growers and crop advisors when to scout for these pests through electronic and print media
3. Conduct 50+ conferences and field days to disseminate results on current crop production research, recommended integrated pest management practices, and integrated crop-livestock production practices to producers who attend Extension-sponsored events.

4. Post and/or publish research results through print and electronic media.
5. Establish partnerships with commodity organizations, agricultural input suppliers, seed companies, other agribusinesses, and biomass industries to conduct and convey replicated research experiments and extension demonstrations of recommended crop production and pest management practices in grower fields.
6. Develop and deliver a curriculum covering an integrated approach for soil, water, and nutrient management. Create area-specific adaptations of the curriculum.
7. Provide 70+ training sessions through the above curriculum to 2,000+ confinement site manure applicators and 1,200+ commercial manure applicators.
8. Participate in and/or lead, as appropriate, activities of the Iowa Grain Quality Initiative to promote Total Quality Management systems (for example, ISO 9000) as a means of reconciling diverse regulatory and production needs into profitable production systems.

**Outcome Indicators:**

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