



Indiana Crop & Weather Report

INDIANA AGRICULTURAL STATISTICS
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CROP REPORT FOR WEEK ENDING SEPTEMBER 27

Corn and soybean harvest made good progress last week according to the Indiana Agricultural Statistics Service. Continued hot, dry weather allowed crops to dry down rapidly. Some areas received scattered showers, however soil conditions remain dry across the state.

CORN

Corn condition is rated 64 percent good to excellent, 2 points higher than last week and 10 points higher than last year. Eighty-five percent of the corn is **mature** (safe from frost), about a week ahead of average for this date. By region, 86 percent is mature in the north, 89 percent in the central, and 75 percent in the south. Fourteen percent of the corn acreage has been **harvested**, several days ahead of average. By region, 14 percent has been harvested in the north, 11 percent in the central, and 20 percent in the south. **Moisture** content of harvested corn is averaging around 20.5 percent.

SOYBEANS

Soybean condition is rated 65 percent good to excellent, 3 points higher than last week and 7 points higher than last year. Ninety-two percent of the crop is **shedding leaves**, nearly a week ahead of average. By region, 95 percent of the crop is shedding leaves in the north, 95 percent in the central, and 80 percent in the south. Seventy-four percent of the crop is reported to be **mature**. Twenty percent of the soybean acreage has been **harvested**, well ahead of 5 percent last year and the 9 percent average. By region, 20 percent has been harvested in the north, 24 percent in the central, and 9 percent in the south. **Moisture** content of harvested soybeans is averaging around 12 percent.

OTHER CROPS

Pasture condition is rated 3 percent excellent, 23 percent good, 40 percent fair, 24 percent poor and 10 percent very poor. **Tobacco harvest** is 85 percent complete, compared with 59 percent last year and the 80 percent average. Seven percent of the **winter wheat** acreage has been **seeded**, slightly behind the 9 percent average. Only one percent of the crop is **emerged**, due to dry soil conditions.

DAYS SUITABLE and SOIL MOISTURE

For the week ending Friday, 6.2 days were rated **suitable for fieldwork**. **Topsoil moisture** was rated 25 percent very short, 51 percent short, 23 percent adequate, and 1 percent surplus. **Subsoil moisture** was rated 22 percent very short, 45 percent short, 32 percent adequate, and 1 percent surplus.

CROP PROGRESS

Crop	This Week	Last Week	Last Year	5-Year Avg
Corn Dent	99	98	90	96
Corn Mature	85	73	49	65
Corn Harvested	14	8	4	7
Soybeans Shedding	92	87	81	77
Soybeans Harvested	20	9	5	9
Wheat Planted	7	4	10	9

CROP CONDITION

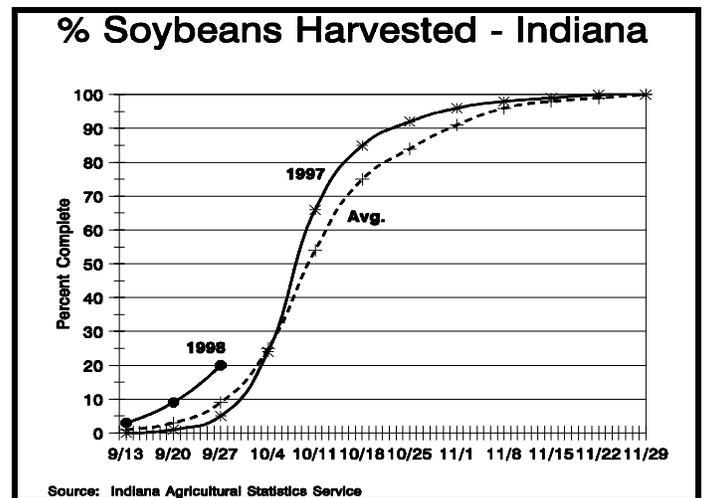
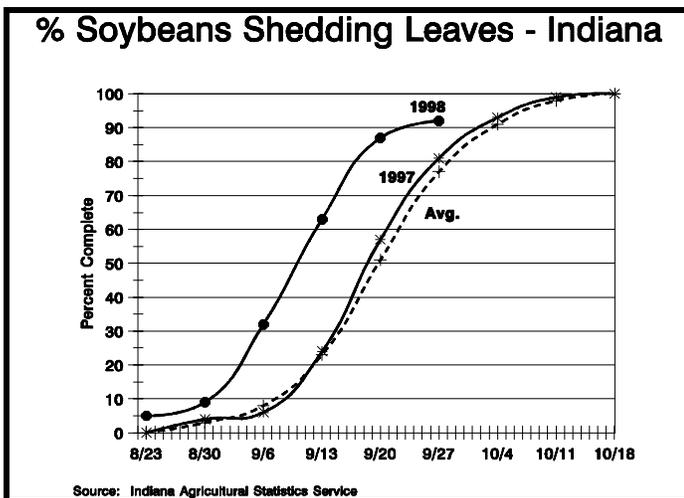
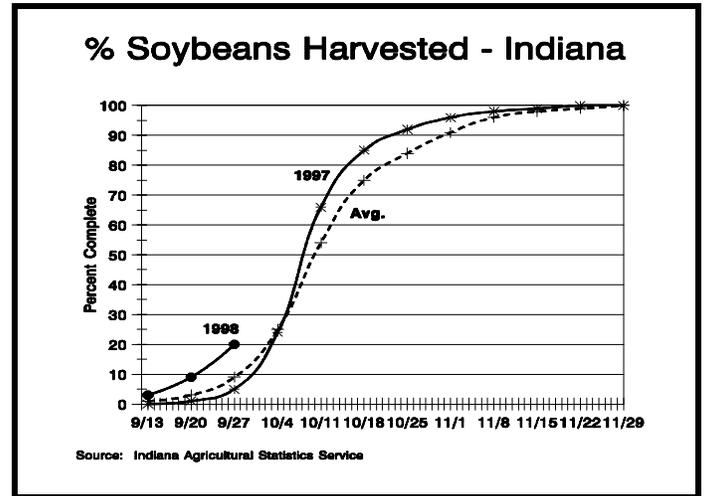
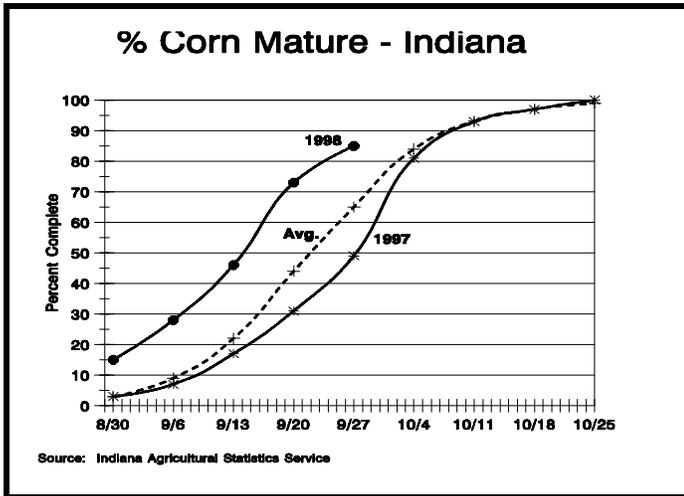
Crop	Very Poor	Poor	Fair	Good	Excellent
Corn	3	6	27	50	14
Soybeans	3	6	26	51	14
Pasture	10	24	40	23	3

SOIL MOISTURE

	This Week	Last Week	Last Year
Topsoil			
Very Short	25	35	9
Short	51	50	23
Adequate	23	15	64
Surplus	1	0	4
Subsoil			
Very Short	22	24	12
Short	45	47	23
Adequate	32	29	62
Surplus	1	0	3

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Crop Progress



Unusual Senescence in Corn: Another Thought

Corn senescence (death of the plant) occurs naturally near the end of grain fill as plant metabolism slowly deteriorates. Leaf senescence in corn fields throughout Indiana has occurred rapidly during the last three to four weeks, sooner than most folks think is typical. A number of causes have been offered up in explanation of the rapid development of leaf "firing" this season including anthracnose top-dieback, gray leaf spot, stalk rots, nitrogen deficiency, and drought stress.

Additionally, the pattern of leaf senescence has been unusual in that the upper leaves have died as rapidly as the lower leaves, leaving green leaves only in the center part of the plants near the maturing ears. In the Midwest, this pattern of upper leaf senescence is typically blamed on anthracnose, European corn

borer injury, or a combination of heat and drought stress. In many of the fields exhibiting this unusual pattern of leaf death, none of these causes can be identified as the main culprit.

Interestingly, the pattern of upper and lower leaf senescence may not be that unusual in a physiological sense. Research in Ontario, Canada in the late 1970's (Tollenaar & Daynard, 1978, Leaf Senescence in Short-Season Maize Hybrids, Can. J.

(Continued on Page 4.)

Weather Data

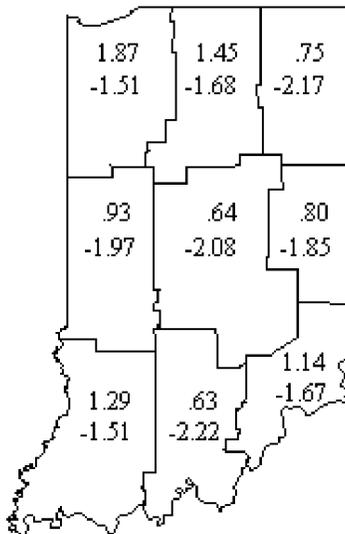
Average Daily Values for week ending Monday morning September 28, 1998

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	77	48	+3	.08	20.09	-2.71	108	3039	+365
	Kentland	81	55	+6	.00	24.40	+1.85	114	3381	+396
	Winamac	76	54	+5	.17	23.88	+1.85	115	3272	+450
NC	South Bend	74	56	+5	.01	20.97	-.90	112	3233	+470
	Waterford Mills	77	54	+5	.00	23.23	+2.45	118	3241	+438
NE	Prairie Heights	79	56	+9	.00	20.19	-1.26	110	3266	+762
	Columbia City	77	53	+5	.00	20.63	-.76	116	3161	+479
	Fort Wayne	78	56	+6	.17	23.53	+3.90	127	3267	+363
	Bluffton	80	57	+6	.01	25.30	+4.29	115	3343	+375
WC	West Lafayette	80	54	+6	.12	25.76	+3.96	125	3387	+502
	Perrysville	83	58	+6	.09	31.17	+7.03	123	3501	+199
	Crawfordsville	81	51	+4	.12	27.82	+6.53	124	3321	+410
	Terre Haute 8s	84	55	+6	.55	26.41	+2.97	136	3800	+570
C	Tipton	80	54	+6	.00	30.59	+8.38	122	3175	+351
	Indianapolis	81	59	+7	.11	28.86	+6.93	140	3629	+422
	Indian Creek	84	56	+8	.36	26.59	+4.00	121	3619	+580
EC	Farmland	82	54	+7	.00	24.54	+3.06	110	3267	+517
	Liberty	82	53	+6	.09	24.75	+1.62	128	3386	+356
SW	Vincennes	85	61	+9	.43	32.01	+9.05	137	3738	+436
	Dubois	83	57	+6	.89	28.26	+3.01	143	3637	+380
	Evansville	86	62	+9	.34	24.71	+2.56	165	3964	+342
SC	Bedford	84	57	+8	.17	33.94	+10.18	128	3559	+434
	Louisville	85	64	+9	.68	27.70	+4.46	169	4108	+513
SE	Butlerville	82	53	+3	.65	32.99	+10.19	133	3508	+159

DN = departure from normal.

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

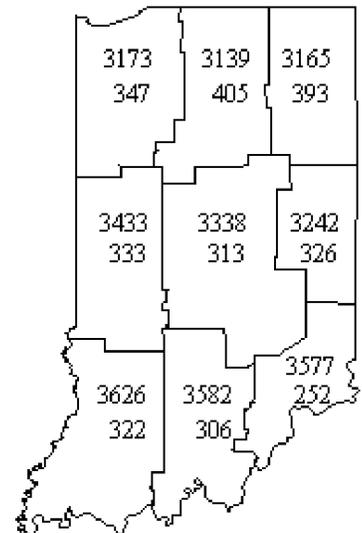
Rainfall for Past 4 Weeks
and Departure from Normal



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



Growing Degree Days
and Departure since April 1



Unusual Senescence (continued)

Plant Sci 58:869-874) documented this same pattern of senescence among ten adapted dent corn hybrids. Furthermore, a faster rate of leaf senescence during one of the years of the study was attributed to a warmer, drier weather pattern during the grain fill period (not unlike much of Indiana in 1998) that accelerated the rate of grain filling.

Conclusions? All of the stresses mentioned above have likely contributed to the overall rapid shutdown of photosynthetic leaf area. The upper/lower leaf senescence pattern exhibited in many Indiana corn

fields in 1998 may seem unusual because it is normally not so graphic, but nonetheless may reflect a normal physiological pattern of corn plant maturation and senescence.

Bottom Line? Given the importance of leaf area duration to the grain fill period, the rapid leaf senescence evident in many Indiana corn fields in 1998 will likely shave some bushels off the upper limit of yield.

—Bob Nielsen, Corn Specialist, Purdue University

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