

Developments at Northern Research and Demonstration Farm

David Rueber, farm superintendent

The south site was originally acquired to study tile drainage, and had tile at different depths and spacings. Some of these spacings and depths were not adequate to drain areas well. To provide adequate drainage in these areas 2,500 feet of tile were installed on the south site. On the north site 1,300 feet of tile were also installed.

As agriculture changes over time so do questions about agriculture. To better answer these new questions several research projects were changed or added. The cottonwood breeding work and the soybean cyst nematode research on the farm were doubled. A popcorn breeding experiment was conducted. Chicken manure was applied to several farms in the area. To study the effects of chicken manure on corn yields and soil fertility two experiments were begun.

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The mention of firm names or trade products does not imply that they are endorsed over other firms or similar products not mentioned.

2000 Crop Season

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Mild winter conditions limited frost penetration. Unseasonably warm February weather (Table 1) thawed the ground by February 25, over one month earlier than normal. Warm conditions allowed tilling to be done on the farm during March and some corn, oat and soybean plots to be planted March 30.

A late winter storm dumped 7 in. of snow April 8. Very warm and mostly dry conditions during the last third of April and the first quarter of May permitted most of the farm's corn and soybeans to be planted during this period. Timely rains from May 8-12 provided enough moisture so that soybeans planted in dry soil could germinate. The unseasonably warm May weather caused the row crops to emerge quickly. The last spring frost came on May 14, but it did little damage.

Rains during June recharged the soil with moisture to field capacity and eliminated, for the time, worries about lack of moisture. A July 10 thunderstorm, which supplied 2.73 in. of rain, was accompanied by strong winds, which caused some lodging of corn, especially corn after corn where the rootworms were active.

The July 10 rain and moderate temperatures during corn tasseling made the crops look good at that time.

Then came August's mostly warm temperatures. Most of August's rain fell during two events -- .85 in. on August 5 and 2.39 in. on August 17. Unusually hot temperatures prevailed during the last week of August and the first week of September, causing the corn to mature at a rapid pace. By the end of this period a lot of corn had prematurely died.

Warm, dry fall conditions allowed harvesting to progress rapidly. Soybeans were harvested from September 18-27. Corn was harvested between September 27 and October 12, some at 15% moisture. Light to moderate rains during the last half of October hindered fieldwork. After November rain, snow, and cold temperatures ended any thoughts of doing any more fieldwork for the year. Fall precipitation had fully recharged the soil with moisture by the middle of November. After November 12 the ground was covered with snow limiting frost penetration.

The late summer heat limited corn yields to below average. Soybean yields were about average. The moderate June and July temperatures helped the oat and hay yields to be above average.

Table 1. Monthly precipitation, average temperature, and departure from normal for 2000.

Month	Precipitation (in.)			Temperatures (° F)		
	2000	Normal	Departure from normal	2000	Normal	Departure from normal
January	1.02	.59	0.43	19.7	15.2	4.5
February	1.35	.66	0.69	32.7	20.9	11.8
March	1.91	1.77	0.14	43.2	34.5	8.7
April	2.68	2.91	-0.23	50.0	47.8	2.2
May	4.12	3.67	0.45	64.1	60.1	4.0
June	4.46	4.56	-0.10	67.8	69.1	-1.7
July	4.22	4.19	0.03	72.3	72.4	-0.1
August	3.64	3.72	-0.08	72.1	69.7	2.4
September	1.78	3.64	-1.86	65.0	62.0	3.0
October	2.01	2.19	-0.18	55.3	50.3	5.0
November	3.83	1.43	2.40	31.8	34.1	-2.3
December	2.53	1.00	1.53	8.4	19.4	-11.0
Totals	33.55	30.33	3.22	Avg. 48.5	46.3	2.2