



Indiana Crop & Weather Report

INDIANA AGRICULTURAL STATISTICS
U.S. DEPARTMENT OF AGRICULTURE

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CROP REPORT FOR WEEK ENDING AUGUST 31

Crops need warm sunny weather to speed development, according to the Indiana Agricultural Statistics Service. Fall crop conditions remain good however fewer than normal growing degree days have left the corn about a week behind in maturity. This has farmers looking for warm temperatures and hoping for an average or late frost. Insect and disease pressure has remained light in most areas. Moisture conditions are generally good, with the west central and south central districts remaining the driest.

CORN

Corn condition is rated 56 percent good to excellent, up slightly from 54 percent last week. Ninety-one percent of the corn is in the **dough** stage, ahead of 78 percent last year and the 90 percent average. Thirty-seven percent of the corn is in the **dent** stage, ahead of 28 percent last year, but behind the 42 percent average for this date. Three percent of the corn is **mature**, compared to 4 percent for both last year and the 5-year average.

SOYBEANS

Condition of the **soybean** crop is 62 percent good to excellent, up from 60 percent a week ago. Ninety-seven percent of the crop has **set pods**, ahead of 87 percent last year and 96 percent for the 5-year average. Five percent of the crop is **shedding leaves**, ahead of 3 percent for both last year and the 5-year average for this date.

OTHER CROPS

Pasture condition is rated 47 percent good to excellent, up from 38 percent last week. Third cutting of **alfalfa** is 42 percent complete.

DAYS SUITABLE and SOIL MOISTURE

For the week ending Friday, 5.8 days were rated **suitable for fieldwork**. **Topsoil moisture** was rated 3 percent very short, 22 percent short, 69 percent adequate and 6 percent surplus. **Subsoil moisture** was rated 6 percent very short, 25 percent short, 68 percent adequate and 6 percent surplus.

CROP PROGRESS

| Crop | This Week | Last Week | Last Year | 5-Year Avg |
|-----------------------|-----------|-----------|-----------|------------|
| Percent | | | | |
| Alfalfa 3rd Cutting | 42 | 36 | N/A | N/A |
| Corn Dough | 91 | 81 | 78 | 90 |
| Corn Dent | 37 | 14 | 28 | 42 |
| Corn Mature | 3 | 0 | 4 | 4 |
| Soybeans Podding | 97 | 93 | 87 | 96 |
| Soybeans Shedding Lvs | 5 | 0 | 3 | 3 |

CROP CONDITION

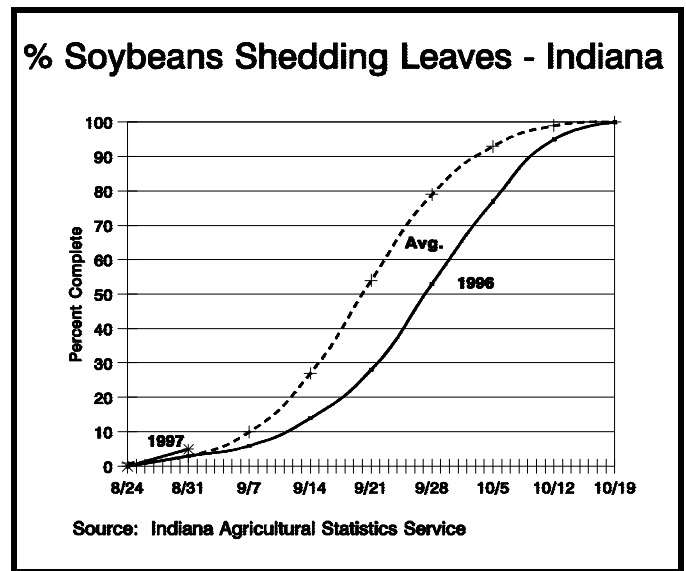
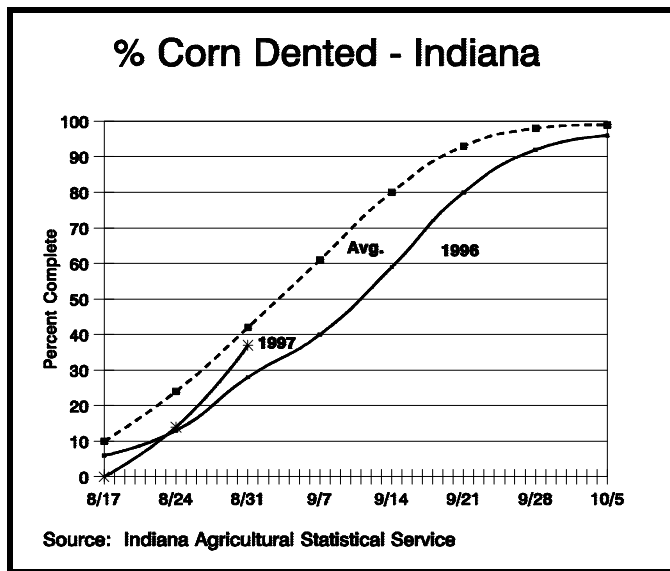
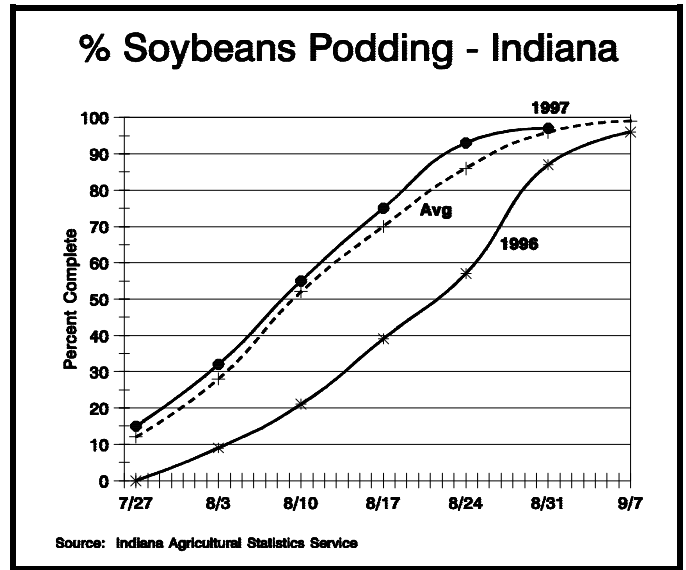
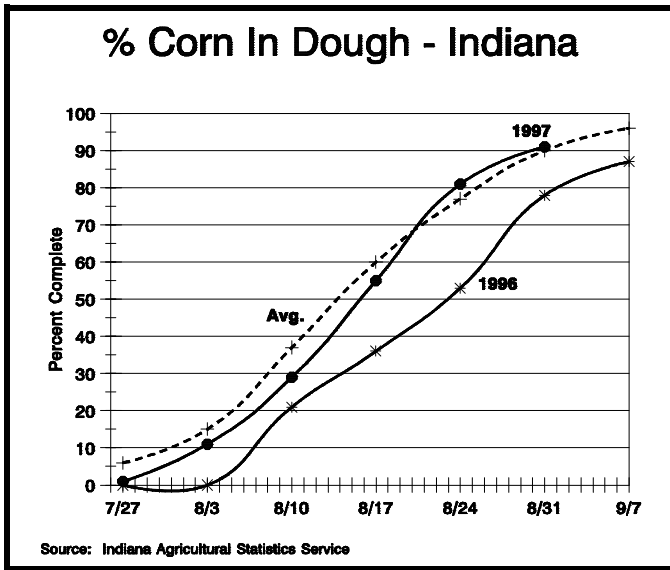
| Crop | Very Poor | Poor | Fair | Good | Excellent |
|----------|-----------|------|------|------|-----------|
| Percent | | | | | |
| Corn | 3 | 9 | 32 | 46 | 10 |
| Soybeans | 2 | 6 | 30 | 50 | 12 |
| Pasture | 5 | 14 | 34 | 41 | 6 |

SOIL MOISTURE

| | This Week | Last Week | Last Year |
|----------------|-----------|-----------|-----------|
| Percent | | | |
| Topsoil | | | |
| Very Short | 3 | 0 | 21 |
| Short | 22 | 10 | 44 |
| Adequate | 69 | 79 | 34 |
| Surplus | 6 | 11 | 1 |
| Subsoil | | | |
| Very Short | 6 | 4 | 11 |
| Short | 25 | 22 | 43 |
| Adequate | 63 | 65 | 44 |
| Surplus | 6 | 9 | 2 |

--Ralph W. Gann, State Statistician
--Lance Honig, Agricultural Statistician
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Crop Progress



Temperature Impacts on Soybean Development

- Air temperature can influence soybean development and maturity
- What about low soil temperatures?

Over the past two weeks we have received a number of inquiries related to below normal temperatures and their impact on the developing soybean crop. It has been and continues to be my opinion that the temperatures have not dropped to a level that will result in a significant negative impact on the soybean crop. My greatest concern over the past two weeks has been the persistent cloudy-overcast conditions. Poor quality sunlight has a greater potential of having a negative impact on soybean development and yield than the lower temperatures experienced to date.

Very little data exists related to the impact of temperatures on the pod and seed development of soybeans. One study reports that when day/night temperatures were maintained at 64/57, very few pods were set although the plants were flowering profusely. Optimum day/night temperature range for soybean seed ripening is reported to be 87/59 degrees Fahrenheit. The recent drop in temperatures experienced in Indiana, if only for a day or two, will probably have little impact on the soybean crop assuming normal temperatures thereafter. The problem arises when the lower temperatures exist for an extended period of perhaps four days or longer or when temperatures at night drop below 50 degrees Fahrenheit for several hours.

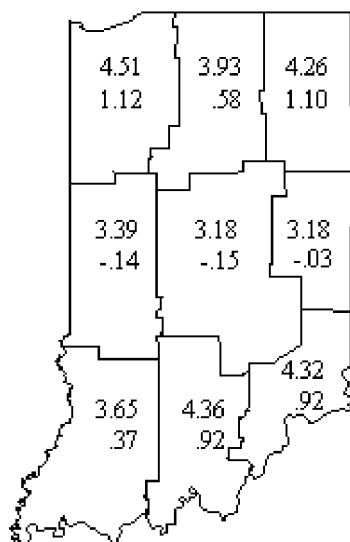
Average Daily Values for week ending Monday morning September 1, 1997

| Area | Station | Air Temperature | | | Precipitation | | | Growing Degree Days | | |
|------|-----------------|-----------------|-----|----|---------------|---------------|------------------|---------------------|---------------|------------------|
| | | Max | Min | DN | Past Week | Since April 1 | DN Since April 1 | Past Week | Since April 1 | DN Since April 1 |
| | | | | | | | | | | |
| NW | Wanatah | 77 | 54 | -2 | .03 | 20.01 | +5.58 | 115 | 2138 | -170 |
| | Kentland | 81 | 57 | -1 | .01 | 15.58 | -4.08 | 137 | 2380 | -198 |
| | Winamac | 78 | 58 | +0 | .00 | 19.48 | +3.35 | 133 | 2272 | -176 |
| NC | South Bend | 77 | 59 | +0 | .11 | 15.46 | -3.25 | 130 | 2244 | -147 |
| | Waterford Mills | 78 | 58 | +0 | .00 | 21.82 | +4.07 | 132 | 2240 | -188 |
| NE | Prairie Heights | 76 | 58 | +0 | .07 | 17.34 | -1.17 | 123 | 2203 | +25 |
| | Columbia City | 78 | 59 | +1 | .00 | 20.11 | +1.63 | 134 | 2252 | -67 |
| | Fort Wayne | 78 | 58 | -1 | .02 | 21.78 | +4.53 | 130 | 2257 | -252 |
| | Bluffton | 79 | 59 | -1 | .00 | 21.72 | +3.35 | 134 | 2333 | -237 |
| WC | West Lafayette | 81 | 58 | +0 | .00 | 17.33 | -1.79 | 140 | 2389 | -99 |
| | Lafayette | 81 | 60 | +2 | .00 | 16.50 | -2.62 | 147 | 2504 | +17 |
| | Perrysville | 81 | 58 | -2 | .00 | 15.31 | -6.13 | 142 | 2452 | -401 |
| | Crawfordsville | 83 | 55 | +0 | .00 | 13.78 | -4.99 | 136 | 2304 | -205 |
| | Terre Haute 8s | 85 | 64 | +3 | .00 | 17.82 | -2.71 | 168 | 2683 | -96 |
| C | Tipton | 79 | 57 | +0 | .14 | 17.02 | -2.42 | 131 | 2223 | -217 |
| | Indianapolis | 82 | 64 | +2 | .21 | 12.89 | -6.50 | 162 | 2554 | -211 |
| | Indian Creek | 83 | 63 | +3 | .00 | 16.63 | -3.39 | 162 | 2582 | -57 |
| EC | Farmland | 79 | 58 | +0 | .72 | 16.33 | -2.54 | 133 | 2354 | -31 |
| | Liberty | 82 | 62 | +2 | .00 | 16.37 | -4.31 | 158 | 2506 | -108 |
| SW | Vincennes | 86 | 65 | +3 | .03 | 23.84 | +3.46 | 175 | 2692 | -161 |
| | Dubois | 86 | 63 | +3 | .47 | 22.07 | -.27 | 172 | 2640 | -154 |
| | Evansville | 87 | 67 | +3 | .00 | 15.59 | -3.96 | 188 | 2853 | -258 |
| SC | Bedford | 84 | 63 | +3 | .00 | 25.32 | +4.02 | 169 | 2574 | -132 |
| | Louisville | 84 | 68 | +2 | .12 | 18.96 | -1.53 | 184 | 2916 | -158 |
| SE | Butlerville | 83 | 61 | +0 | .14 | 21.40 | +0.97 | 156 | 2524 | -350 |

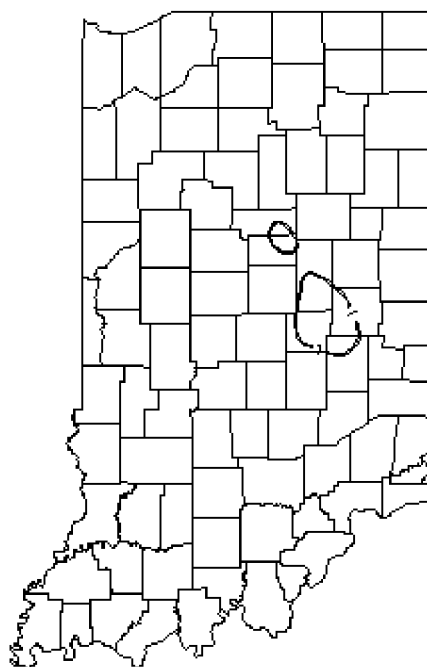
DN = departure from normal.

Growing Degree Days = daily mean - 50 (below 50 adjusted to 50, above 86 adjusted to 86.)

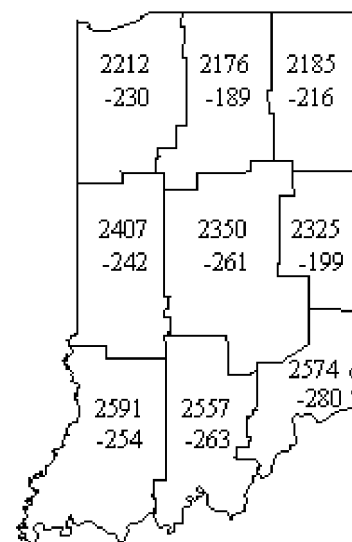
Rainfall for Past 4 Weeks
and Departure from Normal



Rainfall of 1 Inch or More
for Past 7 Days
as of Monday morning



Growing Degree Days
and Departure since April 1



Temperature Impacts (continued)

Nitrogen fixation of soybeans peaks at about R 5.5 stage of growth and then drops rapidly as the plant begins to relocate nutrients to the rapidly developing seed. Soil temperatures lower than 68 degrees Fahrenheit can slow nitrogen fixation of soybeans. Cool nighttime air temperatures may also slow nitrogen fixation by slowing the translocation of sugar from the leaves to the root nodules. Full season soybeans planted on a timely basis in Indiana have reached or are approaching R 5.5. Soil temperatures for August 21 to 25 period fell below 68 degrees Fahrenheit in some locations in Indiana. If soybean development had reached R 5.5 little impact would be expected at those locations.

Enough said about temperatures. Now let's turn our attention to other concerns related to the soybean crop. Some areas of the state are still marginal with respect to soil moisture and additional rain are needed to permit the crop to continue rapid growth and development. Lack of rainfall and a return to moisture stress will result in further deterioration of the crop.

--Ellsworth P. Christmas, Purdue University

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