Indiana Crop & Weather Report

INDIANA AGRICULTURAL STATISTICS
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CROP REPORT FOR WEEK ENDING JULY 26

Substantial rainfall was received across most of the state this past week, according to the Indiana Agricultural Statistics Service. Rainfall amounts were varied with some isolated areas reportedly receiving 8 inches. The moisture was a welcome sight in northern areas where conditions were becoming dry. River bottom land, as well as some areas that received the heaviest rains were flooded once again. The recent hot, sunny weather combined with ample soil moisture has allowed corn and soybeans to progress ahead of normal.

CORN

Corn condition improved slightly from last week, with 64 percent rated good to excellent. Seventy-one percent of the crop is **silked**, ahead of the 51 percent average. By region, 76 percent of the crop is silked in the north, 74 percent in the central, and 53 percent in the south. Fifteen percent of the corn is in the **dough** stage, well ahead of only 1 percent last year and the 3 percent average.

SOYBEANS

Soybean condition also improved, with 65 percent rated good to excellent. Sixty-eight percent of the soybeans are **blooming**, ahead of 63 percent last year and the 60 percent average. By region, 73 percent are blooming in the north, 76 percent in the central, and 41 percent in the south. Twenty-two percent of the soybean crop is **setting pods**, well ahead of the 10 percent average. By region, 23 percent of the crop is setting pods in the north, 24 percent in the central, and 15 percent in the south.

OTHER CROPS

Pasture condition is rated 14 percent excellent, 56 percent good, 25 percent fair, 4 percent poor and 1 percent very poor. **Second cutting** of **alfalfa** is 81 percent complete. **Wheat harvest** is complete.

DAYS SUITABLE and SOIL MOISTURE

For the week ending Friday, 4.0 days were rated **suitable for fieldwork**. **Topsoil moisture** was rated 5 percent short, 64 percent adequate and 31 percent surplus. **Subsoil moisture** was rated 6 percent short, 68 percent adequate and 26 percent surplus.

CROP PROGRESS

Crop	This Week	Last Week	Last Year	5-Year Avg
	Percent			
Alfalfa 2nd Cutting	81	72	51	67
Corn Silked	71	45	35	51
Corn Dough	15	6	1	3
Soybeans Blooming	68	49	63	60
Soybeans Podding	22	7	14	10

CROP CONDITION

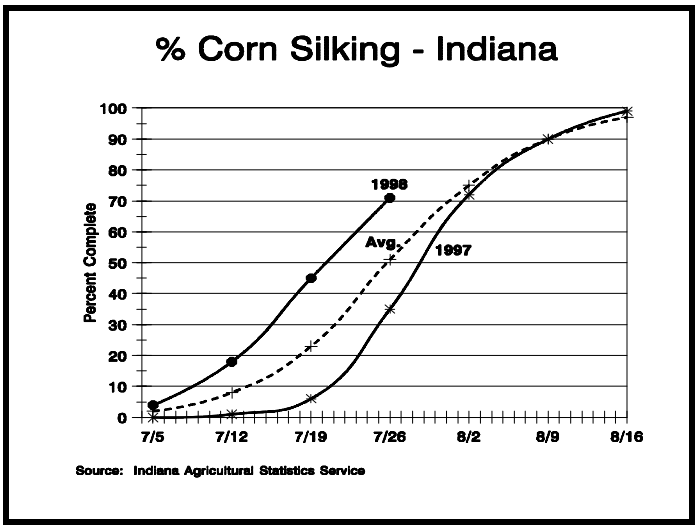
Crop	Very Poor	Poor	Fair	Good	Excel-lent
	Percent				
Corn	3	7	26	51	13
Soybeans	3	6	26	50	15
Pasture	1	4	25	56	14

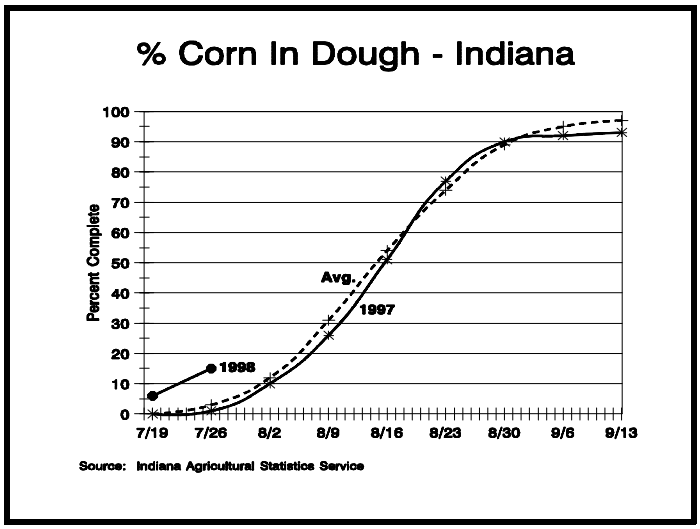
SOIL MOISTURE

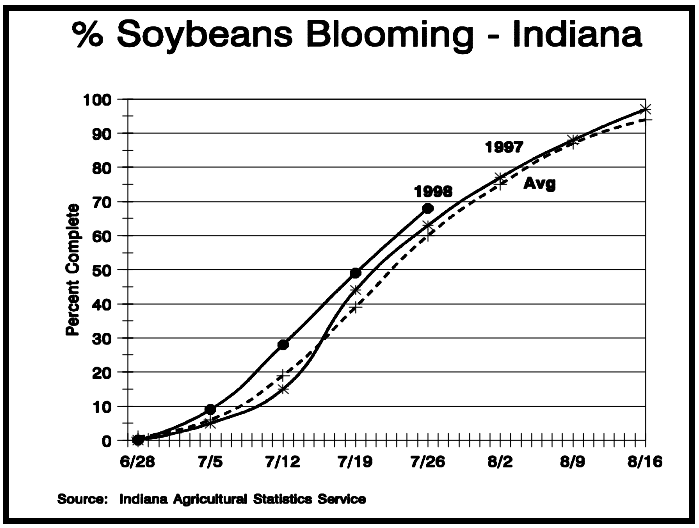
	This Week	Last Week	Last Year
	Percent		
Topsoil			
Very Short	0	3	8
Short	5	21	23
Adequate	64	58	55
Surplus	31	18	14
Subsoil			
Very Short	0	2	5
Short	6	15	24
Adequate	68	69	61
Surplus	26	14	10

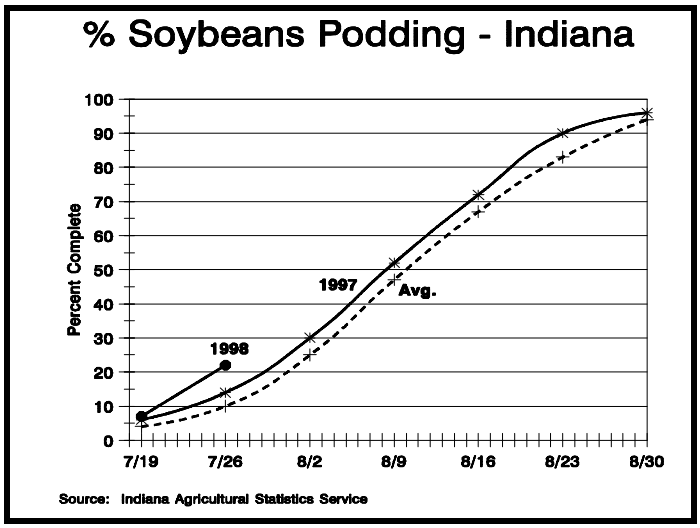
--Ralph W. Gann, State Statistician
--Lance Honig, Agricultural Statistician
E-Mail Address: nass-in@nass.usda.gov
http://info.aes.purdue.edu/agstat/nass.html

Crop Progress









Grain Fill Stages in Corn

With 45 percent of Indiana's corn crop at or beyond the critical pollination stage (INDIANA WEEKLY WEATHER & CROPS, 20 July 1998, Vol. 48, #16), and the rest of it tagging along shortly, the focus of the conversation down at the Chat 'n Chew Cafe is beginning to shift toward the final phase of determining yield for this year's crop. 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 ear will be the primary sink for concurrent photosynthate produced by the corn plant. 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 light-weight grain. Kernel development proceeds through several relatively distinct stages.

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 specialists out standing 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 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.

(Continued on Page 4.)

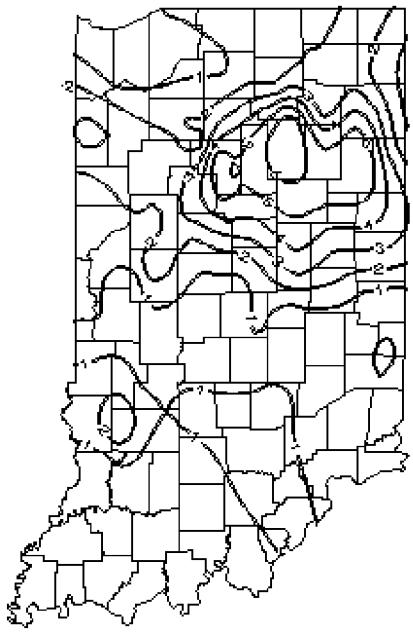
Weather Data

Average Daily Values for week ending Monday morning July 27, 1998

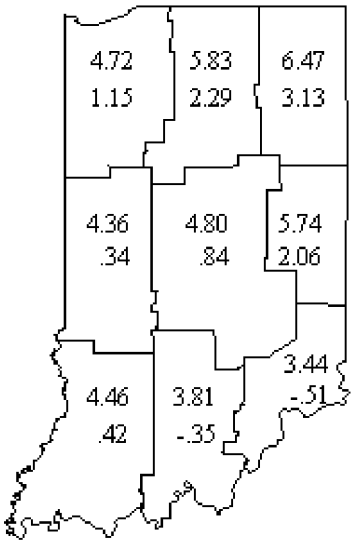
Area	Station	Air Temperature			Precipitation			Growing Degree Days		
		Max	Min	DN	Past Week	Since April 1	DN Since April 1	Past Week	Since April 1	DN Since April 1
NW	Wanatah	84	60	+0	.28	16.56	+1.61	151	1819	+230
	Kentland	84	62	+0	1.66	20.12	+5.03	161	1986	+210
	Winamac	83	63	+0	2.72	17.74	+3.09	159	1932	+218
NC	South Bend	83	64	+1	.87	13.30	-1.08	162	1881	+242
	Waterford Mills	84	62	+0	.90	14.24	+.83	157	1919	+236
NE	Prairie Heights	83	62	+1	1.81	14.12	+.25	156	1912	+442
	Columbia City	82	62	+0	2.45	16.12	+1.83	153	1861	+282
	Fort Wayne	82	63	-1	4.21	19.26	+5.92	155	1938	+204
	Bluffton	82	64	-1	6.05	20.58	+6.10	161	1983	+202
WC	West Lafayette	84	61	-1	2.19	23.72	+9.07	152	2026	+297
	Perrysville	84	64	-2	1.65	23.87	+7.18	165	2089	+80
	Crawfordsville	85	62	+0	2.53	22.35	+7.76	160	1970	+225
	Terre Haute 8s	87	66	+1	1.07	21.98	+5.87	181	2249	+309
C	Tipton	82	61	-2	2.53	23.68	+8.89	150	1872	+170
	Indianapolis	84	66	+0	.40	25.25	+10.24	175	2128	+199
	Indian Creek	86	65	+1	.86	22.02	+6.62	174	2116	+295
EC	Farmland	84	62	+0	3.00	23.11	+8.55	159	1959	+326
	Liberty	85	62	+0	1.20	22.04	+6.01	162	1997	+175
SW	Vincennes	85	65	-1	.45	28.29	+12.02	172	2210	+212
	Dubois	85	66	+0	.25	20.86	+3.52	174	2166	+223
	Evansville	85	70	-1	.25	21.34	+5.61	185	2381	+182
SC	Bedford	84	65	+0	.32	30.70	+14.15	171	2079	+213
	Louisville	85	71	+1	.94	23.72	+7.55	196	2421	+269
SE	Butlerville	84	63	-2	.21	28.47	+12.46	163	2092	+72

DN = departure from normal.
Growing Degree Days = daily mean - 50 (below 50 adjusted to 50, above 86 adjusted to 86.)

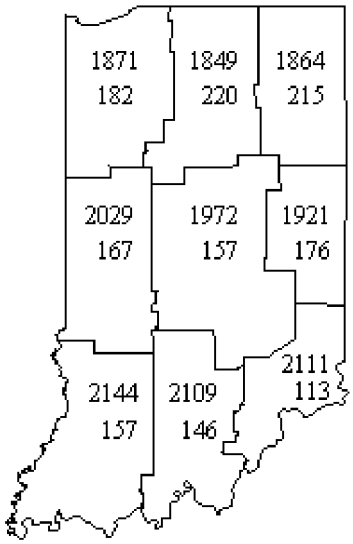
Rainfall of 1 Inch or More
for Past 7 Days
as of Monday morning



Rainfall for Past 4 Weeks
and Departure from Normal



Growing Degree Days
and Departure since April 1



The above information is provided by Ken Scheeringa, Indiana State Climatologist (765)494-8105
E-mail: kscheeringa@dept.agry.purdue.edu http://shadow.agry.purdue.edu

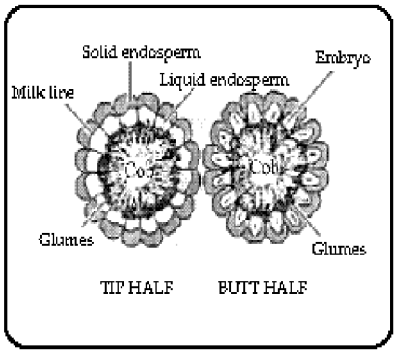
Grain Fill (continued)

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., ECB damage 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. 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.agry.purdue.edu/agronomy/ext/corn/chatchew.htm. For other information about corn, take a look at the Corn Growers' Guidebook on the World Wide Web at http://www.agry.purdue.edu/agronomy/ext/corn/



--Bob Nielsen, Purdue University

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