



Indiana Crop & Weather Report

INDIANA AGRICULTURAL STATISTICS
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CROP REPORT FOR WEEK ENDING JUNE 24

AGRICULTURAL SUMMARY

Winter wheat harvest continued to make good progress in the southwestern area of the state. Rain slowed field activities in many areas of the state. Spraying for insects and weeds continued as field conditions permitted. Corn and soybean condition improved from a week earlier. First cutting of hay crops is winding down and second cutting of alfalfa hay is underway in some areas. Weeds remain a problem in many soybean fields.

FIELD CROPS REPORT

There were 4.0 **days suitable for fieldwork**. Corn **condition** is rated 76 percent good to excellent compared with 71 percent last week and 85 percent last year at this time. Virtually all of the **soybean** acreage has been planted, except some double crop soybeans, compared with 91 percent for the average. Ninety-nine percent of the intended soybean acreage has **emerged** compared with 99 percent last year. Soybean **condition** is rated 65 percent good to excellent compared with 60 percent last week and 67 percent last year. Major activities during the week included spraying, harvesting wheat, planting double crop soybeans, cleaning and repairing equipment, mowing and baling hay.

Winter wheat **condition** is rated 70 percent good to excellent compared with 77 percent a year ago at this time. Wheat **harvest** is 25 percent complete compared with 18 percent last year and 13 percent for the 5-year average.

LIVESTOCK, PASTURE AND RANGE REPORT

Pasture condition is rated 8 percent excellent, 48 percent good, 28 percent fair, 12 percent poor and 4 percent very poor. Transplanting of **tobacco** is 95 percent complete compared with 96 percent last year and 74 percent for the average. First cutting of **alfalfa** hay is 95 percent complete compared with 97 percent last year and 84 percent for the 5-year average.

CROP PROGRESS TABLE

Crop	This Week	Last Week	Last Year	5-Year Avg
Percent				
Soybeans Planted	100	99	100	91
Soybeans Emerged	99	98	99	NA
Wheat Harvested	25	9	18	13
Tobacco Plants Set	95	75	96	74
Alfalfa First Cutting	95	82	97	84

CROP CONDITION TABLE

Crop	Very Poor	Poor	Fair	Good	Excellent
Percent					
Corn	1	4	19	58	18
Soybeans	1	6	28	57	8
Pasture	4	12	28	48	8
Winter Wheat 2001	2	5	23	56	14

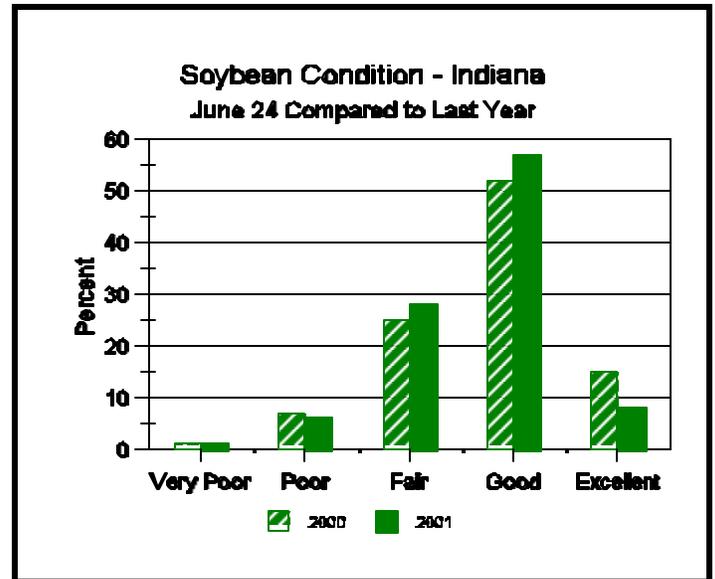
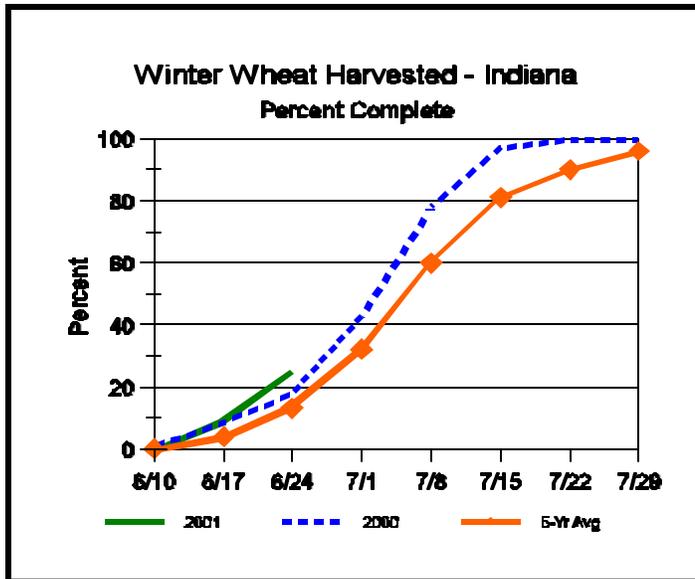
SOIL MOISTURE & DAYS SUITABLE FOR FIELDWORK TABLE

	This Week	Last Week	Last Year
Percent			
Topsoil			
Very Short		1	0
Short		7	3
Adequate	75	75	63
Surplus	20	17	34
Subsoil			
Very Short	3	4	4
Short	13	15	19
Adequate	74	71	64
Surplus	10	10	13
Days Suitable	4.0	5.2	2.3

CONTACT INFORMATION

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Crop Progress



Other Agricultural Comments And News

Ear Initiation & Size Determination In Corn

- Ear shoots are initiated at many stalk nodes very early in the corn plant's development
- Ear size determination of the uppermost, harvestable ear begins by the time a corn plant has reached knee-high and finishes 7 to 10 days prior to silk emergence

The potential size of the ear (number of kernels) is an important factor that contributes to the grain yield potential of a corn plant. Severe plant stress during ear formation may limit the potential ear size, and thus grain yield potential, before pollination has even occurred. Optimum growing conditions set the stage for maximum ear size potential and exceptional grain yields at harvest time. The size of what will become the harvestable ear begins by the time a corn plant has reached knee-high and finishes 7 to 10 days prior to silk emergence.

Ear Shoot Development . An axillary meristem forms at each stalk node (behind the leaf sheath) beginning at the base of the stalk and continuing toward the top *acropetally* (for you wordsmith fans) except for the upper six to eight nodes of the plant. Each axillary meristem initiates husk leaves at the nodes of the ear shank and eventually an ear itself at the tip of the ear shank.

By about the V5 or V6 stages of development (five to six visible leaf collars), the growing point (apical meristem) of the corn plant finishes the task of initiating leaf primordia and completes its developmental responsibilities by initiating the tassel primordium of the plant. At about the same time that the tassel is

initiated, the final and uppermost axillary meristem that will give rise to the harvestable ear is also initiated.

Careful removal of the leaves from a stalk, including leaf sheaths, at about growth stage V10 (10 visible leaf collars) will usually expose 8 to 10 identifiable ear shoots. Each ear shoot is attached at a stalk node, behind its respective leaf sheath. At growth stage V10, these tiny ear shoots are composed primarily of husk leaf tissue. The developing ears themselves are only a fraction of an inch in length.

Initially, the ear shoots found at the lower stalk nodes are longer than the ones at the upper stalk nodes because the lower ones are created earlier. As time marches on, the upper one or two ear shoots assume priority over all the lower ones and become the harvestable ears. Development of the upper ears is favored over the lower ones because of hormonal 'checks and balances', plus the proximity of the upper ear to the actively photosynthesizing leaves of the upper canopy. The uppermost (harvestable) ear will normally be located at the 12th to 14th stalk node, corresponding to the 12th to 14th leaf.

Ear Size Determination . The number of kernel rows and the number of kernels per row determine total kernel number. Row number is one of several yield components in corn. Every pair of rows is generally equal to 20 bushels per acre (for average populations and ear lengths). Kernel number per row is another yield component of corn. For a 16-row ear, one kernel per row is equal to about five bushels per acre

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Weather Information Table

Week ending Sunday June 24, 2001

Station	Past Week Weather Summary Data							Accumulation				
	Air Temperature				Precip.		Avg	April 1, 2001 thru June 24, 2001				
							4 in	Precipitation		GDD Base 50°F		
	Hi	Lo	Avg	DFN	Total	Days	Soil Temp	Total	DFN	Days	Total	DFN
Northwest (1)												
Valparaiso_Ag	89	51	69	-3	0.50	2		10.16	-1.04	45	990	+133
Wanatah	92	48	68	-3	0.53	1	73	10.72	+0.16	45	951	+147
Wheatfield	91	49	69	-3	0.52	1		10.65	+0.18	43	1019	+184
Winamac	89	53	69	-2	1.01	3	74	13.14	+2.60	44	1026	+134
North Central(2)												
Logansport	87	54	70	-2	1.55	2		14.55	+4.34	43	1026	+127
Plymouth	90	50	67	-5	0.93	1		11.21	+0.21	43	928	-4
South_Bend	90	50	68	-3	0.83	2		12.37	+2.06	43	988	+152
Young_America	90	54	70	-2	0.72	2		10.06	-0.15	37	1116	+217
Northeast (3)												
Bluffton	89	55	70	-2	0.76	3	71	11.68	+0.96	43	1048	+124
Fort_Wayne	89	53	70	-3	0.79	2		10.18	+0.49	43	1025	+143
West Central (4)												
Crawfordsville	90	50	69	-5	0.85	3	74	9.60	-1.58	38	1056	+43
Perrysville	90	50	70	-4	1.56	3	74	7.40	-3.87	37	1166	+191
Terre_Haute_Ag	94	53	72	-2	0.34	2	75	12.83	+1.69	35	1308	+253
W_Lafayette_6NW	92	49	70	-2	0.43	2	75	8.21	-2.32	36	1148	+242
Central (5)												
Castleton	88	57	71	-3	0.47	3		12.10	+1.43	36	1164	+146
Greenfield	89	55	70	-3	1.33	3		11.37	+0.35	38	1156	+178
Greensburg	92	55	71	-1	1.05	3		12.58	+0.86	34	1252	+277
Indianapolis_AP	88	54	71	-3	0.49	3		10.43	+0.00	32	1255	+211
Indianapolis_SE	90	54	70	-4	0.81	3		9.89	-0.78	31	1107	+89
Tipton_Ag	89	54	69	-3	0.74	2	71	10.35	-0.13	32	1013	+150
East Central (6)												
Farmland	90	50	69	-2	0.97	4	69	12.27	+1.59	38	1037	+205
New_Castle	86	52	67	-4	1.67	4		15.72	+4.09	40	926	+72
Southwest (7)												
Dubois_Ag	94	55	72	+0	3.65	3	81	10.96	-1.45	30	1367	+293
Evansville	92	58	74	-3	2.57	3		9.32	-2.23	32	1510	+234
Freelandville	91	56	72	-2	1.31	3		9.26	-2.61	32	1355	+253
Shoals	91	54	72	-1	1.90	3		10.94	-1.65	34	1269	+214
Vincennes_5NE	94	55	73	-1	1.01	2	77	7.96	-3.91	26	1410	+308
South Central(8)												
Bloomington	90	54	71	-3	1.01	3		10.01	-1.45	37	1274	+202
Tell_City	90	57	73	-3	5.04	3		11.24	-1.62	24	1437	+244
Southeast (9)												
Scottsburg	91	55	72	-3	1.34	4		11.10	-0.50	37	1320	+224

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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Ear Initiation & Size Determination In Corn (Continued)

(for average populations). Typically, from 750 to 1000 ovules (potential kernels) develop on each ear shoot. Actual (harvestable) kernel number per ear averages between 400 and 600.

Kernel row number determination of the uppermost ear begins shortly after the ear shoot is initiated (V5 to V6) and is thought to be complete by growth stage V12. Like so many other processes in the corn plant, kernel row number determination on an ear proceeds in an acropetal fashion (from base to tip).

Kernel rows first initiate as 'ridges' of cells that eventually differentiate into pairs of rows. Thus, row number on ears of corn is always even unless some sort of stress disrupts the developmental process. True row number is often difficult to visualize in tiny ears dissected from plants younger than about the 12-leaf stage.

Row number is determined strongly by plant

genetics rather than by environment. This means that row number for any given hybrid will be quite similar from year to year, regardless of growing conditions. Some exceptions to this include potential injury from the postemergence application of certain sulfonylurea herbicides or nearly complete defoliation by hail damage prior to growth stage V12.

The potential number of kernels per row is complete by about one week before silk emergence from the husk. Kernel number (ear length) is strongly affected by environmental stresses. This means that ear length will vary dramatically from year to year as growing conditions vary. Severe stress can greatly reduce potential kernel number per row. Conversely, excellent growing conditions can encourage unusually high potential kernel number.

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