



Indiana Crop & Weather Report

INDIANA AGRICULTURAL STATISTICS
 U.S. DEPARTMENT OF AGRICULTURE
 PURDUE UNIVERSITY
 1148 AGAD BLDG, ROOM 223
 WEST LAFAYETTE IN 47907-1148
 Phone (765)494-8371
 Phone (800)363-0469
 FAX (765)494-4315
 FAX (800)363-0475

Released: Tuesday, 3PM

May 31, 2000

Vol. 50, #8

West Lafayette, IN 47907

CROP REPORT FOR WEEK ENDING MAY 28

Rain and wet field conditions slowed field activities in many areas of the state, according to the Indiana Agricultural Statistics Service. Recent shower activity and warm weather have helped planted corn and soybean fields get off to a good start this year. Soybean planting is one day behind the record pace established in 1988, but more than 3 weeks ahead of the average.

CORN AND SOYBEANS

Ninety-eight percent of the **corn** acreage is planted compared with 99 percent last year and 78 percent for the average. Corn condition is rated 81 percent good to excellent compared with 84 percent last year at this time. Most of the intended corn acreage is planted in the northern and central regions. Ninety-two percent of the corn crop has **emerged** compared with 87 percent last year. Eighty-seven percent of the **soybean** acreage is planted, on par with a year ago and far ahead of the 56 percent for average. Soybean condition is rated 64 percent good to excellent. By area, soybean planting is 91 percent complete in the north, 88 percent complete in the central and 80 percent complete in the south.

WINTER WHEAT

Ninety-nine percent of the winter wheat acreage is **headed** compared with 92 percent last year and 73 percent for the 5-year average. Winter wheat **condition** is rated 82 percent good to excellent, compared with 86 percent at this time a year ago.

OTHER CROPS

Pasture condition was rated 17 percent excellent, 55 percent good, 20 percent fair, 6 percent poor and 2 percent very poor. Transplanting of tobacco is 40 percent complete compared with 36 percent last year and 19 percent for the average. First cutting of alfalfa hay is 30 percent complete compared with 41 percent last year.

DAYS SUITABLE and SOIL MOISTURE

For the week ending Friday, 4.0 days were rated **suitable for fieldwork**. **Topsoil moisture** was rated 1 very short, 8 percent short, 78 percent adequate and 13 percent surplus. **Subsoil moisture** was rated 9 percent very short, 34 percent short, 52 percent adequate and 5 percent surplus.

CROP PROGRESS

Crop	This Week	Last Week	Last Year	5-Year Avg
	Percent			
Corn Planted	98	95	99	78
Corn Emerged	92	78	87	NA
Soybeans Planted	87	76	87	56
Soybeans Emerged	69	50	60	NA
Winter Wheat Headed	99	88	92	73
Alfalfa, First Cutting	30	NA	41	NA
Tobacco Plants Set	40	13	36	19

CROP CONDITION

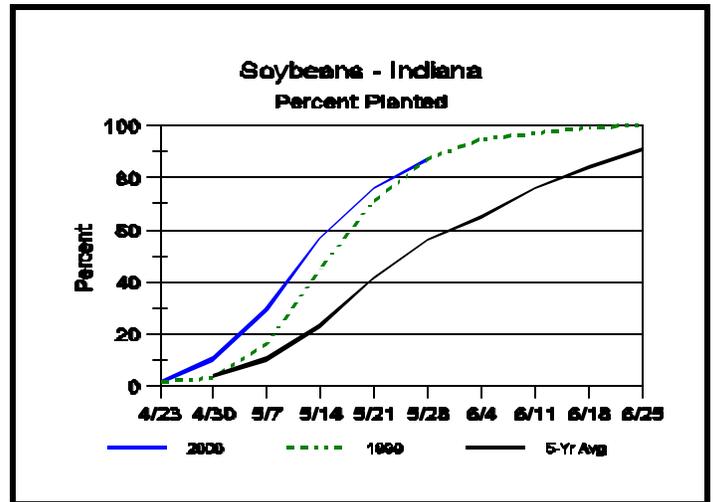
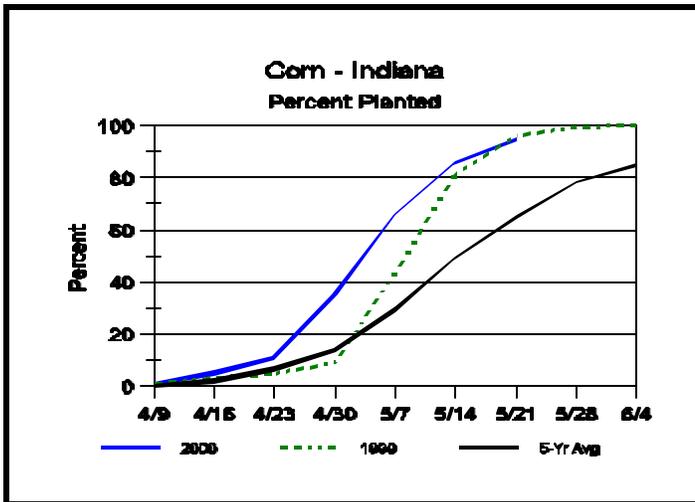
Crop	Very Poor	Poor	Fair	Good	Excellent
	Percent				
Corn	0	2	17	61	20
Soybeans	1	4	31	54	10
Winter Wheat 2000	0	3	15	58	24
Pasture	2	6	20	55	17

SOIL MOISTURE

	This Week	Last Week	Last Year
	Percent		
Topsoil			
Very Short	1	1	1
Short	8	6	10
Adequate	78	74	84
Surplus	13	19	5
Subsoil			
Very Short	9	9	1
Short	34	37	10
Adequate	52	50	83
Surplus	5	4	6

--Ralph W. Gann, State Statistician
 --Bud Bever, Agricultural Statistician
 E-Mail Address: nass-in@nass.usda.gov
<http://info.aes.purdue.edu/agstat/nass.html>

Crop Progress



Assessing Hail Damage in Corn

- Yield loss from hail caused by both stand reduction and leaf area reduction.
- Give a damaged field time to show its recover ability.

The 2000 growing season has already yielded numerous hail storms throughout Indiana with more apt to come in the future. Looking out the kitchen window the morning after such a storm can be one of the most disheartening feelings in the world to a farmer.

Yield loss in corn due to hail damage results primarily from 1) stand reduction caused by plant death and 2) leaf area reduction caused by hail damage to the leaves. Assessing hail damage in corn therefore requires the grower or consultant to estimate the severity of each of these factors.

Assessing Plant Death

As with most early-season problems, evaluation of hail-damaged fields should not be attempted the day after the storm hit because it is too difficult to predict survivability of damaged plants by simply looking at the damage itself. Corn has an amazing capacity to recover from early season damage and you need the patience to allow the damaged plants to demonstrate to you whether they will recover or not. Viable plants will usually show visible new growth within 3 to 5 days with favorable weather and moisture conditions.

One thing that can be done shortly after the storm, however, is to determine the relative condition of the “growing point area” of the stalk. The main growing point (apical meristem) of a young corn plant is an area of active cell division located near the tip of the pyramid-shaped stalk tissue inside the stem of the plant. All the leaves and the tassel are formed at the growing point.

You can determine the position of the growing point by “splitting the stalk down the middle and looking for the pyramid-shaped area of the upper stalk”. If hail has damaged the growing point or cut off the stalks below the growing point, then those plants should not be counted as survivors.

Remember that yield loss is not directly proportional to the reduction in the number of plants per acre when the damage occurs early in the growing season. The remaining plants can compensate for the absent plants by increasing their potential ear size. A 25 percent reduction in plant population should reduce yield by less than 10 percent. A 50 percent reduction in plant population should reduce yield by less than 25 percent.

Assessing Defoliation

Leaf damage by hail always looks worse than it really is. “Shredded leaves that remain connected to the plant” and remain green will actually continue manufacturing photosynthates for the 'factory'. It

Weather Data

Week ending Sunday May 28, 2000

Station	Past Week Weather Summary Data							Accumulation				
	Air Temperature				Precip.		Avg	April 1, 2000 thru May 28, 2000				
							4 in	Precipitation		GDD Base 50°F		
	Hi	Lo	Avg	DFN	Total	Days	Soil Temp	Total	DFN	Days	Total	DFN
Northwest (1)												
Valparaiso_Ag	81	50	64	+2	1.38	3		7.94	+0.50	27	395	+12
Wanatah	84	47	64	+3	0.74	3	66	7.24	+0.15	24	391	+54
Wheatfield	84	48	65	+2	0.60	2		7.84	+0.96	23	426	+64
Winamac	83	50	64	+0	1.55	3		7.75	+0.90	19	426	+19
North Central (2)												
Logansport	83	50	64	+0	1.23	3		5.65	-1.21	25	437	+34
Plymouth	81	48	62	-3	1.00	3		7.90	+0.62	25	383	-46
South_Bend	79	47	63	+1	0.94	3		7.92	+1.23	28	410	+48
Young_America	84	50	66	+2	2.26	3		6.50	-0.36	20	510	+107
Northeast (3)												
Bluffton	82	48	64	-2	1.56	4	63	7.09	+0.16	22	454	+36
Fort_Wayne	78	47	62	-2	1.82	4		6.71	+0.24	22	441	+59
West Central (4)												
Crawfordsville	85	50	65	-2	2.17	3	65	6.35	-1.38	22	419	-62
Perrysville	85	51	66	+2	1.95	3	66	6.95	-0.58	20	479	+29
Terre_Haute_Ag	89	49	68	+3	2.64	3	69	8.10	+0.13	21	577	+71
W_Lafayette_6NW	84	52	68	+4	1.96	2	64	5.66	-1.59	21	499	+90
Central (5)												
Castleton	85	49	66	-1	1.51	3		9.35	+1.56	29	509	+34
Greenfield	85	49	66	+1	2.07	3		9.85	+1.91	28	521	+70
Greensburg	86	48	66	+2	1.72	5		9.74	+1.31	29	531	+71
Indianapolis_AP	86	50	66	+0	2.16	2		8.80	+1.47	25	563	+68
Indianapolis_SE	85	48	66	+0	1.83	3		8.11	+0.32	21	508	+33
Tipton_Ag	84	47	64	+0	1.66	2	64	6.88	-0.48	21	425	+53
East Central (6)												
Farmland	85	46	64	+2	1.14	3	60	9.73	+2.73	27	458	+99
New_Castle	82	46	62	-3	0.94	3		8.53	+0.44	26	366	-4
Southwest (7)												
Dubois_Ag	88	47	68	+3	0.89	5	72	6.91	-1.64	27	624	+89
Evansville	90	52	70	+2	1.01	6		4.94	-3.41	25	700	+49
Freelandville	87	50	68	+2	1.82	5		7.83	-0.65	20	588	+53
Shoals	87	46	67	+1	1.51	6		7.34	-1.56	27	547	+31
Vincennes_5NE	89	48	67	+0	1.83	5	63	6.86	-1.62	23	583	+48
South Central (8)												
Bloomington	87	49	67	+1	1.65	3		8.27	+0.01	23	536	+11
Tell_City	88	52	68	+0	1.08	4		7.22	-1.93	21	640	+37
Southeast (9)												
Scottsburg	88	48	68	+2	0.87	3		8.21	-0.02	21	609	+70

 DFN = Departure From Normal (Using 1961-90 Normals Period).

GDD = Growing Degree Days.

Precipitation (rain or melted snow/ice) in inches.

Precipitation Days = Days with precipitation of 0.01 inch or more.

Air Temperatures in Degrees Fahrenheit.

Copyright 2000: AWIS, Inc. All Rights Reserved.

The above weather information is provided by AWIS, Inc.
 For detailed ag weather forecasts and data visit the AWIS home page at
www.awis.com or call toll free at 1-888-798-9955.

Assessing Hail Damage in Corn (continued)

takes a practiced eye to accurately estimate percent leaf death by hail. With that caution in mind, percent damage to those leaves exposed at the time of the hail storm can be estimated and used to estimate yield loss due to the defoliation itself.

The effects of leaf death on yield increases as the plants near silking, then decreases throughout grain fill. Therefore, the grower needs to determine the growth stage of the crop when the hail damage occurred (see my earlier article: "[Leaf Staging Methods for Corn](#)").

If you are walking damaged fields many days after the storm, you can stage the crop that day and backtrack to the day of the storm by assuming that leaf emergence in corn occurs at the rate of about 1 leaf every 85 GDDs from emergence to V10 (ten fully visible leaf collars) or every 50 GDDs from V10 to the final leaf (see my earlier article: "[Predicting Corn Phenology for Phun and Profit](#)"). Given recent temperatures and the fact that none of Indiana's corn crop is yet beyond leaf stage V10, this rate of leaf emergence translates to about 1 leaf every 6 days.

Once percent leaf damage and crop growth stage have been determined, yield loss can be estimated by using the defoliation chart provided below in the table. This table is a condensed version of the season-long table published in the Purdue Exten-

sion publication ID-179, "[Corn and Soybean Field Guide](#)" (pp. 13-14) or in "[NCH-1, Assessing Hail Damage in Corn](#)".

Table: Estimates of percent yield loss in corn due to leaf defoliation.

Growth Stage	Percent Leaf Defoliation			
	25	50	75	100
7-leaf	0	2	5	9
8-leaf	0	3	6	11
9-leaf	1	4	7	13
10-leaf	1	6	9	16
11-leaf	1	7	12	22
12-leaf	2	9	16	28
13-leaf	2	10	9	34
14-leaf	3	13	25	44

Note 1: Growth stage equals the "[droopy leaf method](#)".

Note 2: Adapted from the National Crop Insurance Association's "Corn Loss Instruction" (Rev. 1984).

--Bob Nielson, Purdue University, Agronomy Dept.

This article contains additional links to articles, tables, and an example. "Assessing Hail Damage in Corn" article posted May 22, can be viewed at: <http://www.agry.purdue.edu/ext/corn/chatchew.htm>

The INDIANA CROP WEATHER REPORT (USPS 675-770), (ISSN 0442-817X) is issued weekly April through November by the Indiana Agricultural Statistics Service, Purdue University, 1148 AgAd Bldg, Rm 223, West Lafayette IN 47907-1148. Second Class postage paid at Lafayette IN. For information on subscribing, send request to above address. POSTMASTER: Send address change to the Indiana Agricultural Statistics Service, Purdue University, 1148 AgAd Bldg, Rm 223, West Lafayette IN 47907-1148.