Ethanol processing, government farm program incentives for corn, and increased corn yields have contributed to a sudden increase in the need for corn storage in Iowa. In the fall of 2004, there were many grain piles and other temporary grain storages utilized, with mixed success. Outdoor piles experienced up to 90% mold damage in some cases. For 2005, more storage was constructed. Iowa State training materials and programming in the storage area are somewhat limited and dated, back to the last time there was an extension position in this area (mid 1980s).

On June 9, 2006, Bioterror Recordkeeping Rules (FDA) became effective for the majority of Iowa grain handlers and food industries. These rules require the one-step backward, one step forward traceability of all food products in the USA. Records of ownership, type, use, shipment, and other factors must be kept, and maintained in such form as to be accessible to FDA in 24 hrs, should a natural or deliberate safety threat occur. The grain and grain processing industry has had no experience with either the recordkeeping or traceability of bulk commodities. The IGQI has developed a web-based training module and has been active in explaining the rules throughout the industry. The other studies in IGQI have demonstrated that organized quality management systems (ie ISO9000) have to potential to address a number of procedures-based needs and simultaneously produce operating cost savings within organizations.

Objectives for FY2007

1. Compile information about the amount, location and condition of the grain storage infrastructure in the Western and Eastern Corn Belt states.
2. Compile information about storage performance (cost, damage increase, shrink, nature of damage created) for the 2004, 2005, and 2006 crop years.
3. Assemble and review projections for the amounts and locations of corn production, demand and usage during the study years and the five years beyond (through 2011).
4. Project the needs for corn quality traits to meet shifting usage and storage patterns.
5. Project the need and types of storage (maximum cost; minimum damage) that will be needed to meet usage patterns.
6. Develop extension programming for farmers, elevator operators and associated grain industry professionals in optimum storage structure design and quality grain management, given demand, cost and quality constraints. Link with other training organizations as possible.
7. Expand the bioterror training module and deliver to Iowa grain handlers/processors as needed.
8. Connect Iowa State training programs with the Purdue-GEAPS electronic training program; add modules on traceability, bioterror rules and quality management systems.

Expected Outputs

- Inventory of existing corn storage capacity, with projections for future needs, types, and locations.
- Estimates of the interaction among corn quality traits, changing user demands, and storage success/costs.
- Estimates of the specific physical and intrinsic quality changes that occur when corn becomes damaged in various types of storage regimes.
- Estimates of storage performance versus construction and operating costs.
- A major effort documented through web programs, meetings, and print materials to provide awareness and training for producers and elevator operators in current storage/quality needs and interactions.
- Refreshed and targeted programs for ongoing training in storage and handling operations.
- Comprehensive training modules (web and print) for traceability, bioterror rules and quality management systems. Modules will individually target producers, handlers and processors.

Some of these efforts are carried forward from FY06 because the development of the bioterror training information placed increased demands on Program Coordinator time.