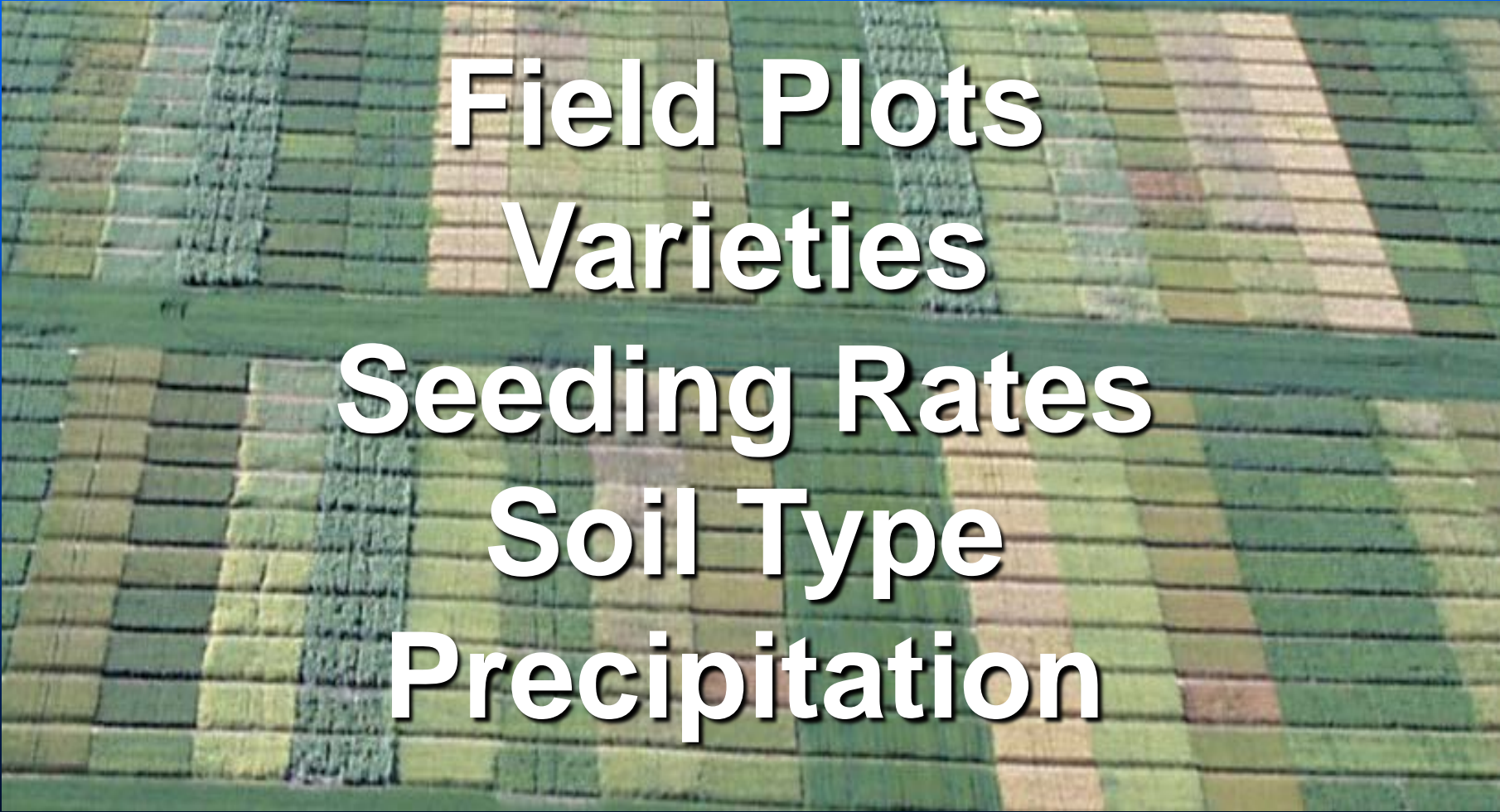


Information on:

An aerial photograph of a large agricultural field divided into numerous small, rectangular plots. The plots are arranged in a grid pattern and show varying shades of green, brown, and tan, indicating different crop varieties, seeding rates, or soil types. The field is set against a clear blue sky.

Field Plots
Varieties
Seeding Rates
Soil Type
Precipitation

Cropping Systems Research

Crop Sequence Project

A crop X crop residue matrix

10 crops on 10 residues, 100 combinations

No-till seeded for all crops

USDA-ARS-NGPRL, Mandan, ND

Crop Sequence Project

USDA-ARS-NGPRL, Mandan, ND

A crop X crop residue matrix is formed so that ten crops (barley, canola, crambe, dry pea, dry bean, flax, safflower, soybean, sunflower, and spring wheat) can be seeded into the crop residue of the same ten crops.

During the first year, ten crops are no-till seeded in strips with a no-till drill into a uniform cereal residue. During the second year, the same crops are seeded no-till perpendicular over the residue of the previous year's crop. This is repeated so the crop X crop residue matrix is present in the field for two consecutive years.

Crop X Crop Residue Matrix, 10 crops

One Replicate

809	819	829	839	849	859	869	879	889	899	1
808	818	828	838	848	858	868	878	888	898	2
807	817	827	837	847	857	867	877	887	897	5
806	816	826	836	846	856	866	876	886	896	9
805	815	825	835	845	855	865	875	885	895	7
804	814	824	834	844	854	864	874	884	894	10
803	813	823	833	843	853	863	873	883	893	6
802	812	822	832	842	852	862	872	882	892	3
801	811	821	831	841	851	861	871	881	891	4
800	810	820	830	840	850	860	870	880	890	8
5	2	7	1	8	4	6	9	3	10	

1st year, ten crops seeded in strips

2nd year, ten crops seeded perpendicular over crop residue

Crop Information

Crop	Variety	Ideal Seeding Date	Test Weight (lb/bu)	Viable Seeds/Acre
Canola	Dynamite	Late April to mid-May	50	1 Million
Crambe	Meyer	Late April to early May	25	800,000
Dry Bean	T-39 (1999)	After all possible chance of frost to first week in June	60	90,000
	Black Shadow (1998, 2000)			
Dry Pea	Profi	Early April to mid-May	60	350,000
Flax	Omega	Late April to mid-May	56	4 Million
Safflower	Montola 2000	Late April to early May	38	200,000
Soybean	Jim	Late May to first week in June	60	200,000
Sunflower	Cenex 803	Mid-May to early June	32	28,000
Spring Wheat	Amidon	Late March to mid-May	60	1.3 Million
Barley	Stander	Late March to mid-May	48	1.3 Million

Fertilizer Rates

60# Nitrogen (Ammonium Nitrate)/Acre

10# Phosphorus (0-44-0)/Acre

Seeding

All crops were no-till seeded.

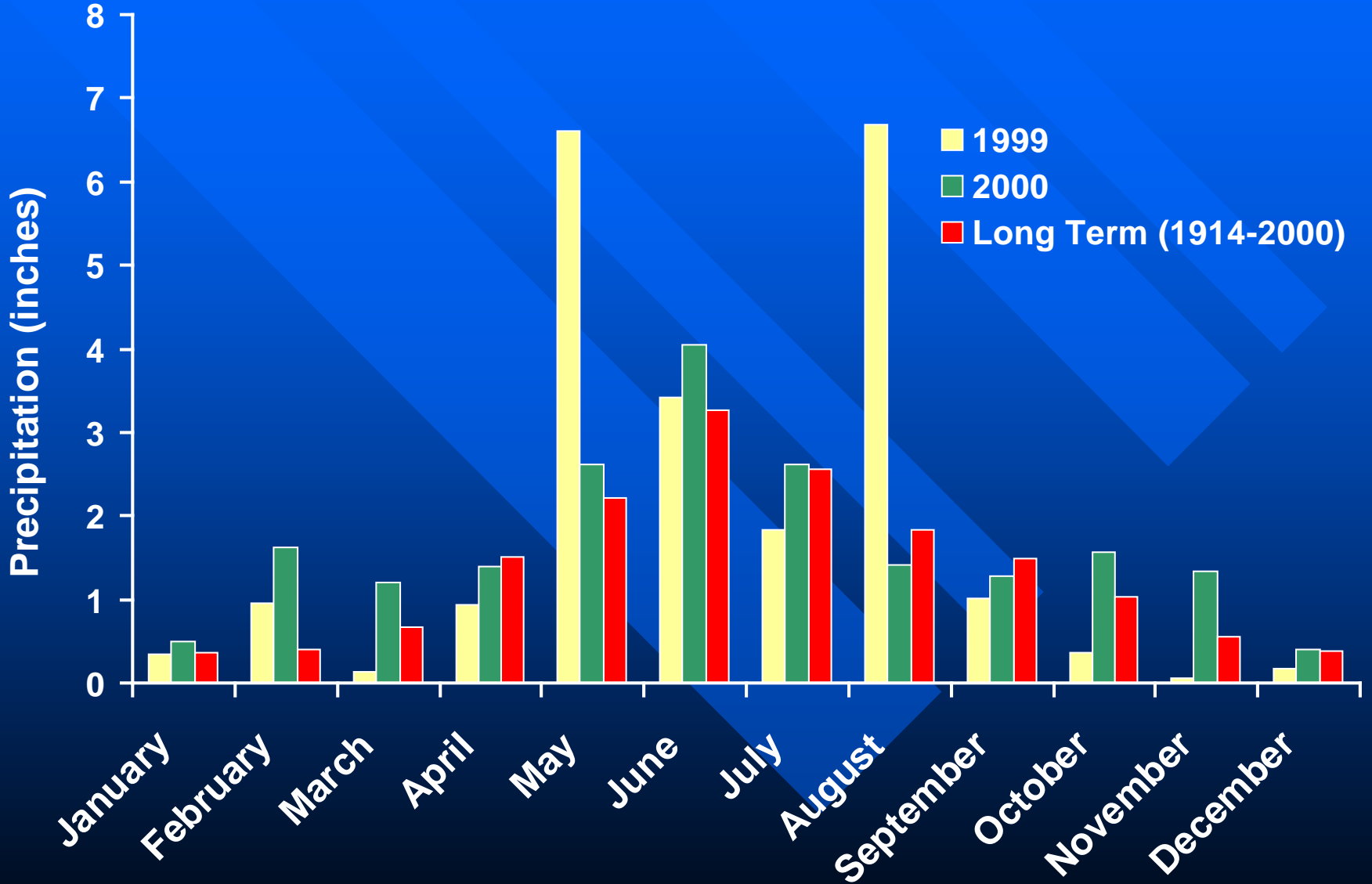
All N fertilizer was banded at seeding.

All P was placed with the seed at seeding.

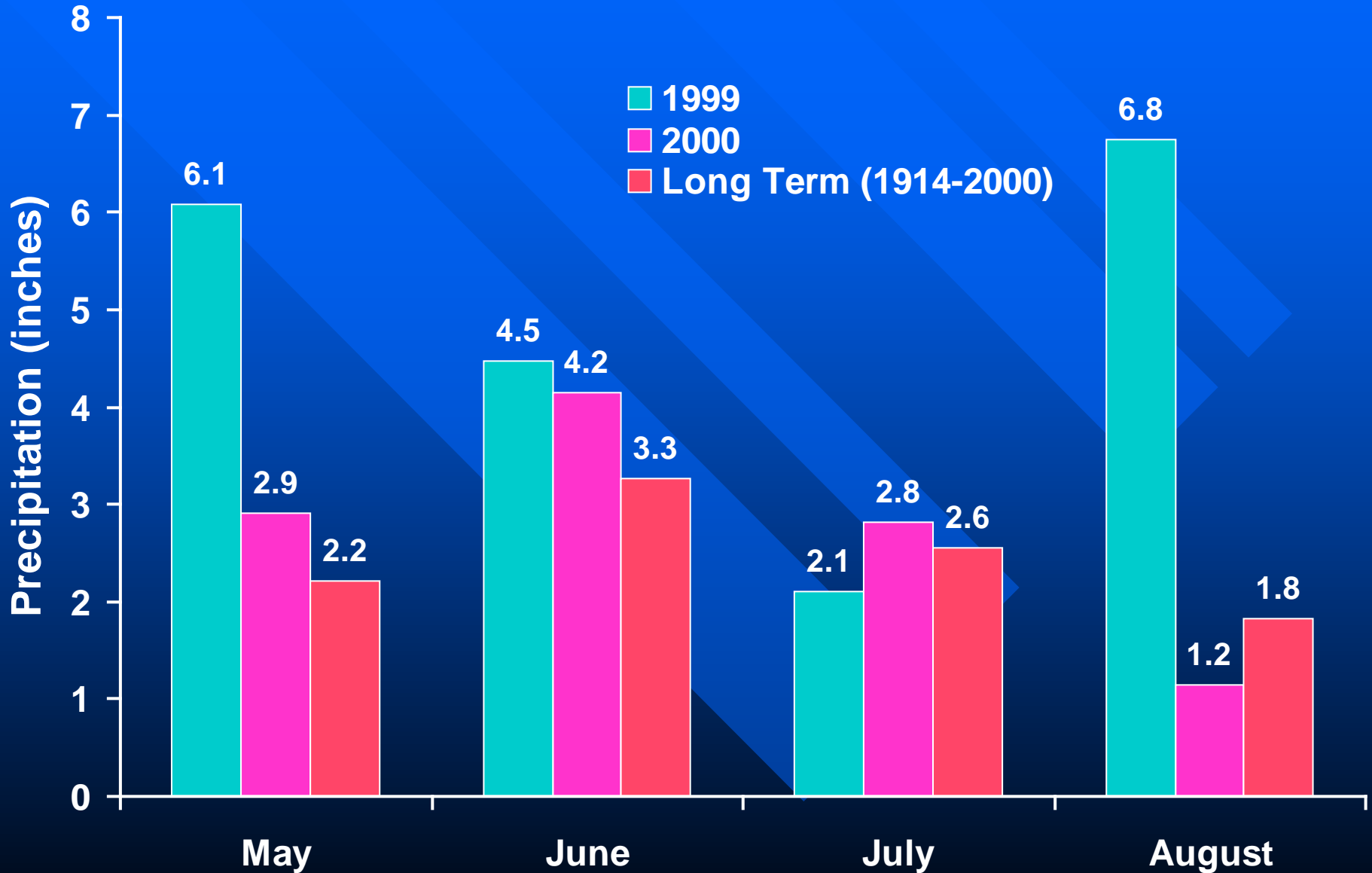
Landscape and Soil Type

- The experiment was conducted on a nearly level (0-3% slope) Wilton silt loam.
- The Wilton series consists of very deep, well drained soils that formed in a silty loess mantle overlying glacial till.
- Taxonomy: fine-silty, mixed, superactive, frigid Pachic Haplustoll.

Monthly Precipitation



Growing Season Precipitation



Crop Sequence Calculator

Information in this program is based on data collected through 2001 and is part of an on-going diverse cropping systems project. As this project evolves, additional principles and guidelines will be presented in new versions of the CSC.

Crop Sequence Calculator

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