



USDA, National Agricultural Statistics Service

Indiana Crop & Weather Report

USDA, NASS, Indiana Field Office
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CROP REPORT FOR WEEK ENDING JULY 30

AGRICULTURAL SUMMARY

Warm, sunny days and adequate soil moisture helped with growth and development of the major crops, according to the Indiana Field Office of USDA's National Agricultural Statistics Service. Some areas received heavy rains and strong winds during the week which caused minimal damage to crops. Harvest of mint has begun in some northern areas.

FIELD CROPS REPORT

There were 5.0 days suitable for field work. **Corn condition** is rated 67 percent good to excellent compared with 45 percent last year at this time. Eighty-seven percent of the corn acreage has **silked** compared to 95 percent last year and 87 percent for the 5-year average. Twenty-two percent of the corn acreage is in the **dough** stage compared with 28 percent last year and 23 percent for the 5-year average. Two percent of the corn acreage is in the **dent** stage compared with 3 percent last year and 2 percent for the 5-year average. **Soybean condition** is rated 66 percent good to excellent compared with 52 percent last year. Seventy-five percent of the soybean acreage is **blooming** compared to 89 percent last year and 79 percent for the 5-year average. Thirty percent of the soybean acreage is **setting pods** compared with 52 percent last year and 39 percent for the 5-year average.

Virtually all of the **winter wheat** acreage is now harvested. **Second cutting of alfalfa hay** is 94 percent complete.

Major activities during the week included: spraying soybean fields for weeds and insects, hauling grain to market, baling hay and straw, mowing roadsides and ditches, hauling manure and taking care of livestock.

LIVESTOCK, PASTURE AND RANGE REPORT

Pasture condition is rated 9 percent excellent, 65 percent good, 20 percent fair 5 percent poor and 1 percent very poor. Livestock remains under stress due to the high temperatures and humidity.

CROP PROGRESS TABLE

Crop	This Week	Last Week	Last Year	5-Year Avg
Percent				
Corn Silked	87	74	95	87
Corn in Dough	22	8	28	23
Corn in Dent	2	NA	3	2
Soybeans Blooming	75	54	89	79
Soybeans Podding	30	12	52	39
Winter Wheat Harvested	100	98	100	100
Alfalfa Second Cutting	94	84	95	91

CROP CONDITION TABLE

Crop	Very Poor	Poor	Fair	Good	Excellent
Percent					
Corn	2	7	24	50	17
Soybeans	2	6	26	53	13
Pasture	1	5	20	65	9

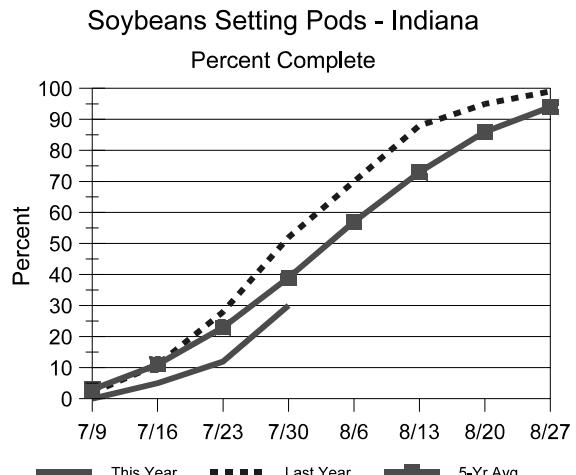
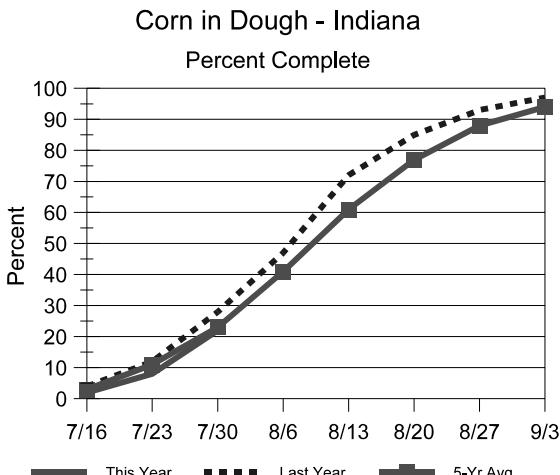
SOIL MOISTURE & DAYS SUITABLE FOR FIELDWORK TABLE

	This Week	Last Week	Last Year
Percent			
Topsoil			
Very Short	1	1	8
Short	9	7	29
Adequate	80	77	60
Surplus	10	15	3
Subsoil			
Very Short	1	2	13
Short	11	10	34
Adequate	79	77	52
Surplus	9	11	1
Days Suitable	5.0	4.7	5.7

CONTACT INFORMATION

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http://www.nass.usda.gov/Statistics_by_State/Indiana

Crop Progress



Other Agricultural Comments And News

Grain Fill Stages in Corn

The grain fill period begins with successful pollination and initiation of kernel development, and ends approximately 60 days later when the kernels are physiologically mature. During grain fill, the developing kernels will be the primary sink for concurrent photosynthate produced by the corn plant.

What this means is that the photosynthate demands of the developing kernels will take precedence over that of much of the rest of the plant. In essence, the plant will do all it can to "pump" dry matter into the kernels, sometimes at the expense of the health and maintenance of other plant parts including the roots and lower stalk. A stress-free grain fill period can maximize the yield potential of a crop, while severe stress during grain fill can cause kernel abortion and lightweight grain, and encourage the development of stalk rot.

Kernel development proceeds through several relatively distinct stages (Ritchie et al., 1993).

Silking Stage (Growth Stage R1)

Some may argue whether silking should be labeled as a kernel growth stage, but nonetheless silk emergence is technically the first identifiable stage of the reproductive period. Silks remain receptive to pollen grain germination up to 10 days after silk emergence (Nielsen, 2005a). Silk receptivity decreases rapidly after 10 days if pollination has not yet occurred. Natural senescence of silk tissue over

time results in collapsed tissue that restricts continued growth of the pollen tube. Silk emergence usually occurs in close synchrony with pollen shed (Nielsen, 2005b), so that duration of silk receptivity is normally not a concern. Failure of silks to emerge in the first place (for example, in response to silkballing or severe drought stress) does not bode well for successful pollination.

Kernel Blister Stage (Growth Stage R2)

About 10 to 14 days after silking, the developing kernels are whitish "blisters" on the cob and contain abundant clear fluid. The ear silks are mostly brown and drying rapidly. Some starch is beginning to accumulate in the endosperm. The radicle root, coleoptile, and first embryonic leaf have formed in the embryo by the blister stage. Severe stress can easily abort kernels at pre-blister and blister stages. Kernel moisture content is approximately 85 percent.

Kernel Milk Stage (R3)

About 18 to 22 days after silking, the kernels are mostly yellow and contain "milky" white fluid. The milk stage of development is the infamous "roasting ear" stage, that stage where you will find die-hard corn aficionados standing out in their field nibbling on these delectable morsels. Starch continues to accumulate in the endosperm. Endosperm cell division is nearly complete and continued growth is mostly due to cell expansion

(Continued on Page 4)

Weather Information Table

Week ending Sunday July 30, 2006

Station	Past Week Weather Summary Data										Accumulation			
	Air Temperature				Precip.			Avg	4 in	Precipitation	April 1, 2006 thru July 30, 2006			
	Temperature		Total	Days	Soil	Total	DFN	Days	GDD	Base 50°F				
	Hi	Lo	Avg	DFN										DFN
Northwest (1)														
Chalmers_5W	93	56	77	+3	2.10	2		18.80	+3.73	40	1818	-39		
Francesville	89	63	76	+4	1.33	2		23.10	+7.97	47	1752	+47		
Valparaiso_AP_I	90	63	77	+5	1.01	1		12.35	-3.57	37	1804	+134		
Wanatah	91	60	76	+5	0.88	2	80	14.49	-0.99	42	1640	+45		
Winamac	89	62	76	+4	0.75	2	76	16.00	+0.87	38	1770	+65		
North Central (2)														
Plymouth	91	61	76	+3	1.46	2		15.06	-0.78	44	1680	-99		
South_Bend	89	62	77	+5	2.56	2		18.31	+3.46	46	1763	+110		
Young_America	90	60	76	+3	1.07	2		18.39	+3.81	47	1841	+99		
Northeast (3)														
Columbia_City	89	56	75	+3	1.17	2	73	16.48	+1.59	48	1656	+79		
Fort_Wayne	88	59	76	+3	1.57	2		18.63	+4.88	47	1802	+67		
West Central (4)														
Greencastle	87	55	75	-2	0.53	2		17.82	+0.58	46	1803	-168		
Perrysville	90	61	77	+4	2.41	2	79	17.07	+0.62	46	2019	+173		
Spencer_Ag	87	60	76	+2	0.67	2		20.44	+2.81	54	1913	+62		
Terre_Haute_AFB	89	59	77	+2	0.27	3		14.70	-2.00	47	2067	+99		
W_Lafayette_6NW	91	62	77	+5	1.40	3	81	17.12	+1.99	49	1905	+163		
Central (5)														
Eagle_Creek_AP	89	62	77	+3	1.62	2		19.60	+4.08	50	2055	+106		
Greenfield	87	59	76	+2	1.50	4		22.92	+5.89	56	1836	-25		
Indianapolis_AP	88	63	77	+3	0.58	2		18.80	+3.28	51	2060	+111		
Indianapolis_SE	87	59	76	+0	1.09	2		19.87	+3.73	52	1815	-114		
Tipton_Ag	88	55	74	+2	1.49	1	80	19.92	+4.62	53	1715	+27		
East Central (6)														
Farmland	88	56	74	+3	1.03	2	78	18.76	+3.62	55	1674	+32		
New_Castle	86	55	74	+1	1.76	2		19.98	+3.35	49	1735	+57		
Southwest (7)														
Evansville	90	63	78	+0	0.22	2		19.79	+3.61	44	2399	+111		
Freelandville	90	59	77	+2	0.36	1		12.93	-3.82	40	2191	+154		
Shoals	90	58	76	+2	0.33	2		20.63	+2.50	45	2087	+129		
Stendal	91	64	79	+3	0.05	1		22.29	+4.39	45	2402	+261		
Vincennes_5NE	90	59	78	+2	0.51	3	76	20.95	+4.20	52	2228	+191		
South Central (8)														
Leavenworth	89	60	77	+3	0.17	2		23.06	+4.73	56	2137	+184		
Oolitic	88	58	75	+0	0.20	1	79	17.31	+0.13	47	1905	+38		
Tell_City	89	63	77	-1	0.25	1		24.87	+6.68	46	2384	+214		
Southeast (9)														
Brookville	88	60	76	+3	1.50	2		19.17	+2.63	44	1962	+203		
Greensburg	87	59	76	+3	1.63	1		21.97	+5.34	47	2051	+227		
Scottsburg	90	58	76	+0	0.71	2		22.85	+5.85	52	2124	+104		

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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Grain Fill Stages in Corn (Continued)

and starch accumulation. Severe stress can still abort kernels, although not as easily as at the blister stage. Kernel moisture content is approximately 80 percent.

Kernel Dough Stage (R4)

About 24 to 28 days after silking, the kernel's milky inner fluid is changing to a "doughy" consistency as starch accumulation continues in the endosperm. The shelled cob is now light red or pink. By dough stage, four embryonic leaves have formed and about 1/2 of the mature kernel dry weight is now in place. Kernel abortion is much less likely once kernels have reached early dough stage, but severe stress can continue to affect eventual yield by reducing kernel weight. Kernel moisture content is approximately 70 percent.

Kernel Dent Stage (R5)

About 35 to 42 days after silking, all or nearly all of the kernels are denting near their crowns. The fifth (and last) embryonic leaf and lateral seminal roots form just prior to the dent stage. A distinct horizontal line appears near the dent end of the kernel and slowly progresses to the tip end of the kernel over the next 3 weeks or so. This line is called the "milk line" and marks the boundary between the liquid (milky) and solid (starchy) areas of the maturing kernels. Severe stress can continue to limit kernel dry weight

accumulation. Kernel moisture content at the beginning of the dent stage is approximately 55 percent.

Physiological Maturity (R6)

About 55 to 65 days after silking, kernel dry weight usually reaches its maximum and kernels are said to be physiologically mature and safe from frost. Physiological maturity occurs shortly after the kernel milk line disappears and just before the kernel black layer forms at the tip of the kernels. Severe stress after physiological maturity has little effect on grain yield, unless the integrity of the stalk or ear is compromised (e.g., damage from European corn borer or stalk rots). Kernel moisture content at physiological maturity averages 30 percent, but can vary from 25 to 40 percent grain moisture.

Harvest Maturity

While not strictly a stage of grain development, harvest maturity is often defined as that grain moisture content where harvest can occur with minimal kernel damage and mechanical harvest loss. Harvest maturity is usually considered to be near 25 percent grain moisture.

This article also contains photos and "Related References", which can be viewed at: <http://www.agry.purdue.edu/ext/corn/news/articles.04/GrainFill-0705.html>, pages 2 - 5.

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