Crop Sequence Calculator

NORTHERN GREAT PLAINS RESEARCH LABORATORY, Mandan, ND

USDA

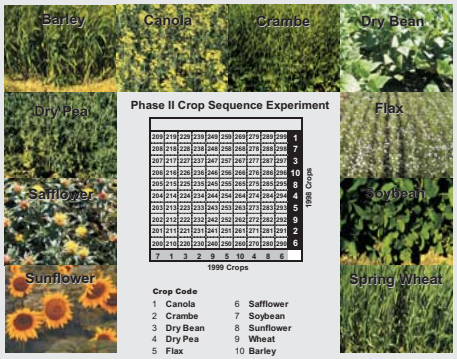
Agricultural Research Service

Diversified Soil-Crop Production Systems

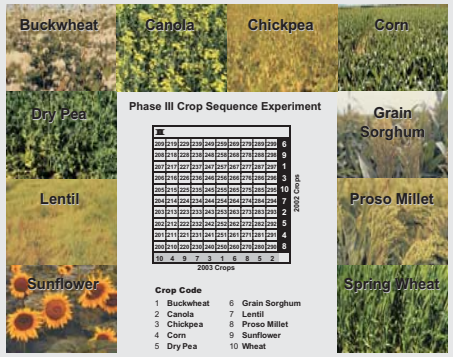
Goal: Develop economically viable and environmentally sound soil-crop production systems for the northern Great Plains.

Crop Sequence Projects

Crop sequence experiments have the purpose of determining all positive and negative interactions among pairs of crop species. All possible combinations of a number of crops are examined by a crop matrix where crops are grown in strips in the first year, and in strips perpendicular to the first set in the second year. D. L. Tanaka and J. M. Krupinsky leading with technical assistance of J. L. Hartel, M. J. Hatzenbuhler, D. D. Schlenker, M. K. Tokach, and D. M. Wetch.

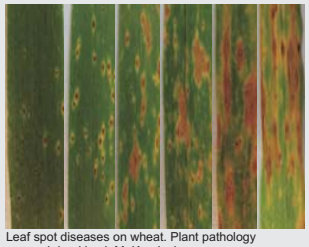


Phase II crop sequence experiment dominated by cool-season crops. Crop matrices existed in 1999 and 2000



Phase III crop sequence experiment dominated by warm-season crops. Crop matrices existed in 2003 and 2004.

View of Phase II crop sequence experiment.



Leaf spot diseases on wheat. Plant pathology research lead by J. M. Krupinsky.

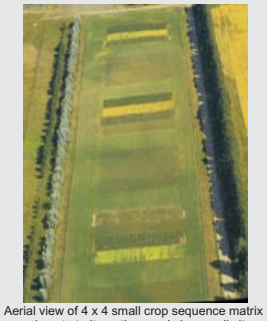
JD 750 no-till drill. Agronomic and crop production aspects of research led by D. L. Tanaka.

Canada thistle in corn.
Weed research in cropping systems experiments is led by J. R. Hendrickson.

Measurement of soil water content with neutron moisture meter. Soil and crop hydrology research led by S. D. Merrill.

Procurement of soil samples for soil quality parameters determination. Research led by M. A. Liebig.

Measurement of crop height for plant growth modeling. Research led by J. D. Hanson with H. A. Johnson.

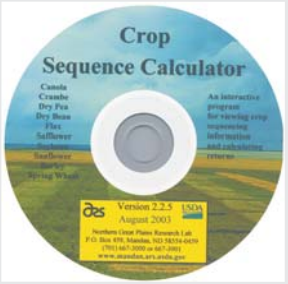


Aerial view of 4 x 4 small crop sequence matrix experiment at alternative sandy loam soil site. Crop matrices existent in 2004 and 2005. Research led by S. D. Merrill.

Effective Communication Products for Agricultural and Scientific Communities

Goal: Communicate dynamic cropping systems concepts through scientific exchanges and outreach.

Crop Sequence Calculator



The Crop Sequence Calculator is an interactive CD-ROM based information product conveying agronomic and economic information about cropping system design. It has been distributed to over 10,000 people in the region. Shown is the main working page of the Crop Sequence Calculator in which users may enter crop price and LDP data, and choose a crop sequence to get a calculation of crop interaction effect based on the results of the first crop sequence experiment.

Scientific Team

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