



Indiana Crop & Weather Report

United States Dept of Agriculture

Indiana Agricultural
Statistics Service

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CROP REPORT FOR WEEK ENDING MAY 18

AGRICULTURAL SUMMARY

Another week of rain and wet field conditions prevented fieldwork during most of the week, according to the Indiana Agricultural Statistics Service. Thunderstorms continued in many areas during the week. Soils are saturated in many fields and weather conditions were not favorable for drying out fields during most of last week. Ponding of water exists in low lying areas of some fields, but flooding along some river bottom fields has started to subside. It will take a few days of favorable drying conditions before many farmers can return to tillage of fields and planting of corn and soybeans. Corn planting is 4 days behind average. Soybean planting is about 10 days behind the average pace. Some replanting will be necessary in drowned out areas.

FIELD CROPS REPORT

There was 1.0 **day suitable for fieldwork**. Sixty-one percent of the intended **corn** acreage is planted compared with 13 percent last year and 70 percent for the 5-year average. By area, 72 percent of the corn acreage is planted in the north, 65 percent in the central region and 30 percent in the south. Forty-five percent of the corn acreage has **emerged**, compared with 7 percent last year and 46 percent for the average. Twenty-five percent of the **soybean** acreage is planted compared with 4 percent last year and 50 percent for the average. By area, 37 percent of the soybean acreage is planted in the north, 25 percent in the central region and 5 percent in the south. Twelve percent of the soybean acreage has **emerged** compared with 2 percent last year and 26 percent for the average.

Virtually all of the **winter wheat** acreage is now **jointed**. Sixty-two percent of the winter wheat is **headed** compared with 48 percent last year and 66 percent for the average. Winter wheat **condition** is rated 82 percent good to excellent compared with 57 percent last year at this time.

Major activities during the week were repairing equipment, moving grain to market, hauling manure and taking care of livestock.

LIVESTOCK, PASTURE AND RANGE REPORT

Pasture condition is rated 17 percent excellent, 60 percent good, 20 percent fair and 3 percent poor. Pastures and forage crops continue to improve aided by the recent showers. Livestock remain in mostly good condition. Spring calving remains active.

CROP PROGRESS TABLE

Crop	This Week	Last Week	Last Year	5-Year Avg
Corn Planted	61	58	13	70
Corn Emerged	45	32	7	46
Soybeans Planted	25	21	4	50
Soybeans Emerged	12	NA	2	26
Winter Wheat Headed	62	35	48	66
Tobacco Plants Set	4	2	1	10

CROP CONDITION TABLE

Crop	Very Poor	Poor	Fair	Good	Excellent
Percent					
Pasture	0	3	20	60	17
Winter Wheat 2003	1	2	15	56	26
Winter Wheat 2002	2	8	33	47	10

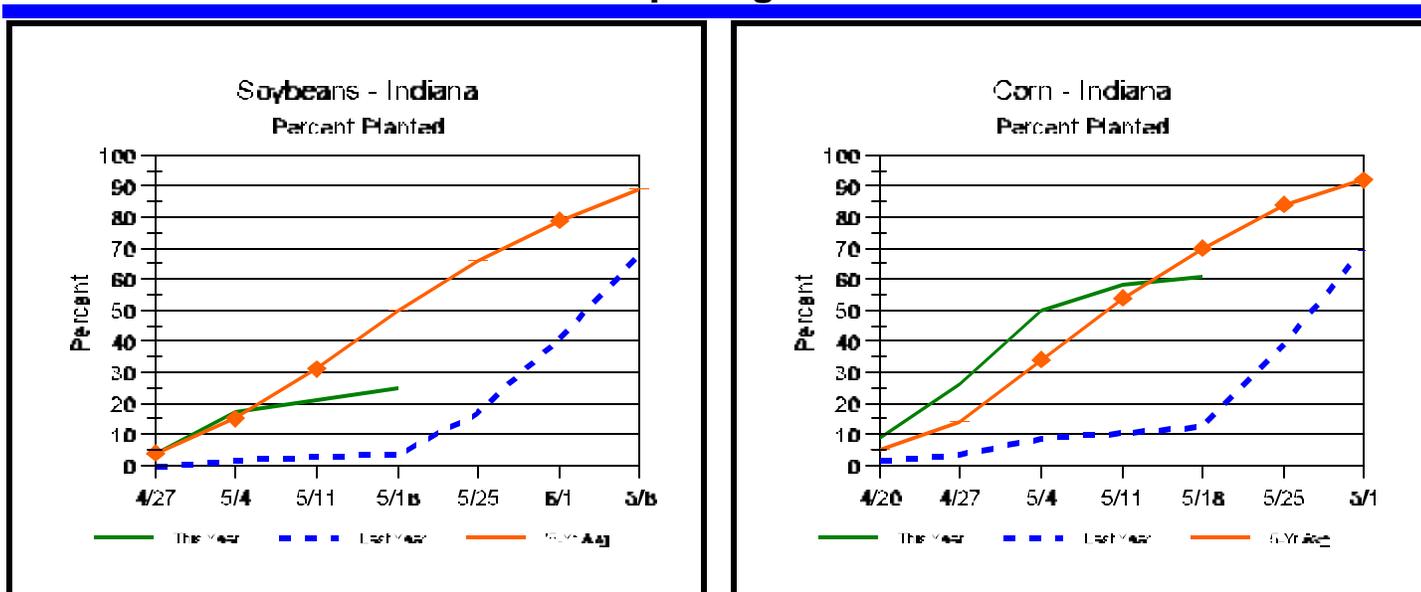
SOIL MOISTURE & DAYS SUITABLE FOR FIELDWORK TABLE

	This Week	Last Week	Last Year
Percent			
Topsoil			
Very Short	0	0	0
Short	0	1	0
Adequate	31	27	15
Surplus	69	72	85
Subsoil			
Very Short	0	0	0
Short	4	7	0
Adequate	50	56	25
Surplus	46	37	75
Days Suitable	1.0	0.6	0.4

CONTACT INFORMATION

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Crop Progress



Other Agricultural Comments And News

Effects of Flooding or Ponding on Young Corn

Recent intense rainfall events (technically referred to as “toad stranglers” or “goose drownders”) have caused flooding of low-lying corn fields or ponding in poorly drained swales within fields. Other areas within fields, while not technically flooded or ponded, may remain saturated for lengthy periods of time. What are the prospects for recently planted or emerged corn?

For corn that has been recently planted, but is not yet emerged, the obvious risk is with surface soil crusts that may develop following a severe downpour. The risk is particularly high for conventionally tilled fields. Corn emergence can be especially challenging when a dense surface crust “sets up.” The resistance of a crust to coleoptile penetration often results in corkscrewed mesocotyl elongation below the surface and eventual leafing out underground if coleoptile emergence is delayed long enough.

Monitor high-risk fields where corn emergence has not yet occurred and be prepared to use a rotary hoe if necessary to break up the crust and aid emergence. Don’t dawdle on using the rotary hoe until the crust has baked dry into “concrete.” Operate the hoe at a good speed and do not worry about the occasional corn seedling that is flipped out of the soil. A side benefit to breaking a dense soil crust is the resulting enhanced soil aeration.

The “wet feet” caused by flooding or ponding creates other risks for corn that has already emerged, primarily because soil oxygen is depleted after about 48 hours of soil saturation. Without oxygen, the plants cannot perform critical life sustaining functions; e.g. nutrient and water uptake is impaired and root growth is inhibited.

The growth stage of a corn crop greatly influences whether ponding or saturated soils kills, severely stunts, or mildly stunts the corn plants. Plants younger than V6 (six visible leaf collars) are susceptible to damage for two reasons. First of all, the growing point is at or below the soil surface from VE to about V6 and therefore is directly subject to the stress of oxygen-depleted conditions. In plants older than V6, the growing point may be above the water level and the likelihood for survival improves greatly.

Secondly, plants younger than V6 are in the process of trying to successfully establish a vigorous root system. Stunting or death of roots by oxygen-depletion can be a major stress for a plant that is not yet fully established.

Prior to leaf stage V6, corn can survive only two to four days of flooded or ponded conditions. If temperatures are warm during that time (mid-70s ° or higher) such young plants may not survive 24 hours. Cooler temperatures prolong survival.

The likelihood of crop injury is less where the flooded or ponded conditions last less than 48 hours. To confirm plant survival, check the color of the growing point and look for new leaf growth three to five days after water drains from the field. Healthy growing points will be firm and yellowish-white, not mushy and discolored.

Plants older than V6 will tolerate ponding or saturated soils longer for essentially the opposite reasons. As plants develop beyond V6, rapid stalk elongation elevates the growing point region above the soil surface and, thus, away from the direct stress of flooded soils. Secondly, an older crop’s root system will simply be larger and consequently the crop can tolerate a certain amount of root death without dying or dramatic stunting.

Nonetheless, extended periods of saturated soils plus warm temperatures will take their toll on the overall vigor of the crop. Some root death will occur and new root growth will be stunted until the soil dries to acceptable moisture content. As a result, plants may be subject to greater injury during a subsequently dry summer due to their restricted root systems.

Concomitant (I found a new word in the dictionary!) with the direct stress of saturated soils on a corn crop, flooding and ponding can result in significant losses of soil nitrogen through the processes of denitrification and leaching of nitrate N. Significant loss of soil N will cause nitrogen deficiencies and possible additional yield loss. Brouder & Joern (1998) offer guidelines in estimating the amount of nitrogen loss due to saturated soils and making decisions on application of additional nitrogen fertilizer to fields once ponded.

Weather Information Table

Week ending Sunday May 18, 2003

Station	Past Week Weather Summary Data							Accumulation				
	Air			Precip.	Total	Days	Soil	April 1, 2003 thru				
	Temperature							May 18, 2003				
	Hi	Lo	Avg	DFN	Total	Days	Temp	Total	DFN	Days	Total	DFN
Northwest (1)												
Chalmers_5W	71	44	57	-5	0.21	1	58	9.02	+3.06	22	330	+27
Valparaiso_AP_I	72	42	56	-5	0.37	2		8.38	+2.20	18	308	+69
Wanatah	72	39	55	-4	0.48	2	58	9.09	+3.17	19	262	+60
Wheatfield	71	43	56	-4	0.57	3		9.02	+3.24	18	314	+94
Winamac	70	43	56	-5	0.56	3	57	6.80	+1.11	19	317	+60
North Central(2)												
Plymouth	71	40	54	-7	0.81	3		7.49	+1.43	18	280	+8
South_Bend	71	38	54	-6	0.91	2		8.60	+2.94	18	310	+87
Young_America	71	43	58	-3	0.63	1		6.52	+0.89	20	359	+108
Northeast (3)												
Columbia_City	69	41	55	-4	0.89	5		8.46	+2.84	24	283	+81
Fort_Wayne	68	38	55	-5	1.00	2		8.52	+3.16	18	303	+67
West Central (4)												
Greencastle	72	46	60	-4	0.31	2		7.26	+0.78	22	372	+35
Perrysville	75	46	61	-1	0.49	2	62	6.97	+0.76	18	420	+130
Spencer_Ag	74	46	61	-2	0.75	4		8.02	+1.19	23	417	+122
Terre_Haute_AFB	75	43	62	-1	0.68	2		7.47	+0.91	19	448	+113
W_Lafayette_6NW	73	45	59	-2	0.67	3	62	7.96	+1.92	23	392	+135
Central (5)												
Eagle_Creek_AP	72	48	61	-2	0.53	2		7.10	+1.06	19	436	+112
Greenfield	71	43	59	-3	0.49	3		8.37	+1.77	22	400	+114
Indianapolis_AP	73	42	61	-2	0.88	2		7.61	+1.57	19	446	+122
Indianapolis_SE	73	45	60	-3	0.85	3		7.56	+1.15	19	407	+101
Tipton_Ag	71	44	58	-3	0.79	2	63	10.43	+4.27	17	316	+90
East Central (6)												
Farmland	71	43	58	-2	0.90	4	58	6.50	+0.77	19	348	+130
New_Castle	70	42	56	-4	0.28	2		5.47	-1.20	18	301	+77
Southwest (7)												
Evansville	74	48	64	-2	1.46	4		8.93	+2.09	22	570	+117
Freelandville	75	50	62	-2	0.56	3		10.63	+3.80	21	478	+120
Shoals	78	46	62	+0	1.32	3		9.58	+2.39	19	485	+137
Stendal	76	49	64	-1	2.95	4		11.69	+4.22	20	533	+133
Vincennes_5NE	77	48	63	+0	1.00	4	62	9.56	+2.73	22	500	+142
South Central(8)												
Leavenworth	77	49	63	+0	1.52	4		9.61	+2.18	24	499	+144
Oolitic	75	47	61	-1	0.86	4	62	9.11	+2.30	22	450	+138
Tell_City	77	51	66	+2	2.32	4		11.25	+3.57	20	621	+205
Southeast (9)												
Brookville	75	43	61	+1	0.99	4		6.54	-0.06	19	454	+191
Milan_5NE	73	44	60	-1	1.00	4		8.67	+2.07	25	423	+160
Scottsburg	76	46	61	-2	1.15	5		11.41	+4.57	23	471	+109

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.

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Effects of Flooding or Ponding on Young Corn (Continued)

Lengthy periods of wet soil conditions favor the development of seedling blight diseases, especially those caused by *Pythium* fungi (Ortiz-Ribbing, 2001). Poorly drained areas of fields are most at risk for the development of these diseases and so are also at most risk for potential replant operations if significant stand loss occurs due to seedling blight outbreaks.

Certain diseases, such as common smut and crazy top, may also become greater risks due to flooding and cool temperatures (Bissonnette, 2002). The fungus that causes crazy top depends on saturated soil conditions to infect corn seedlings. The common smut fungal organism is ubiquitous in soils and can infect young corn plants through tissue damaged by floodwaters. There is limited hybrid resistance to either of these two diseases and predicting damage is difficult until later in the growing season.

Other flooding / ponding on-line references:

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Farnham, Dale. 1999. Corn survival in wet conditions. Iowa State Univ. Integrated Crop Management Newsletter, 5 / 2 4 / 1 9 9 9 . Online at <<http://www.ent.iastate.edu/ipm/icm/1999/5-24-1999/wetcorn.html>>. [URL verified 5/5/03].

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National Soil Survey Center. 1996. Soil Quality Indicators: Soil Crusts. USDA-Natural Resources Conservation Service. Online at <http://soils.usda.gov/sqi/files/sq_sev_1.pdf>. [URL verified 5/5/03].

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Thomison, Peter. 1995. Effects of Flooding and Ponding on Corn (AGF-118-95). Ohio State Univ. Online at <<http://www.ag.ohio-state.edu/~ohioline/agf-fact/0118.html>>. [URL verified 5/5/03].

Don't forget, this and other timely information about corn can be viewed at the Chat 'n Chew Café on the World Wide Web at <<http://www.kingcorn.org/cafe>>. For other information about corn, take a look at the Corn Growers' Guidebook on the World Wide Web at <<http://www.kingcorn.org/>>.

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