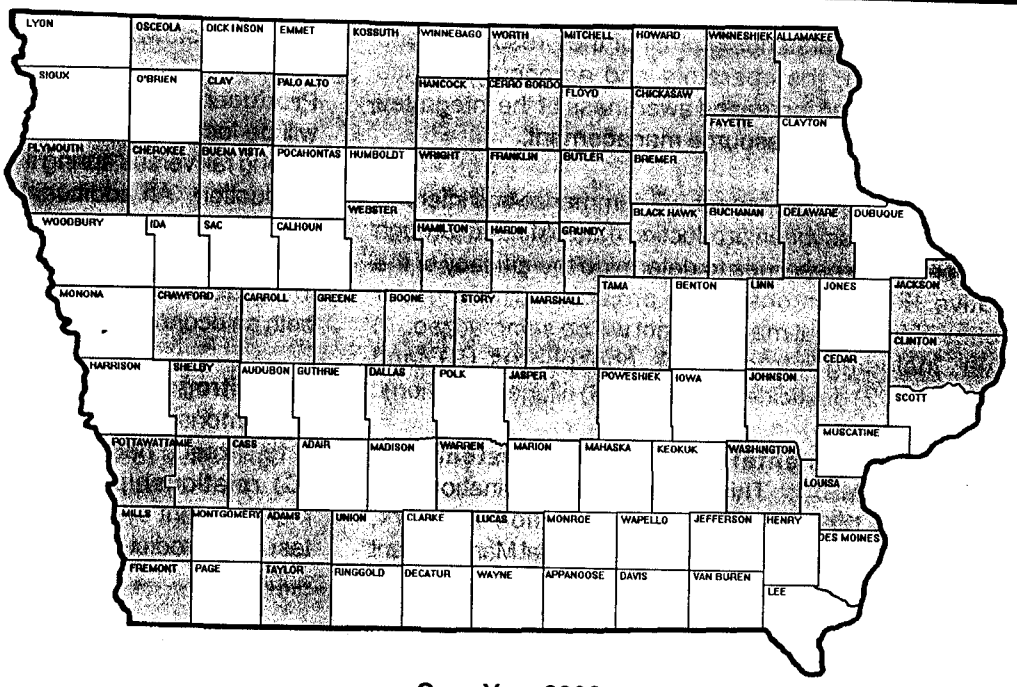
Integrated Farm/Livestock Management Demonstration Program

Program Summary



Crop Year 2002

Farm operators demonstrate the effectiveness and adaptability of emerging agricultural systems with an emphasis on environmental benefits.

Division of Soil Conservation
Tel: 515-281-0531
Fax: 515-281-6170
www.agriculture.ia.us

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IFLM Program Implementation

The Iowa Legislature enacted the Iowa Water Quality Initiative in 2000, enabling the Iowa Department of Agriculture and Land Stewardship, Division of Soil Conservation to administer six programs to complement each other in addressing water quality in Iowa. As part of the Initiative, the Integrated Farm/ Livestock Management (IFLM) Demonstration Program concentrates on efficient management techniques in livestock and crop production systems in a demonstration/education setting.

The IFLM program is a valuable link between sound research and actual on-farm application, implemented in cooperation with soil and water conservation districts, Agribusiness Association of Iowa, Iowa Department of Natural Resources, Iowa Soybean Association, Iowa State University, Kirkwood Community College, and the USDA National Soil Tilth Laboratory and Natural Resources Conservation Service. This unique partnership has formed with the realization that we achieve much more working together toward our common goals. These partners expand the financial and educational resources available to Iowa ag producers to address increasing environmental concerns at the local, state and national levels.

More than 150 farm operators throughout the state voluntarily participated in Crop Year 2001 to demonstrate the effectiveness and adaptability of emerging agricultural systems for nutrient and pesticide management, water and air quality protection and soil conservation. Their ultimate goal is to change farming practices in Iowa, resulting in more environmentally beneficial and economically sustainable farm input management. Their efforts are being demonstrated to a statewide audience; and information gained is being widely disseminated to producers, agribusiness, educators, researchers, and private and government agencies.

The program was initially funded at $850,000 in FY-01; however, the legislature deappropriated $500,000. As a result of that 60-percent budget reduction, revisions were required to implement the field program and six projects were funded for the first full crop year.

IFLM Program Crop Year 2002

In Fiscal Year 2002, $850,000 was appropriated for the IFLM program. The following thirteen projects have been funded for Crop Year 2002, including demonstrations in over half of Iowa's counties, as well as several statewide initiatives.

Assessment Tool: An assessment tool will be developed through which farm operators will analyze their operations to gain a better understanding of all of their resources and practices. In turn, the operators and agronomy service providers will have an increased awareness of the integrated approach to systematic resource management.

Baseline Data: This component will summarize and interpret the 2000 corn and soybean production data obtained through USDA to provide a baselines to determine the efficacy of the alternative IFLM demonstration projects. Three major categories of farm input management will be summarized: 1) fertilizer, including nitrogen (N), phosphorus (P), and pottassium (K); 2) pesticide usage; and 3) tillage operations.

Certified Environmental Management Systems for Agriculture (CEMSA): This will include coordination with participants in the On-Farm Demonstration Network, preparation of five-ten agricultural Environmental Management Systems (EMS) prototypes, preparation of case studies and factsheets, and development of outreach strategies.

Cover Crops System: Three producers in Allamakee County will establish demonstrations of cover crops using two different varieties and three different planting dates and rates. These demonstrations will show farmers the soil saving and agronomic advantages of a cover crop system.

Documenting Change: This project will assess changing public perceptions of environmental issues and establish benchmark measures to assess the effectiveness of the IFLM program in protecting Iowa's soil and water resources from risks associated with crop and livestock production.

Eastern Iowa Tillage and Manure Management: Nutrient and tillage demonstration sites will be established in the Elk River, Lower Deep Creek and Mineral Creek Watersheds. Demonstrations will focus on strip tillage and sub-surface placement of P and K fertilizers compared to conventional corn production practices in order to reduce sediment movement from crop fields. Additional demonstrations will focus on refined manure, P and N management, yet maintain corn yields and improve farm profitability, by reducing commercial fertilizer inputs.

Hub and Spokes Manure Delivery Model: The NE Research Farm, "the Hub", will demonstrate three tillage systems consisting of no-till, conventional tillage, and strip-tillage with narrow strips or ridge-till. Three different manure rates and three commercial N rates will be applied. Producer sites, "the Spokes", across northeast and central Iowa will demonstrate the same treatments.

On-Farm Manure and Nitrogen Demonstration Network: The Network enables 100-150 farmers to improve nitrogen (N) management by evaluating their current practice to an alternative or modified practice. The underlying assumption is that farmers who continually evaluate the performance of specific management options will have greater opportunities to act upon information and will continue to be more profitable and better stewards of the environment.

Producer-Oriented Tillage Demonstration: Seven sites will be located around Iowa to demonstrate the differences among fall versus spring tillage systems on corn and soybean production. An additional intensive research site is located at Ames to provide detailed measures on the surface changes under different tillage systems and the agronomic impact. The goal is to demonstrate how reduced tillage can provide both an economic and environmental benefit.

Soil Nitrogen and Carbon Management: Project sites will demonstrate: 1) the importance of soil N supply for corn N fertilization needs and the short and long-term N-carbon (C) relationships across diverse yield, soil and crop management systems; and 2) the potential of a new soil N test as a predictor of the soil N supply and corn response to applied N.

Soil Properties and Interpretation Data: This project will maintain and update the Iowa SPAID in a current and useable form. The results are available to IFLM project coordinators, agricultural producers and service providers, and others in the public and private sectors.

Strip Tillage Effects on Crop Production: The purpose of this project is to increase adoption of strip tillage by demonstrating the crop production and environmental benefits of strip tillage for row crop production. Demonstrations consist of strip tillage, conventional tillage, and no-tillage systems. Early season measurements will include soil moisture, soil temperature, and crop growth. Production costs, crop yields, and profit/loss for each system will be determined. Water runoff and erosion measurements will be recorded.

Swine Manure Nutrient Utilization: The objectives of this project are to: 1) work with swine producers and custom manure applicators on demonstrations to calibrate manure application equipment or demonstrate state-of-the-art application equipment to document current application rates and calibration procedures and share with producers appropriate manure application rates based on their manure analysis, calibration and tractor speed; 2) document crop productivity based on manure N and P nutrients and compare to fertilizer sources; 3) provide information transfer to additional producers, landowners, and custom applicators via on-farm demonstrations, education programs, and field days; and 4) update manure management planning information as data warrants.

Iowa Department of Agriculture and Land Stewardship
Wallace State Office Building
Des Moines, IA 50319