Development of a 400 Acre Research Site for Carbon Sequestration Research. (A07-duncan130839-Oral)

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Abstract:

A multi-year research site has been developed at the Agricultural Research Development Center in eastern Nebraska to evaluate the impact of three field scale crop systems on carbon sequestration. The site includes an irrigated continuous corn system, an irrigated corn/soybean rotation, and a rainfed corn/soybean rotation, each a quarter section in size. Planning and implementation of the field systems to meet the research protocols and maintain field scale uniformity are reviewed. The project involves over 55 research staff from ten university departments. Center pivot irrigation systems were modified to clear infield 20 foot high atmospheric and plant reflectance sensor towers. No till production practices were developed to maintain year-to-year crop row symmetry and minimize carbon loss due to tillage. Each production field has six intensive measurement zones, of which each represent a unique characterization of landscape within the field. Other highlights presented include precision agriculture data acquisition, production practices, communications, and research protocols.

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