

Farm and Weather Summary

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Farm Comments

Field Days and Tours: A total of 1,250 people attended 20 events at the research farm in 2003. These events included field days, tours, meetings, and the annual association meeting. Field days included information on soybean aphid and bean leaf beetle scouting and control procedures, grape production, windbreak tree selection and management, nitrogen/phosphorus management and the weather outlook concerning the late summer drought.

New Projects: Evaluation of Bt rootworm resistant corn, J. Tollefson; soybean fungicides/application timings, X.B. Yang; grape cultivar study, P. Domoto; Soybean planting date and population study, Palle Pedersen. Corn planting depth, corn planting populations, soybean aphid insecticide comparisons, soybean foliar fertilization, fungicide treated soybeans and soil compaction studies were conducted by the Northeast Farm staff.

Crop Season Comments

Oat/legume seeding and spring manure injection applications occurred April 2. Anhydrous ammonia applications occurred April 13–April 23.

The majority of the corn planting began April 24 and was completed May 18. Harvest began September 22 and was completed October 12. The 2003 corn yields ranged from below average to above average depending on soil type (moisture holding capacity) and variety due to the late summer drought conditions. Corn yields on rotated acres ranged from 125–205 bushels/acre and continuous corn yields ranged from 104–175 bushels/acre.

The majority of the soybean planting began May 19 and was completed May 25. Harvest began September 15 and was completed October 2 with below average yields of 32 bushels/acre due to late season drought conditions and soybean aphid populations being above economic thresholds. Timely insecticide applications increased yields from 5.5–12.67 bushels/acre.

Weather Comments

Winter 2002–2003: The first snowfall was October 24, and the last was April 7, with a total of 27.75 inches recorded (10.75 inches more than the previous winter). The 4-inch soil temperature remained below 50°F after October 13, 2002.

Spring 2003: The frost was out of the top 2 ft of soil after March 15, 2003. Soil temperatures averaged about 50°F after April 22. Planting was possible the last week of April, but was delayed in May due to 8 days with rain. Only 2 days of fieldwork were possible in the first half of May. Due to the delay in soybean planting (most farmers started soybean planting on May 18), overwintering bean leaf beetle populations were only of concern for late April/early May planted soybeans.

Summer 2003: Rainfall was above average for the month of June through July 11, but from July 21 through September 11, only 0.59 inches of rainfall occurred. Crop stress was noted in mid-August with premature death of corn and soybeans starting on August 20, depending on soil type (moisture holding capacity). Soybean aphid populations were above economic thresholds in late July with most insecticide applications sprayed the first 2 weeks of August. Late season bean leaf beetle populations never reached above economic thresholds. A total of 2,558 heat units were recorded from May

through September, roughly equal to the average from 1997 through 2002. Western bean cutworm populations were noted in the corn in 2003, but did not cause economic damages.

Fall 2003: Less than 0.5 inches of rainfall occurred during corn and soybean harvest causing minimal harvest delays. Ample heat unit accumulation and late season drought conditions resulted in corn being harvested in

the 14–19% moisture range and soybeans in the 11–13% moisture range.

Acknowledgments

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Table 1. Monthly rainfall and average temperatures during the 2003 growing season.

| Month | NERF | Rainfall (in.) | | ISU NERF | Temperature (F)* | | |
|-----------|-------|-----------------------|------------------|----------|--|---------------------|------------|
| | | Departure from normal | No. days of rain | | Departure from normal | Growing Degree Days | Days 90°F+ |
| April | 3.84 | +0.43 | 5 | 48.5 | +1.45 | 203 | 1 |
| May | 3.89 | -0.45 | 8 | 58.11 | -1.05 | 314 | 0 |
| June | 6.09 | +1.18 | 10 | 67.68 | -0.79 | 526 | 1 |
| July | 2.99 | -1.68 | 11 | 71.74 | -0.56 | 662 | 3 |
| August | 0.49 | -4.39 | 6 | 72.52 | +2.73 | 654 | 11 |
| September | 1.94 | -1.23 | 8 | 61.4 | -0.18 | 402 | 3 |
| October | 0.64 | -1.95 | 7 | 50.98 | +1.64 | 241 | 0 |
| November | 2.67 | +0.77 | 10 | 34.9 | +0.91 | | 0 |
| Total | 22.55 | -7.32 | 65 | | 1 st Freeze – October 2, 2003 | | |

*174 frost-free days