

## Weather and Growing Season Summary, 2003

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*Weather summary.* The 2003 growing season was cooler and drier than normal through most of the year, with the yearly and growing season rainfall totals ending up much less than normal. All months for the year were dryer than normal (except July) and cooler than normal (except August). The January through November period yielded only 67% of the normal amount of rainfall.

Only three rainfall events (April–September) exceeded one inch in a 24-hour period. The August precipitation total (0.67 in.) was the second lowest accumulation (August 2000 = 0.58 in.) in the last 13 years. The only (extended) period of normal and above normal degree-day (base 50) accumulation occurred from August 1–30.

The spring planting season started in late April with good moisture and soil temperature conditions, but then a three-week period of wet and cool conditions beginning May 1 delayed some corn and most of the soybean planting.

Most of June and early July experienced near normal precipitation, but degree-day accumulations were 10% below normal from early May through late July. Crop development during this period was excellent, setting up very high yield potentials in both corn and soybeans.

August was a very stressful month to crops because very little precipitation was received and degree-day accumulations were much above normal. Subsoil moisture was sufficient to allow the corn crop to finish filling grain, but soybeans suffered dramatically during pod fill under the August conditions.

September and October remained dry but cooler. Subsoil moisture reserves were nearly depleted during the fall soil-moisture sampling period. The area received some fall and early winter precipitation to help recharge the soils for the next season, yet soil moisture reserves remain very low.

*Insect pests.* The soybean aphid was the major pest of the year, dramatically reducing soybean yields across much of Iowa. Bean leaf beetle numbers were way down, but grasshoppers continued to be a problem across much of the region. Potato leaf hoppers plagued alfalfa for most of the season. Western bean cutworms, although present, did not seem to be much of a problem compared with previous years.

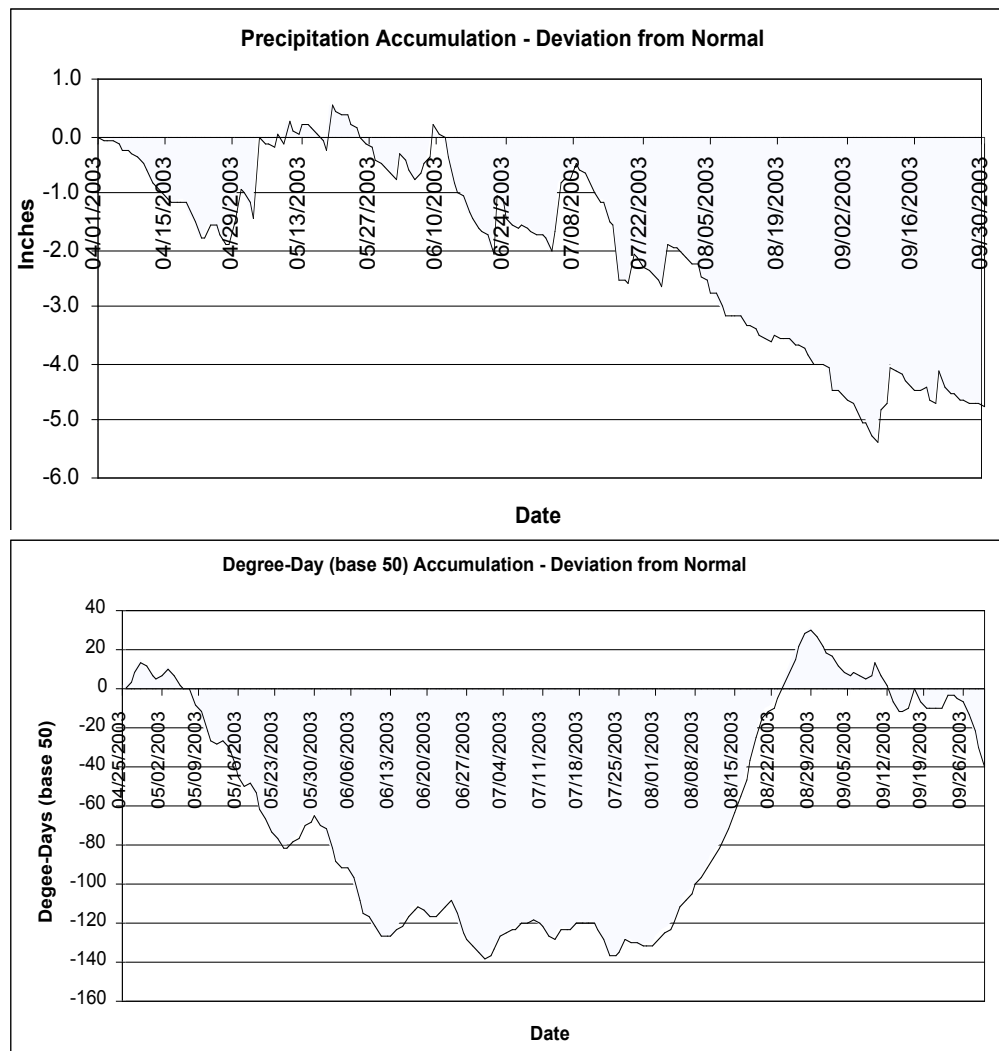
*Plant disease.* Most of the season was relatively free of plant disease, although charcoal rot of soybeans showed up in some areas of soybean fields. Some early season seedling disease was a problem in scattered fields.

*Crop yield and quality.* Remarkably good corn yields were seen across much of the region. A good soil moisture profile in combination with mild temperatures through most of July allowed for excellent corn growth, development, pollination, and early grain fill. Late season high temperatures and low soil moistures robbed some yield potential from area cornfields. The soybean crop came in very short because the August heat and moisture stress dramatically reduced pod-fill potential. Soybean yields were 30–50% less than the previous season. Small grain yields were reported to be good to excellent. Pasture and alfalfa yielded well through July but then went dormant in early August.

**Table 1. Monthly precipitation, average temperatures and departures from normal for 2003.**

|              | Precipitation (in) |                           | Days 90°F<br>or above | Temperature (°F) |                           |
|--------------|--------------------|---------------------------|-----------------------|------------------|---------------------------|
|              | Total              | *Departure<br>from normal |                       | Mean             | *Departure<br>from normal |
| January      | 0.3                | -0.3                      | 0                     | 20               | -0.3                      |
| February     | 1.1                | -0.7                      | 0                     | 20               | -6.7                      |
| March        | 0.9                | -1.3                      | 0                     | 35               | -3.1                      |
| April        | 2.3                | -1.0                      | 0                     | 51               | 0.1                       |
| May          | 4.1                | -0.1                      | 0                     | 58               | -4.0                      |
| June         | 3.1                | -1.2                      | 0                     | 68               | -3.3                      |
| July         | 4.2                | 0.1                       | 7                     | 75               | -0.2                      |
| August       | 0.6                | -3.0                      | 9                     | 75               | 1.8                       |
| September    | 2.3                | -0.9                      | 0                     | 60               | -5.0                      |
| October      | 0.7                | -1.7                      | 0                     | 53               | -0.1                      |
| November     | 1.1                | -0.4                      | 0                     | 35               | -1.7                      |
| December     | -                  | -                         | 0                     | 25               | 0.9                       |
| <b>Total</b> | <b>20.7</b>        | <b>-10.5</b>              | <b>16</b>             | <b>-</b>         | <b>-</b>                  |

\*Deviation from 30-yr. averages recorded at the ISU Western Research Farm weather station.



**Figure 2. Precipitation and degree-day accumulations.**