



USDA, National Agricultural Statistics Service

# Indiana Crop & Weather Report

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## CROP REPORT FOR WEEK ENDING MAY 27

### AGRICULTURAL SUMMARY

Some much needed rain came late in the week, but many areas of the state are still very dry, according to the Indiana Field Office of USDA's National Agricultural Statistics Service. Soybeans and late planted corn are in need of additional moisture for germination and emergence. Low hay yields are being reported by farmers as they cut and bale the crop for the first time of the season. Some additional acres of poor quality wheat are being cut as forage.

### FIELD CROPS REPORT

There were 6.2 **days suitable for field work**. Ninety-nine percent of the intended **corn** acreage has been **planted** compared with 87 percent last year and 81 percent for the 5-year average. Eighty-seven percent of the corn acreage has **emerged** compared with 69 percent last year and 65 percent for the 5-year average. Eighty-nine percent of the intended **soybean** acreage has been **planted** compared with 55 percent last year and 58 percent for the 5-year average. Fifty-six percent of the soybean acreage has **emerged** compared with 28 percent last year and 37 percent for the 5-year average.

Eighty-five percent of the **winter wheat** acreage is **headed** compared with 91 percent for last year and 87 percent for the 5-year average. Winter wheat **condition** is rated 38 percent good to excellent compared to 77 percent last year at this time.

Major activities during the week included: applying nitrogen to corn, cleaning and storing planting equipment, spraying herbicides, cutting and baling hay, mowing roadsides and ditches, hauling manure and taking care of livestock.

### LIVESTOCK, PASTURE AND RANGE REPORT

**Pasture condition** is rated 6% excellent, 47% good, 36% fair, 10% poor, and 1% very poor. Some pastures have deteriorated due to the persisting dry weather. Livestock remain in mostly good condition.

### CROP PROGRESS TABLE

Crop	This Week	Last Week	Last Year	5-Year Avg
	Percent			
Corn Planted	99	94	87	81
Corn Emerged	87	66	69	65
Soybeans Planted	89	72	55	58
Soybeans Emerged	56	24	28	37
Winter Wheat Headed	85	59	91	87
Alfalfa First Cutting	49	NA	13	20

### CROP CONDITION TABLE

Crop	Very Poor	Poor	Fair	Good	Excellent
	Percent				
Corn	1	4	22	60	13
Winter Wheat	7	17	38	34	4
Pasture	1	10	36	47	6

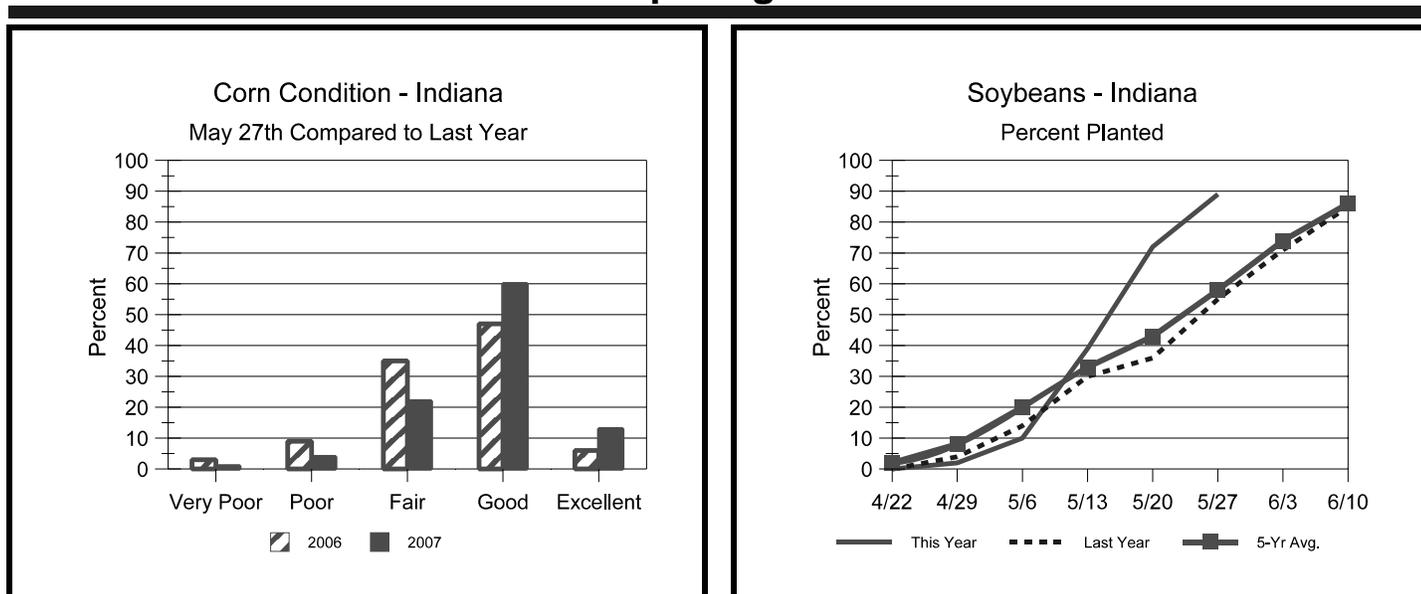
### SOIL MOISTURE & DAYS SUITABLE FOR FIELDWORK TABLE

	This Week	Last Week	Last Year
	Percent		
<b>Topsoil</b>			
Very Short	7	3	0
Short	37	18	0
Adequate	54	75	60
Surplus	2	4	40
<b>Subsoil</b>			
Very Short	3	1	0
Short	24	8	2
Adequate	71	86	66
Surplus	2	5	32
<b>Days Suitable</b>	6.2	5.7	3.5

### CONTACT INFORMATION

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# Crop Progress



## Other Agricultural Comments And News

### Variable Emergence Due to Variable Seedbed Moisture

One of several requirements for uniformly quick germination in corn (Nielsen, 2007a) is uniformly adequate soil moisture in the seed zone. When seedbed soil moisture is variable (too dry vs. just right or too wet vs. just right), germination and emergence will also be variable.

Corn planted during the past couple of weeks in parts of Indiana has occurred in soils that have dried quickly in response to a string of warm, sunny days with strong winds and low humidity levels. Tilled seedbeds in particular have dried very quickly at the surface and sometimes unevenly.

Coupled with shallow compacted tillage layers that sometimes prevent planter row units from placing seed as deeply as the depth setting targets, kernels within inches of each other in the seed furrow can experience significantly different soil moisture levels. In other situations, growers may have neglected to change planter depth settings in response to the depth at which soil moisture was more uniform.

Last Friday I came across an example of fairly dramatic uneven emergence caused by variable soil moisture in a conventionally tilled field (corn following soybean) that was planted May 7. I estimated 75 to 80% of the field was comprised of "normal" emergers that were at the late V1 leaf stage (one leaf with a visible collar). Some late emergers were barely breaking through the surface, while others were yet in the process of elongating towards the soil surface.

Still other kernels showed no visible signs of germination (Nielsen, 2007b), suggesting they had not imbibed enough moisture to initiate the germination process. The non-germinated kernels were otherwise healthy with no evidence of disease or insect injury.

Given that the initial emergers were at late V1, if the yield. Even the late emergers that were barely visible on May 18 will likely experience enough competition with their neighbors that are almost two leaves farther

advanced that they will not contribute 100% to grain yield.

Seed spacing among the normal emergers suggested an initial seeding rate of 33000 seeds per acre. I estimated the percent of delayed emergers or non-germinated kernels to be no less than 20% of the stand. Yield loss due to such delayed emergence is roughly similar to that due to low population. Based on the initial seeding rate and the plant population yield response tabular data published in Purdue's ID-179, Corn & Soybean Field Guide, the estimated yield loss in this field would thankfully only be 1 to 2 percent (33000 vs 26). If the initial seeding rate had been closer to the lower end of the optimum range, say closer to 28,000 seeds per acre, the predicted yield loss due to 20% fewer contributing plants would have somewhat higher at about 5 percent.

### Related References

Carter, Paul, Emerson Nafziger, and Joe Lauer. Uneven Emergence in Corn. North Central Regional Extension Pub. No. 344. [On-Line]. Available at <<http://learningstore.uwex.edu/pdf%5CNCR344.pdf>>. (URL verified 4/23/07).

Nielsen, R.L. (Bob). 2007a. Requirements for Uniform Germination and Emergence of Corn. Corny News Network, Purdue Univ. [On-Line]. Available at <<http://www.kingcorn.org/news/timeless/GermEmergReq.html>>. (URL verified 5/20/07).

Nielsen, R.L. (Bob). 2007b. Visible Indicators of Germination in Corn. Corny News Network, Purdue Univ. [On-Line]. Available at <<http://www.kingcorn.org/news/timeless/GerminationGallery.html>>. (URL verified 5/20/07).

Bob Nielsen, Department of Agronomy, Purdue University, West Lafayette, IN, Published May 20, 2007, Pest & Crop Newsletter, May 25, 2007, Issue #9. In order to view the photos with this article, go to: <http://www.agry.purdue.edu/ext/corn/news/articles.07/VariableEmergence-0520.htm>

# Weather Information Table

## Week ending Sunday May 27, 2007

Station	Past Week Weather Summary Data							Accumulation				
	Air Temperature				Precip.		Avg 4 in Soil Temp	April 1, 2007 thru May 27, 2007			GDD Base 50°F	
	Hi	Lo	Avg	DFN	Total	Days		Total	DFN	Days	Total	DFN
<b>Northwest (1)</b>												
Chalmers_5W	91	51	70	+6	1.12	2		6.11	-0.93	15	521	+86
Francesville	88	48	68	+5	1.18	2		6.16	-0.56	18	489	+111
Valparaiso_AP_I	89	45	69	+7	0.90	4		4.40	-2.90	16	498	+143
Wanatah	90	44	65	+4	1.60	4	69	7.68	+0.71	18	430	+120
Winamac	89	49	68	+5	0.84	2	69	6.53	-0.19	17	488	+110
<b>North Central(2)</b>												
Plymouth	88	50	68	+5	1.03	3		7.08	-0.06	20	446	+48
South_Bend	90	50	68	+7	0.89	4		6.17	-0.42	18	504	+169
Young_America	90	53	71	+9	0.92	2		5.03	-1.68	14	551	+177
<b>Northeast (3)</b>												
Columbia_City	89	48	68	+7	0.46	3	62	4.76	-1.90	19	430	+120
Fort_Wayne	91	49	70	+8	0.56	2		4.66	-1.69	21	522	+169
<b>West Central(4)</b>												
Greencastle	87	46	68	+3	0.69	2		5.62	-2.23	16	528	+50
Perrysville	91	50	72	+9	1.15	3	79	5.01	-2.37	17	652	+233
Spencer_Ag	88	42	69	+6	1.17	2		6.83	-1.40	17	555	+131
Terre_Haute_AFB	88	48	71	+6	0.65	2		5.63	-2.21	17	640	+166
W_Lafayette_6NW	90	50	71	+9	2.01	3	73	6.60	-0.52	17	572	+192
<b>Central (5)</b>												
Eagle_Creek_AP	88	53	72	+7	0.58	2		5.59	-1.62	17	651	+188
Greenfield	87	53	71	+7	0.12	2		6.36	-1.45	23	571	+152
Indianapolis_AP	88	55	73	+8	0.33	2		5.20	-2.01	19	658	+195
Indianapolis_SE	87	52	72	+7	0.51	2		7.23	-0.41	19	576	+133
Tipton_Ag	88	53	70	+8	0.50	2	72	4.77	-2.47	18	515	+172
<b>East Central(6)</b>												
Farmland	88	49	71	+9	0.03	2	71	5.32	-1.53	18	489	+157
New_Castle	89	52	71	+9	0.21	2		6.79	-1.14	16	530	+189
<b>Southwest (7)</b>												
Evansville	87	49	71	+4	0.00	0		6.33	-1.88	17	762	+147
Freelandville	87	56	72	+7	0.26	2		4.61	-3.70	17	685	+183
Shoals	87	46	70	+5	0.14	1		6.88	-1.85	18	621	+136
Stendal	88	54	74	+8	0.00	0		6.20	-2.79	16	797	+244
Vincennes_5NE	89	51	74	+9	0.04	1	74	4.71	-3.60	17	731	+229
<b>South Central(8)</b>												
Leavenworth	88	49	71	+7	0.13	2		7.29	-1.52	20	683	+192
Oolitic	86	45	68	+4	0.00	0	70	6.33	-1.89	15	572	+131
Tell_City	87	51	73	+6	0.00	0		7.26	-1.77	15	762	+193
<b>Southeast (9)</b>												
Brookville	90	47	71	+8	0.00	0		4.96	-2.98	15	621	+236
Greensburg	87	54	72	+9	0.18	2		5.92	-2.37	18	646	+216
Scottsburg	90	51	72	+6	0.00	0		8.01	-0.10	17	664	+158

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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## Variable Emergence Due to Variable Seedbed Moisture (Continued)

Expected Grain Yield Due to Various Planting Dates and Final Plant Populations

Planting date	Plant population (final) per acre													
	10,000	12,000	14,000	16,000	18,000	20,000	22,000	24,000	26,000	28,000	30,000	32,000	34,000	36,000
<i>Percent of optimum yield</i>														
10-Apr	62	68	73	78	82	85	88	91	92	93	94	94	93	91
15-Apr	65	71	76	81	85	88	91	94	95	96	97	96	96	94
20-Apr	67	73	78	83	87	90	93	96	97	98	99	98	98	96
25-Apr	68	74	79	84	88	92	94	97	98	99	100	100	99	97
30-Apr	68	74	79	84	88	92	95	97	99	100	100	100	99	97
5-May	67	73	79	83	87	91	94	96	98	99	99	99	98	97
10-May	65	71	77	82	86	89	92	94	96	97	97	97	96	95
15-May	63	69	74	79	83	87	89	92	93	94	95	95	94	92
20-May	59	65	71	75	80	83	86	88	90	91	91	91	90	89
25-May	55	61	66	71	75	79	81	84	85	86	87	87	86	84
30-May	49	55	61	65	70	73	76	78	80	81	81	81	80	79
4-Jun	43	49	54	59	63	67	70	72	74	75	75	75	74	73
9-Jun	36	42	47	52	56	60	62	65	66	67	68	68	67	65

Source: Nafziger. 1994. J. Prod. Ag 7:59-62. Yield response to planting date extrapolated beyond May 25 with concurrence of author.

Note: The highlighted area represents the optimum ranges (98 to 100% yield) of plant populations and planting dates for productivity levels greater than about 125 bushels per acre. Optimum plant populations for soils with historical yields less than about 100 bushels per acre will likely not respond to final plant populations greater than about 24,000 plants per acre. (R.L. Nielsen, Purdue Agronomy)

(Table source: Purdue ID-179, Corn & Soybean Field Guide, 2007 ed., p. 11)

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