NCERC History

- 1996: Original business plan was developed.
- 1997: Federal funding obtained through the 1997 Farm Bill, Research Title.
- 2001: Updated business plan and ground was broken.
NCERC History

- 2003: National Corn-to-Ethanol Research Center (NCERC) opened its doors.

- Serve a variety of clients as a place for:
  - Third party validation.
  - Commercial testing.

- Trials that are conducted at NCERC result in commercialization decisions by domestic and international companies.

- The need for NCERC has been demonstrated.
National Corn-to-Ethanol Research Center (NCERC)

MISSION of NCERC: “To facilitate the commercialization of new technologies for producing fuel ethanol more effectively.”
NCERC works with industry, academia, government, trade associations & farmers to determine the best methods of converting Corn and other feedstocks into ETHANOL.
National Corn-to-Ethanol Research Center

- Unique Characteristics of NCERC.
  - Expertise of Staff:
    - Analytical Chemists.
    - Biologists.
    - Chemical Engineers.
    - Commodity and Feedstock Specialists.
    - Control Systems Specialists.
    - Fermentation Specialists.
    - Grant Writers.
    - Internship Program Managers.
    - Workforce Trainers and Educators.
    - “The Biofuels Workforce of Tomorrow.”
National Corn-to-Ethanol Research Center

- Unique Characteristics of NCERC.
  - Only facility in the world to house under one roof:
    - Analytical Laboratory.
    - Fermentation Research Laboratory.
    - Pilot Scale: Dry-Grind and Wet Mill.
    - Workforce Development Training.
ANALYTICAL LABORATORY

- QC laboratory for pilot plant and ethanol industry.
- Utilizes state-of-the-art equipment (LC/MS/MS).
- Offers commercial services to many segments of agriculture industry (e.g. grain, feed, export, petfood).
- Analytical method development capabilities.
- Provide laboratory set-up services for agriculture industry.
Research laboratory for pilot plant and ethanol industry.

Flask scale fermentation available in 250mL, 1L, and 5L.

Simulate feedstock-to-ethanol process to determine ethanol yield and co-product composition.

Ability to test alternative feedstocks to determine ethanol yield.
PILOT PLANT: Dry Grind and Wet Mill

- Is flexible and capable of operating with a variety of processes and feedstocks.
- Performs near-term industrial research.

- Training center for current and future personnel in biofuels industry.
- Produces robust and accurate data.
Workforce Development Program

- NCERC is training the biofuels workforce of tomorrow -

- Staff of educators, consultants and instructors have more than 150 years of experience.

- Content responds to needs of:
  - Industry
  - Academia
  - Government
  - Trade associations

- Only facility in the world to have classroom training and plant training on-site.
Perspective of Ethanol Plant Managers:

- Need qualified people to fill position requirements.

- Each 100 million gallon plant requires 50 employees.

- With 80 plants under construction, 3000-4000 qualified applicants are needed.
Needs of Biofuels Industry & Ability of NCERC to Meet Needs

- Perspective of DDGS Industry:
  - Testing of DDGS.
    - Utilize “Suggested” Official Test Methods (AFIA / NCGA / RFA)
    - Mycotoxins: “Truck Side Rapid Tests” (USDA and Industry Collaboration)
Needs of Biofuels Industry & Ability of NCERC to Meet Needs

– Consistency of DDGS.
  - Old plant technology vs. new plant technology.
  - Golden color vs. carmalized color.
  - Working with Livestock Industry.
National Corn-to-Ethanol Research Center

- NCERC is here to conduct research, validation and commercial testing of near term technologies!