



USDA, National Agricultural Statistics Service

Indiana Crop & Weather Report

USDA, NASS, Indiana Field Office
1435 Win Hentschel Blvd.Suite B105
West Lafayette, IN 47906-4145(765) 494-8371
nass-in@nass.usda.govReleased: June 19, 2006
Vol. 56, No. 25

CROP REPORT FOR WEEK ENDING JUNE 18

AGRICULTURAL SUMMARY

Farmers continued to sidedress and spray corn this week, according to the Indiana Field Office of USDA's National Agricultural Statistics Service. The first spraying of Roundup ready soybeans has begun. It was another good week for cutting and bailing hay. Setting of tobacco continues in southern areas of the state. Turning of the winter wheat crop is progressing northward. Condition of the winter wheat crop is mostly good with some concern over head scab.

FIELD CROPS REPORT

There were 5.4 days suitable for field work. Ninety-eight percent of the **corn** acreage has **emerged** compared to 100 percent last year and 96 percent for the 5-year average. Ninety-five percent of the **soybean** acreage is **planted** compared to 99 percent for last year and 94 percent for the 5-year average. By area, 98 percent of the soybean acreage is planted in the north, 97 percent in the central, and 87 percent in the south. Eighty-seven percent of the soybean acreage has **emerged** compared to 97 percent last year and 88 percent for the 5-year average.

Harvest of winter wheat is 14 percent complete compared to 4 percent last year and 9 percent for the 5-year average.

Major activities during the week included: replanting soybeans, spraying chemicals, scouting fields for insects, cutting and bailing hay, and cleaning equipment for spring tillage and planting.

LIVESTOCK, PASTURE AND RANGE REPORT

Pasture condition is rated 15 percent excellent, 68 percent good, 14 percent fair and 3 percent poor. Livestock are in mostly good condition. The first cutting of Alfalfa hay is 86 percent complete compared to 96 percent last year and 83 percent for the 5-year average.

CROP PROGRESS TABLE

Crop	This Week	Last Week	Last Year	5-Year Avg
Percent				
Corn Emerged	98	91	100	96
Soybeans Planted	95	87	99	94
Soybeans Emerged	87	73	97	88
Winter Wheat Harvested	14	1	4	9
Alfalfa First Cutting	86	61	96	83

CROP CONDITION TABLE

Crop	Very Poor	Poor	Fair	Good	Excellent
Percent					
Corn	3	9	32	48	8
Soybeans	2	8	33	50	7
Winter Wheat	1	4	17	56	22
Pasture	0	3	14	68	15

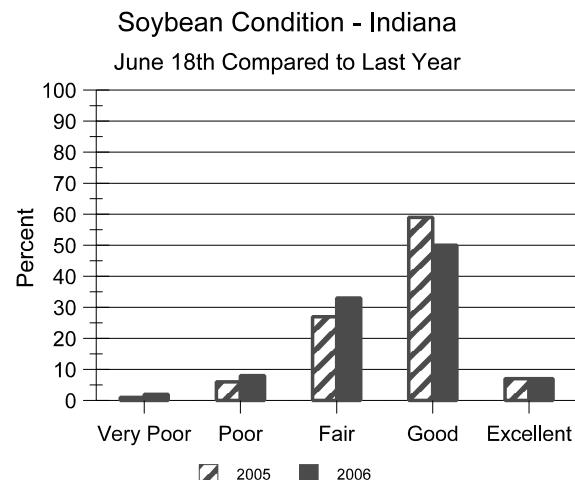
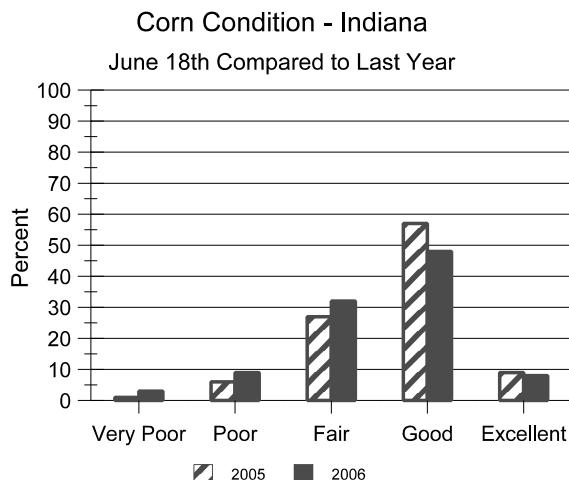
SOIL MOISTURE & DAYS SUITABLE FOR FIELDWORK TABLE

	This Week	Last Week	Last Year
Percent			
Topsoil			
Very Short	1	0	2
Short	8	2	18
Adequate	73	63	75
Surplus	18	35	5
Subsoil			
Very Short	1	0	2
Short	4	2	20
Adequate	75	69	76
Surplus	20	29	2
Days Suitable	5.4	4.1	4.9

CONTACT INFORMATION

--Greg Preston, Director
--Andy Higgins, Agricultural Statistician
E-Mail Address: nass-in@nass.usda.gov
http://www.nass.usda.gov/Statistics_by_State/Indiana

Crop Progress



Other Agricultural Comments And News

Recovery From Hail Damage to Young Corn

- Yield loss from hail damage is based on reductions in plant population and leaf area
- Allow a damaged field enough time to demonstrate the degree to which it may recover from hail damage

One thing you can do shortly after the storm, however, is to evaluate the relative condition of the main growing point area of the stalk. The growing point, or apical meristem, of a young corn plant is an area of active cell division located near the tip of the pyramid-shaped top of the stalk tissue inside the stem of the plant (Nielsen, 2004b). The growing point region is important because it is responsible for creating all the leaves and the tassel of a corn plant.

Initially, the growing point is located below ground but soon elevates above ground beginning at about the 5th leaf collar stage. Slicing a stalk down the middle and looking for the pyramid-shaped upper stalk tissue can identify the vertical position of the growing point. If hail has damaged the growing point or cut off the stalks below the growing point, then those plants should be counted as victims and not survivors.

Remember that yield loss in corn is not directly proportional to the reduction in the number of plants per acre when the damage occurs early in the growing season (Table 1). The surviving plants surrounding an absent plant can compensate by increasing their potential ear size or by developing a second ear. 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.

As is usual in Indiana, late spring thunderstorms rumbling across the state in recent weeks have often included a heavy dose of damaging hail. Looking out the kitchen window the morning after such a storm can be one of the most disheartening feelings in the world to a corn grower.

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 the yield consequences of hail damage in corn therefore requires that the severity of each of these factors be estimated.

Assessing Plant Survival

As with most early-season problems, evaluation of hail-damaged fields should not be attempted the day after the storm occurs because it can be very difficult to predict survivability of damaged plants by simply looking at the damage itself. Young corn has an amazing capacity to recover from early season damage but patience is required to allow the damaged plants enough time to visibly demonstrate whether they will recover or not. Damaged but viable plants will usually show noticeable recovery from the whorl within 3 to 5 days with favorable weather and moisture conditions.

Assessing Defoliation Severity

Leaf damage by hail usually looks worse than it really is. Tattered leaves that remain green and connected to the plant will continue photosynthesizing. It 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 hailstorm can be estimated and used to estimate yield loss due to defoliation alone.

(Continued on Page 4)

Weather Information Table

Week ending Sunday June 18, 2006

Station	Past Week Weather Summary Data										Accumulation				
	Air					Precip.					Avg	April 1, 2006 thru			
	Temperature			Precip.		4 in		Precipitation				June 18, 2006			
	Hi	Lo	Avg	DFN	Total	Days	Temp	Soil	Total	DFN	Days	Total	DFN	Base	50°F
Northwest (1)															
Chalmers_5W	94	50	69	-3	0.31	1		11.37	+1.54	28	795	-64			
Francesville	90	49	69	-1	0.00	0		10.99	+1.29	30	770	+2			
Valparaiso_AP_I	91	50	69	+1	0.07	1		5.70	-4.64	23	810	+76			
Wanatah	93	47	68	-1	0.00	0	72	7.83	-1.91	24	704	+22			
Winamac	91	49	69	-1	0.00	0	72	9.59	-0.11	24	776	+8			
North Central (2)															
Plymouth	90	47	67	-4	0.08	1		8.75	-1.39	29	708	-95			
South_Bend	92	47	69	+1	0.00	0		8.03	-1.44	31	774	+61			
Young_America	90	49	69	-2	0.21	2		11.49	+2.06	30	837	+66			
Northeast (3)															
Columbia_City	92	50	68	+0	0.00	0	67	10.02	+0.44	30	700	+29			
Fort_Wayne	89	50	69	-2	0.00	0		12.11	+3.14	32	790	+38			
West Central (4)															
Greencastle	88	50	67	-6	0.48	1		11.78	+1.14	28	818	-104			
Perrysville	94	50	71	+0	0.01	1	72	9.10	-1.33	28	954	+114			
Spencer_Ag	90	52	68	-3	0.11	2		12.61	+1.40	35	887	+48			
Terre_Haute_AFB	92	53	71	-2	0.02	1		9.61	-0.81	29	991	+76			
W_Lafayette_6NW	91	49	70	+1	0.08	1	74	9.88	+0.12	31	868	+90			
Central (5)															
Eagle_Creek_AP	89	54	70	-2	0.15	2		12.19	+2.47	33	963	+58			
Greenfield	89	52	68	-4	0.12	2		15.04	+4.74	36	824	-19			
Indianapolis_AP	89	55	70	-2	0.08	2		11.54	+1.82	33	978	+73			
Indianapolis_SE	90	50	68	-5	0.17	1		12.82	+2.79	31	804	-75			
Tipton_Ag	89	49	67	-4	0.15	2	73	10.78	+1.02	39	748	+12			
East Central (6)															
Farmland	89	50	67	-3	0.13	1	72	11.88	+2.04	37	705	-4			
New_Castle	88	52	67	-3	0.16	1		13.83	+2.98	32	757	+28			
Southwest (7)															
Evansville	91	57	73	-3	0.17	2		12.01	+1.12	31	1224	+106			
Freelandville	90	57	71	-2	0.44	2		10.88	-0.28	31	1062	+104			
Shoals	90	51	70	-2	0.55	1		15.01	+3.20	32	1016	+98			
Stendal	91	57	74	+1	0.81	1		14.63	+2.43	30	1207	+180			
Vincennes_5NE	91	55	72	-1	0.60	2	73	15.67	+4.51	37	1086	+128			
South Central (8)															
Leavenworth	91	56	71	-2	0.46	2		16.05	+4.17	38	1034	+112			
Oolitic	89	54	68	-4	0.81	2	75	12.64	+1.43	32	873	+15			
Tell_City	90	59	74	+0	0.75	2		16.62	+4.58	33	1221	+177			
Southeast (9)															
Brookville	91	51	68	-3	0.13	1		13.68	+3.05	33	886	+107			
Greensburg	90	53	69	-2	0.02	1		14.14	+3.11	34	953	+109			
Scottsburg	92	54	71	-2	0.17	2		16.03	+5.18	35	1020	+65			

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

GDD = Growing Degree Days.

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

Precipitation Days = Days with precip of .01 inch or more.

Air Temperatures in Degrees Fahrenheit.

Copyright 2006: Agricultural Weather Information Service, 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

Recovery From Hail Damage to Young Corn (Continued)

The effects of leaf death on yield increases as the plants near silking, and then decreases throughout grain fill. Therefore, the grower needs to determine the leaf stage of the crop when the hail damage occurred. Remember that leaf staging for the purposes of hail damage assessment is slightly different than the usual leaf collar method. The yield loss estimates listed in Table 2 are based on leaf stages as defined by the "droopy leaf" method (Nielsen, 2004a).

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 (Nielsen, 2004c). Given recent temperatures and the fact that little if any of Indiana's corn crop is yet beyond leaf stage V10, this rate of leaf emergence translates to about 1 leaf every 4 to 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 Table 2. This table is a condensed version of the season-long table published in the Purdue Extension publication ID-179, Corn and Soybean Field Guide or in NCH-1, Assessing Hail Damage in Corn (Vorst, 1993).

Assessing Consequences of Whorl & Stem Bruising

The eventual yield effects of severe bruising of leaf tissue in the whorl or the stalk tissue itself in older plants are quite difficult to predict. Consequently, it can be difficult to determine whether to count severely bruised plants as survivors or whether they should be voted off the field. The good news is that observations reported from an Ohio on-farm study suggest that bruising from hail early in the season does NOT typically result in increased stalk lodging or stalk rot development later in the season (Mangen & Thomison, 2001).

Early season bruising of leaf tissue or stem tissue may, however, have other consequences on subsequent plant development; the occurrences of which are hard to predict.

Areas of bruised whorl leaf tissue often die and can then restrict continued expansion of whorl leaves, resulting in the type of 'knotted' whorl reminiscent of frost damaged plants. These same bruised leaves would be more susceptible to secondary invasion by bacteria contained in splashed soil that might have been introduced into the damaged whorls if the hailstorm was accompanied by driving rains.

If the plant tissue bruising extends as deep as the plant's growing point, that important meristematic area may die; thus killing the main stalk and encouraging the development of tillers. If the plant tissue bruising extends into the area near, but not into, the growing point; subsequent plant development may be deformed in a fashion similar to any physical damage near the hormonally active growing point (stinkbug, stalk borer, drill bits used by malicious agronomists).

Example of Assessing Damage

Let's say that your field of corn was at the 7-leaf stage (approximately V5 by the leaf collar method) when hail damage occurs. After walking the field several days later, you determine only 20,000 of your original 30,000 plants per acre will survive the hail damage. Let's further assume that your original planting date was 25 April. Your surviving stand of 20,000 now has an upper yield potential of 92% of "normal" (Table 1). Therefore, the yield loss due to plant death itself would be about 8%.

Let's also assume that you estimate the average percent leaf death by defoliation to be 50% (which to most of us would look devastating). The combination of leaf stage and percent defoliation would translate into an additional 2% yield loss (Table 2), resulting in a total estimated yield loss due to both stand reduction and defoliation of approximately 10%.

This article also lists "Related References", photos and charts, which can be viewed at: <http://128.210.99.160/entomology/ext/targets/p&c/PandC2006/PandC11_2006.pdf>

R. L. (Bob) Nielsen, Department of Agronomy, Purdue University.

The INDIANA CROP & WEATHER REPORT (USPS 675-770), (ISSN 0442-817X) is issued weekly April through November by the USDA, NASS, Indiana Field Office, 1435 Win Hentschel Blvd, Suite B105, West Lafayette IN 47906-4145. Second Class postage paid at Lafayette IN. For information on subscribing, send request to above address. POSTMASTER: Send address change to the USDA, NASS, Indiana Field Office, 1435 Win Hentschel Blvd, Suite B105, West Lafayette IN 47906-4145.