

## Farm and Weather Summary, Agronomy Farm

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### Farm Comments

**Field Days and Tours:** A total of 300 people visited the farm and attended a seed stock field day.

**Developments:** A major reorganization removed the Agronomy Farm from the Agronomy Department and added it to the ISU Research Farms unit. One equipment operator took early retirement. Another equipment operator transferred from Ag Engineering to Agronomy, leaving two full-time staff with the Ag Engineering Farm and seven full-time staff with the Agronomy Farm.

**New Projects:** Planting date/plant population study, Soybean cut-off trial for hail school, and Establishment of long-term corn-soybean rotation study, Palle Pedersen; Corn-soybean rotation potassium “twin trials,” Antonio Mallarino; Remote sensing of corn tassel emergence, Mark Westgate; Corn silage/soybean strip trial for triticale nitrogen use and Triticale date of planting study, Lance Gibson.

### Crop Season Comments

Corn planting started April 23 and was completed June 5. Harvest began September 25 and was completed November 20. Average yields were 170 bushels/acre.

Soybean planting started April 29 and was completed June 11. Harvest began September 13 and was completed October 20. Average yields were 33 bushels/acre.

### Weather Comments

**Winter:** No measurable snow or rainfall in December 2003. Very mild month with 4-inch soil temperatures at 31°F for the end of the month. Received 2 inches of snow in January

and 0.25 inches of rain equivalent for the month. Very little snow cover and cold sub-zero overnight temperatures helped to curb the bean leaf beetle population in fields. Fairly mild February, with more sub-zero readings at end of month to help kill more beetles. An 8-inch snowfall occurred February 15, but was gone in 5 days. March started cool, then warmed up by mid-month, with 4-inch soil temperature about 40°F by March 22.

**Spring:** Warm temperatures in late March allowed oat seeding by the 25<sup>th</sup>. Received 1.11 inches of rain in March. April started with 4-inch soil temperatures about 50°F. Surface and subsoil moisture levels at or below normal. Last killing frost was April 10. Good progress in fieldwork until middle of month when rains started. Started planting corn on April 23, and fieldwork continued between four rain events, including a 1.61-inch rainfall on April 30. Rain continued into May, with little fieldwork progress until May 13. Planting progress resumed at that time with only 0.13 inch of rain the last half of the month, for a total of 4.81 inches in May. June started with temperatures near normal and good crop growth. Some spraying for bean leaf beetles on early-planted soybeans, but populations of beetles were below predicted levels, so infestations were less than expected. Later planting dates of soybeans due to early May rainfall also helped curb bean leaf beetle damage. Total rainfall for June was 5.90 inches.

**Summer:** Normal temperatures and 6.6 inches of rain in July, with a 1.77-inch event on July 5 and a 2.49-inch event on July 9, helped create excellent corn-pollinating conditions. Oat harvest started in the middle of July, with yields of 100–130 bushels/acre and 36–39 lb test weights.

August weather conditions led to deterioration of corn and soybean crops. High temperatures and only 1 inch of rain for the month drastically reduced yield potential for the soybeans and also reduced some of the corn yields. Dry and warm conditions also allowed perfect environmental conditions for the soybean aphid, which hit all soybeans hard in central Iowa. Some spraying for control of aphids was conducted on some research plots, but remainder of acres were left alone due to lack of understanding of economic thresholds for the soybean aphid. Yields in the fall indicated the combination of dry weather and soybean aphid damage resulted in 15–20 bushels less in the

final soybean yield. Rains returned on September 11, ending with a total of 3.93 inches for the month. Soybean harvest started about the middle of the month, and corn harvest started on the 25<sup>th</sup>.

Fall: October provided good weather for harvest, with only 0.94 inches of rainfall. First killing frost was October 2. Corn yields were 160–175 bushels/acre, but soybeans were down to 30–35 bushels/acre. November supplied 4.31 inches of rain to help recharge subsoil moisture levels, and fall tillage work progressed well with most work completed by late November.

**Table 1. Monthly rainfall and average temperatures during the 2003 growing season at the Agronomy Research Farm, Boone, Iowa.**

Month	Rainfall (inches)		Temperature (°F)		Days 90°F or above
	2003	Deviation from normal	2003	Deviation from normal	
March	1.11	-0.94	36.4	-0.7	0
April	4.42	0.92	52.2	2.4	0
May	4.81	0.46	59.7	-1.6	0
June	5.90	0.89	68.7	-1.7	2
July	6.60	2.17	73.8	0.0	4
August	1.00	-3.33	74.2	2.7	10
September	3.93	0.84	62.5	-1.7	0
October	<u>0.94</u>	<u>-1.73</u>	54.3	2.1	<u>0</u>
Totals	28.71	-0.72			16

Table 1 represents weather data for Ag Engineering, Agronomy, and Central Iowa Farms, and Horticulture Station.