



Indiana Crop & Weather Report

INDIANA AGRICULTURAL STATISTICS
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CROP REPORT FOR WEEK ENDING MAY 7

Light showers during the week slowed field activities temporarily in some areas of the State. However, planting and other field operations continued to make good progress during the week, according to the Indiana Agricultural Statistics Service. Overall, conditions have been favorable for getting corn and soybeans planted thus far this season. Corn planting is more than two weeks ahead of average. Soybean planting is 10 days ahead of average and on par with the record pace established in 1988.

CORN AND SOYBEANS

Sixty-six percent of the **corn** acreage is planted compared with 44 percent last year and 29 percent for the 5-year average. By area, corn planting is 64 percent complete in the north, 72 percent complete in the central and 58 percent complete in the south. Fifteen percent of the corn crop has **emerged** compared with 7 percent last year. Twenty-nine percent of the **soybean** acreage is planted compared with 16 percent last year and 10 percent for the average.

WINTER WHEAT

Twenty-seven percent of the winter wheat acreage is **headed** compared with 17 percent last year and 13 percent for the 5-year average. Wheat condition improved from a week earlier. Winter wheat **condition** is rated 79 percent good to excellent, compared with 87 percent at this time a year ago.

OTHER CROPS AND LIVESTOCK

Pasture condition was rated 11 percent excellent, 47 percent good, 31 percent fair, 8 percent poor and 3 percent very poor. Alfalfa Weevil is active in some fields. Livestock are in mostly good condition. Calving remains active.

DAYS SUITABLE and SOIL MOISTURE

For the week ending Friday, 4.7 days were rated **suitable for fieldwork**. **Topsoil moisture** was rated 4 percent very short, 17 percent short, 69 percent adequate and 10 percent surplus. **Subsoil moisture** was rated 17 percent very short, 37 percent short, 42 percent adequate and 4 percent surplus.

CROP PROGRESS

Crop	This Week	Last Week	Last Year	5-Year Avg
	Percent			
Corn Planted	66	35	44	29
Corn Emerged	15	0	7	NA
Soybeans Planted	29	10	16	10
Winter Wheat Jointed	100	98	95	83
Winter Wheat Headed	27	13	17	13

CROP CONDITION

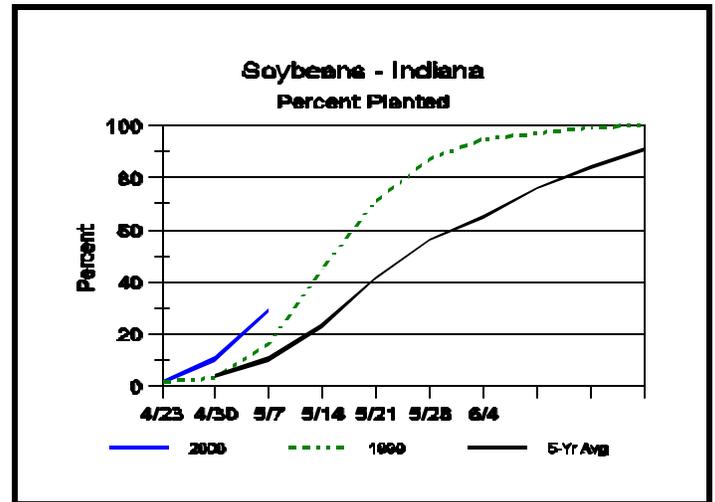
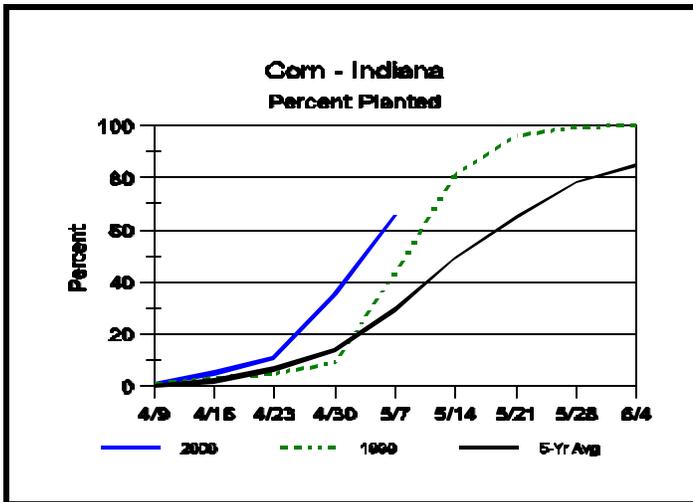
Crop	Very Poor	Poor	Fair	Good	Excellent
	Percent				
Winter Wheat 5/7	1	3	17	53	26
Winter Wheat 4/30	1	5	19	53	22
Winter Wheat 1999	0	1	12	63	24
Pasture	3	8	31	47	11

SOIL MOISTURE

	This Week	Last Week	Last Year
	Percent		
Topsoil			
Very Short	4	6	0
Short	17	18	5
Adequate	69	67	70
Surplus	10	9	25
Subsoil			
Very Short	17	16	0
Short	37	39	6
Adequate	42	43	78
Surplus	4	4	16

--Ralph W. Gann, State Statistician
 --Bud Bever, Agricultural Statistician
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Crop Progress



Emergence Process in Corn

T Understanding the process helps you trouble shoot problems with emergence

Growth stage VE refers to emergence of the coleoptile or first leaves through the soil surface. Successful germination does not guarantee successful emergence of the crop. The coleoptile must reach the soil surface before its internal leaves emerge from the protective tissue of the coleoptile.

As with all of corn growth and development, germination and emergence are dependent on temperature, especially soil temperature. Corn typically requires from 100 to 150 MGDD (growing degree days) to emerge. Under warm soil conditions, the calendar time from planting to emergence can be as little as 5 to 7 days. Under cold soil conditions, it can easily take up to four weeks to emerge.

Elongation of the mesocotyl elevates the coleoptile towards the soil surface. The mesocotyl is the tubular, white, stemlike tissue connecting the seed and the base of the coleoptile. Technically, the mesocotyl is the first internode of the stem.

Useful Tip: Physiologically, mesocotyls have the capability to lengthen from at least a 6-inch planting depth. Realistically, corn can be planted at least three inches deep if necessary to reach adequate moisture.

As the coleoptile nears the soil surface, exposure of the mesocotyl to the red light portion of the solar

radiation spectrum halts mesocotyl elongation. Continued expansion of the leaves inside the coleoptile ruptures the coleoptile tip, allowing the first true leaf to emerge above the soil surface. Since the depth at which the mesocotyl senses red light is fairly constant, the resulting depth of the crown (base) of the coleoptile is nearly the same (1/4 to 3/4 inch) at seeding depths of one-inch or greater.

Useful Tip: When corn is seeded very shallow (less than about 3/4 inch), the crown of the coleoptile will naturally be closer to the soil surface if not right at the surface. Subsequent development of the nodal root system can be restricted by exposure to high temperatures and dry surface soils.

Troubleshooting Considerations

Several factors can cause the coleoptile to split pre-maturely, allowing the leaves to emerge underground. Usually, more than one of the following factors are present when this problem occurs, making it difficult to place the blame on any one factor.

Exposure to light at deeper soil depths than usual due to cloddy seedbeds, dry seedbeds, sandy soils, or open slots in no-till.

Injury from certain herbicides, particularly under stressful environmental conditions. Symptoms include corkscrewed coleoptile, swollen mesocotyl and true leaves emerged from side of coleoptile.

(Continued on Page 4.)

Weather Data

Week ending Sunday May 7, 2000

Station	Past Week Weather Summary Data							Accumulation				
	Air Temperature				Precip.		Avg 4 in Soil Temp	April 1, 2000 thru May 7, 2000				
	Hi	Lo	Avg	DFN	Total	Days		Precipitation		GDD Base 50°F		
							Total	DFN	Days	Total	DFN	
Northwest (1)												
Valparaiso_Ag	86	41	65	+9	0.66	2		4.82	-0.04	14	151	+12
Wanatah	86	39	65	+11	0.62	1	65	4.49	-0.16	11	147	+35
Wheatfield	86	40	66	+11	0.69	1		3.77	-0.79	12	166	+44
Winamac	85	42	66	+10	1.09	1	64	3.71	-0.77	8	166	+16
North Central (2)												
Logansport	82	43	64	+8	0.83	3		2.60	-1.72	16	171	+26
Plymouth	86	42	65	+8	0.70	2		5.09	+0.35	13	155	-6
South_Bend	86	37	65	+11	0.64	1		4.35	-0.19	16	163	+36
Young_America	87	41	66	+10	0.94	1		2.14	-2.18	10	217	+72
Northeast (3)												
Bluffton	84	42	65	+9	0.64	2	58	3.03	-1.47	11	183	+30
Fort_Wayne	85	41	65	+9	0.79	1		2.88	-1.27	10	182	+47
West Central (4)												
Crawfordsville	83	36	62	+5	0.61	2	60	2.48	-2.55	13	146	-48
Perrysville	84	42	65	+8	0.51	3	66	2.62	-2.17	9	190	+15
Terre_Haute_Ag	85	45	68	+9	0.55	3	64	3.73	-1.20	13	243	+35
W_Lafayette_6NW	84	44	66	+10	1.11	3	65	2.17	-2.47	11	207	+56
Central (5)												
Castleton	84	44	66	+8	1.09	5		4.50	-0.30	18	204	+22
Greenfield	83	45	66	+8	0.97	4		5.07	+0.01	18	212	+44
Greensburg	84	40	65	+7	1.39	5		6.19	+1.02	17	205	+22
Indianapolis_AP	83	46	66	+8	0.55	4		4.35	-0.26	17	242	+45
Indianapolis_SE	84	41	66	+8	0.51	5		4.56	-0.24	14	203	+21
Tipton_Ag	85	41	63	+8	1.00	2	64	2.12	-2.69	12	162	+35
East Central (6)												
Farmland	85	41	64	+9	0.97	2	58	5.42	+1.00	15	168	+48
New_Castle	81	41	62	+7	1.17	3		4.94	-0.17	17	135	+10
Southwest (7)												
Dubois_Ag	83	45	68	+9	0.82	3	71	4.37	-0.87	17	273	+37
Evansville	82	48	68	+7	0.54	4		2.90	-2.20	13	309	+8
Freelandville	82	48	67	+8	0.09	2		4.28	-0.72	10	239	+12
Shoals	85	40	66	+8	0.25	3		3.21	-2.06	15	224	+2
Vincennes_5NE	81	46	67	+8	0.63	5	60	3.35	-1.65	16	243	+16
South Central (8)												
Bloomington	83	42	66	+7	0.32	5		4.19	-0.81	14	214	-10
Tell_City	82	44	67	+7	2.38	2		5.07	-0.85	11	276	+5
Southeast (9)												
Scottsburg	85	44	67	+8	1.10	3		5.52	+0.33	13	244	+15

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.

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Emergence Process in Corn (continued)

Surface crusting, planter furrow compaction, or otherwise dense surface soil that physically restricts mesocotyl elongation and coleoptile penetration. The pressure of the expanding leaves within the coleoptile eventually ruptures the side of the coleoptile. Symptoms include corkscrewed coleoptile, swollen mesocotyl and true leaves emerged from side of coleoptile. Note the similarity to those symptoms from herbicide injury.

Cold temperature injury, either from exposure to long periods of soil temperatures around 50°F or from exposure to wide daily swings (25 to 30°F) in soil temperatures. Symptoms include absence of emerged coleoptile, corkscrewed mesocotyl or coleoptile and true leaves emerged from side of coleoptile. Note the similarity to those symptoms from herbicide injury.

Useful Tip: The mesocotyl should remain firm, white and healthy through at least the 6-leaf stage, if not longer. If it is mushy, discolored, or damaged prior to this stage, then it is likely part of the crop problem being investigated.

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/chatchew.htm>. For other information about corn, take a look at the Corn Growers' Guidebook on the World Wide Web at <http://www.kingcorn.org/index.html>.

--Bob Nielsen, Purdue University

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