

Crop Season

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The 2000 cropping season will be remembered as one of the driest in recent years. March through October precipitation was only 64% of the 30-year average for our area. Moisture was the main concern of area crop producers throughout the entire growing season. Only the months of June and July recorded slightly above normal rainfall totals. For the most part, temperatures during the first one-half of the growing season averaged cooler than normal, whereas above average temperatures prevailed during the rest of the year. The area experienced a very warm month of October for the second consecutive year when temperatures averaged more than 10 degrees above normal. The monthly temperature and precipitation totals and deviation from the norm are shown in Table 1.

An unusually mild and dry winter set the stage for a very early start to spring field work. The farm's soils were free from frost by the first week in March, and seeding of the Oat Variety Trial started on March 21. Planting of the farm's corn experiments began on April 14 followed by soybeans on May 5. All plantings were completed by May 15, at least a week ahead of the normal pace.

Warm May temperatures allowed for rapid early season crop growth and development. The early emerged corn and soybeans provided ample food for several insect pests that survived the mild winter. Large populations of flea beetles, bean leaf beetles and wire worms were observed in many fields at the farm. Several fields required treatment for bean leaf beetles, and one corn experiment required replanting due to stand reductions caused by wire worms.

The months of June and July provided nearly ideal growing conditions. Rainfall averaged

slightly above normal and temperatures were seasonal. The corn crop began silking in early July, ten days ahead of normal, during this favorable period. As the last week of July approached crops in the area were rated as good to excellent and showed tremendous yield potential. The only concern at that time was the area's marginal subsoil moisture supply.

Crop prospects were dealt a severe blow on July 25 when a storm containing large hail and 70 mph winds struck the Armstrong and Lauren Christian Swine Farms. Hail and wind damage was the worst on the Armstrong Farm's north 80 where all crop experiments were lost. Damage to the rest of the fields was significant but not severe enough to prevent us from gathering usable yield data. The Neely-Kinyon Farm was not affected by this storm.

Late summer and early fall weather turned very dry and warm. Crops drew heavily on subsoil moisture reserves while they matured at a pace well ahead of normal. Most of the farm's corn crop was black-layered and considered safe from a killing frost by the fourth week of August. Not only did the crops mature rapidly, but grain moisture levels dropped quickly in the early September heat. Corn combining started September 14 with corn grain moisture content running as low as 15 percent. The combination of moisture stress, storm damage and diseases allowed stalk rot problems to explode in area cornfields. Not only were corn yields disappointing, but harvesting the lodged fields was challenging as well. Corn and soybean yields were the poorest in the Armstrong Farm's eight year history. Top plot yields of 151 bushels for corn and 47 bushels for soybeans were common in most studies. Small grains performed better in 2000, top plot yields reached 107 bushels for oats and 87 bushels for winter wheat.

Table 1. Armstrong Farm monthly rainfall and average temperatures for 2000.

| Month | Rainfall (inches) | | | Temperature (° F) | | | Days 90° or above |
|-----------|-------------------|-------------|---------------------------|-------------------|------|--------------------------|-------------------------|
| | 1999 | 2000 | Deviation from normal* | 1999 | 2000 | Deviation from normal | |
| March | 0.36 | 0.28 | -1.79 | 38.1 | 43.5 | +1.1 | 0 |
| April | 8.21 | 1.57 | -1.43 | 50.7 | 48.7 | -1.8 | 0 |
| May | 6.19 | 2.53 | -1.38 | 61.1 | 65.1 | +3.6 | 3 |
| June | 7.02 | 4.36 | +0.19 | 69.6 | 69.1 | -1.9 | 1 |
| July | 5.00 | 4.20 | +0.83 | 77.7 | 73.2 | -2.8 | 1 |
| August | 5.05 | 1.58 | -2.47 | 71.1 | 75.5 | +1.4 | 5 |
| September | 2.10 | 0.70 | -3.06 | 62.2 | 66.4 | +1.1 | 7 |
| October | <u>0.65</u> | <u>1.85</u> | <u>-0.32</u> | 52.5 | 56.3 | +10.1 | <u>0</u> |
| Totals | 34.58 | 17.07 | -9.4 | | | | 17 |

* Normal rainfall and temperatures recorded at U.S. Weather Bureau Station, Atlantic, Iowa.

Table 2. Neely-Kinyon monthly rainfall totals for 2000.

| Month | Precipitation (inches) | Departure from 30 Year Average | Departure from 1999 |
|---------------|---------------------------|--------------------------------------|------------------------|
| March | 1.3 | -1.2 | 0.11 |
| April | 1.9 | -1.45 | -4.56 |
| May | 1.41 | -2.84 | -4.88 |
| June | 5.41 | 0.82 | 1.35 |
| July | 4.47 | -0.09 | 1.44 |
| August | 0.76 | -2.96 | -2.53 |
| September | 1.36 | -2.74 | -1.26 |
| October | <u>1.11</u> | <u>-1.48</u> | <u>0.74</u> |
| March-October | 17.72 | -11.93 | -9.59 |