



Indiana Crop & Weather Report

United States Dept of Agriculture

Indiana Agricultural
Statistics

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CROP REPORT FOR WEEK ENDING JULY 11

AGRICULTURAL SUMMARY

Favorable growing conditions prevailed during most of the week for major crops, according to Indiana Agricultural Statistics. Scattered showers along with thunderstorms slowed field activities in some areas. However, soils are becoming dry in portions of the state. Many fields of corn have entered into the pollination stage and early planted soybean fields are setting pods. Planting of double crop soybeans along with baling of hay and straw continued. Many farmers were signing up planted acreage at their local FSA office. Irrigation systems were active.

FIELD CROPS REPORT

There were 5.4 **days suitable for fieldwork**. Corn **condition** is rated 75 percent good to excellent compared with 52 percent last year at this time. Sixty-one percent of the corn acreage has **silked** compared to 10 percent last year and 24 percent for the average. Three percent of the corn acreage has reached the **dough** stage. Forty-three percent of the soybean acreage is **blooming** compared with 18 percent last year and 34 percent for the 5-year average. Eight percent of the soybean acreage is **setting pods** compared with 1 percent last year and 5 percent for the average. Soybean **condition** is rated 69 percent good to excellent compared with 51 percent last year at this time.

Ninety-six percent of the winter wheat acreage is **harvested** compared with 59 percent last year and 80 percent for the average. By area, 89 percent of the wheat is harvested in the north, 99 percent in the central region and 99 percent in the south. Second cutting of **alfalfa hay** is 45 percent complete compared with 29 percent last year and 51 percent for the average.

Other activities during the week were cleaning up and repairing equipment, scouting fields, mowing roads and pastures, moving grain to market, hauling manure and taking care of livestock.

LIVESTOCK, PASTURE AND RANGE REPORT

Pasture condition is rated 13 percent excellent, 63 percent good, 19 percent fair, 4 percent poor and 1 percent very poor. Livestock are in mostly good condition.

CROP PROGRESS TABLE

Crop	This Week	Last Week	Last Year	5-Year Avg
Percent				
Corn Silked	61	32	10	24
Corn in Dough	3	0	0	0
Soybeans Blooming	43	26	18	34
Soybeans Podding	8	NA	1	5
Alfalfa Second Cutting	45	21	29	51
Winter Wheat Harvested	96	78	59	80

CROP CONDITION TABLE

Crop	Very Poor	Poor	Fair	Good	Excellent
Percent					
Corn	3	5	17	52	23
Soybean	3	6	22	51	18
Pasture	1	4	19	63	13

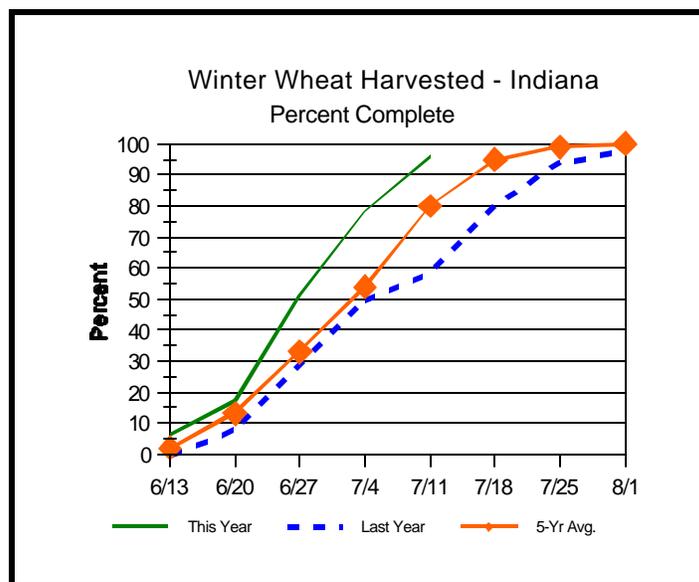
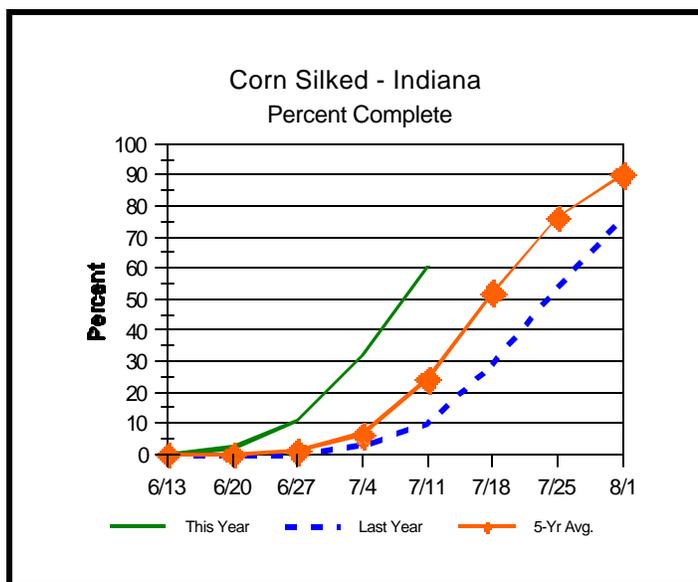
SOIL MOISTURE & DAYS SUITABLE FOR FIELDWORK TABLE

	This Week	Last Week	Last Year
Percent			
Topsoil			
Very Short		1	1
Short		16	20
Adequate		75	73
Surplus		8	6
Subsoil			
Very Short		0	0
Short		13	12
Adequate		80	80
Surplus		7	8
Days Suitable	5.4	6.2	2.2

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Crop Progress



Other Agricultural Comments And News

Rust on Corn

- Rust is off to an early start this year .

I first saw some common rust (*Puccinia sorghi*) in both seed corn and commercial hybrid corn a couple of weeks ago, but there were very few pustules. Weather over the past couple of weeks has probably been favorable for continued development of rust (temperatures often in the range of 61 to 77° and at least 6 hours of dew each night). From phone calls I have received others are seeing rust as well, and there is concern that there may be damage on some hybrids.

Common rust is a serious threat in seed corn production and on sweet corn. Producers of these crops routinely use foliar fungicides to keep it in check. In contrast, rust is usually not a concern on hybrid field corn. Genetic resistance protects most field corn hybrids from the disease.

Common rust can be recognized by the small, elliptical, cinnamon-brown pustules that erupt on both surfaces of the leaf blade. To a casual observer, small, circular spots that arise from many causes may look like rust. These spots may be early infections of several different leaf blight fungi or the result of injury. Close inspection of these spots will reveal whether they are rust or not. A rust pustule is a mass of cinnamon-brown spores, which form a powdery mass on the surface of the pustule. Pustules may be somewhat longer than 1/16 inch. The fungus produces spores just beneath the leaf epidermis, and as their numbers multiply, they erupt through the epidermis. A torn flap of epidermis will often partially cover the pustule. The protruding mass

of spores can just be discerned with the naked eye, but can be seen more clearly with a hand lens.

Rust is a polycyclic disease. The fungus does not survive the winters in the Corn Belt. It can only grow and produce spores on living plants of corn or teosinte (a close relative of corn). Spores produced in tropical or subtropical areas, where corn remains green throughout the winter, are carried north on the wind each spring and infect corn in temperate regions. The initial level of infection produced by these introduced spores is never enough to cause damage. However, each infection produces a pustule in about 7 to 10 days, and each pustule then produces several hundred spores each day. Wind disperses these spores; spores that land on healthy corn leaf tissue cause more infections, and the cycle repeats. Rust is capable of extremely rapid, exponential increase in the field.

This year, rust has perhaps appeared a bit earlier than normal (as it did in 2000). This, coupled with mild temperatures and dew at night, may allow more rust than usual to develop early in the season.

The partial resistance to rust in most hybrids allows some pustules to form, i.e., the resistance is not "complete". However, these pustules take longer to mature, are smaller, and produce fewer spores compared to a susceptible hybrid. The tissue surrounding the pustules may be distinctly pale-green or yellow. This resistance reduces the reproductive potential of the fungus, and rust will normally not become severe enough by the time the crop matures

(Continued on Page 4)

Weather Information Table

Week ending Sunday July 11, 2004

Station	Past Week Weather Summary Data							Accumulation				
	Air Temperature				Precip.		Avg	April 1, 2004 thru			July 11, 2004	
							4 in	Precipitation			GDD Base 50°F	
	Hi	Lo	Avg	DFN	Total	Days	Soil Temp	Total	DFN	Days	Total	DFN
Northwest (1)												
Chalmers_5W	87	56	73	-2	1.73	4	71	19.04	+6.42	37	1424	+6
Valparaiso_AP_I	85	54	71	-2	0.83	5		11.63	-1.91	39	1326	+71
Wanatah	86	55	70	-3	0.20	3	77	10.80	-2.16	42	1249	+56
Wheatfield	86	55	71	-3	1.62	3		22.07	+9.29	47	1306	+76
Winamac	85	57	72	-2	2.33	4	76	14.02	+1.17	45	1370	+79
North Central (2)												
Plymouth	87	58	72	-3	1.37	3		13.71	+0.29	42	1306	-40
South_Bend	87	56	72	-2	0.32	5		13.13	+0.56	44	1389	+151
Young_America	86	56	73	-2	3.76	4		16.07	+3.76	38	1471	+159
Northeast (3)												
Columbia_City	85	57	72	+0	0.56	5	75	13.81	+1.15	48	1318	+142
Fort_Wayne	87	56	73	-2	1.15	3		14.75	+3.09	44	1430	+128
West Central (4)												
Greencastle	88	55	73	-3	0.48	3		14.76	+0.71	43	1467	-38
Perrysville	88	56	74	-2	0.91	2	78	14.49	+0.72	35	1630	+226
Spencer_Ag	89	59	74	-1	3.43	6		18.11	+3.56	47	1588	+188
Terre_Haute_AFB	90	57	75	-1	1.51	4		12.05	-1.61	37	1735	+233
W_Lafayette_6NW	86	53	72	-2	1.18	2	80	18.29	+5.61	30	1481	+165
Central (5)												
Eagle_Creek_AP	87	57	74	-2	1.05	5		12.63	-0.11	42	1627	+141
Greenfield	87	57	73	-2	1.29	7		14.91	+1.20	44	1548	+137
Indianapolis_AP	88	57	75	-1	2.36	4		16.70	+3.96	41	1714	+228
Indianapolis_SE	87	57	74	-2	1.87	4		13.90	+0.81	37	1565	+103
Tipton_Ag	85	52	71	-3	0.48	4	79	13.49	+0.83	41	1415	+145
East Central (6)												
Farmland	87	58	74	+2	0.64	2	72	13.91	+1.04	44	1460	+231
New_Castle	85	55	71	-3	0.48	4		16.02	+2.03	35	1290	+31
Southwest (7)												
Evansville	91	62	78	-1	1.65	4		15.44	+1.78	36	1968	+197
Freelandville	90	62	76	+0	2.06	4		13.13	-0.99	38	1739	+178
Shoals	89	59	76	+1	1.90	4		17.82	+2.69	41	1741	+247
Stendal	91	62	78	+1	0.96	4		15.77	+0.49	38	1865	+214
Vincennes_5NE	90	61	76	-1	2.20	6		15.84	+1.72	45	1816	+255
South Central (8)												
Leavenworth	89	60	76	+1	1.75	5		21.68	+6.39	45	1758	+263
Oolitic	87	58	74	+0	2.00	5	77	17.80	+3.45	46	1630	+214
Tell_City	91	61	78	+1	2.78	3		21.55	+6.22	41	1985	+319
Southeast (9)												
Brookville	91	60	76	+3	0.29	3		11.66	-2.00	36	1620	+296
Milan_5NE	89	59	75	+2	1.25	5		17.39	+3.73	58	1614	+290
Scottsburg	88	58	75	-1	1.85	5		24.08	+10.03	45	1720	+171

DFN = Departure From Normal (Using 1961-90 Normals Period).

GDD = Growing Degree Days.

Precipitation (Rainfall or melted snow/ice) and Pan Evap in inches.

Precipitation Days = Days with precip of .01 inch or more.

Air Temperatures in Degrees Fahrenheit.

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Rust on Corn

to cause significant damage. Mature leaves are often more resistant than young leaves. When rust starts developing before all leaves are developed and mature, even a hybrid that is normally resistant may develop enough rust to reduce yield.

In addition to checking the number and appearance of pustules in a field, a grower should also determine the resistance rating of the hybrid. This information may be available on the seed company's Web site or in a catalog. If not, a grower should contact the seed dealer for this information.

Fungicides are an option for control of rust on hybrid field corn, but the cost should be considered carefully. The biggest uncertainties surrounding a decision to use a fungicide are the degree of resistance in the hybrid and the favorability of future weather for continued spread of rust. Weather forecasts for the next 10 days suggest that conditions will be generally favorable for rust, so if rust is established in a field and appears to be spreading, a fungicide should be considered.

There do not appear to be any well-worked out thresholds for deciding how much rust should be on a crop before a fungicide is justified. An article in the Pest Management and Crop Development Bulletin of the University of Illinois, dated 30 June 2000 <www.ipm.uiuc.edu/bulletin/pastpest/articles/200014h.html>, states that the whole-plant severity of rust should reach 15% within 2 weeks after silking to justify a fungicide, but the basis for this recommendation is not given. Seed corn producers use a much lower threshold — just a few pustules per plant — because inbreds are often much more susceptible than hybrids.

What does a severity of "15%" mean? Rust severity is a function of how many pustules occupy a unit area of leaf. A leaf covered with the maximum density of pustules has a severity of 100%. However, even on the

most susceptible varieties and under the most favorable conditions, pustules can occupy only about 35% of the leaf area (the internal growth of the fungus extends beyond the region of sporulation and competition between pustules limits their number). This level of rust — about 35% true leaf cover — is set at 100% and lesser amounts are rated accordingly. A severity of 15% over an entire plant is a lot of pustules, and my own feeling (without any real hard evidence from hybrid corn to back it up) is that this threshold may be too high.

Several fungicides are registered for use on corn. These include protectants such as mancozeb, maneb, and chlorothalonil (Bravo, Echo, Equus); and systemics such as propiconazole (Tilt, Propimax), azoxystrobin (Quadris), and a combination product of propiconazole and trifloxystrobin (Stratego). In a test we conducted on seed corn in 2000, only Quadris and an experimental fungicide chemically related to azoxystrobin showed curative activity against rust pustules that had already erupted. Stratego was not evaluated in that test, but because it also contains a strobilurin fungicide, it may also have some curative activity. The other fungicides probably only protect against new infections. With any of these fungicides, it's important to apply them before rust pustules are too numerous. In that same seed corn trial in 2000, when an early application of Tilt (essentially no effect on rust) was followed by an application of Quadris at silking, by which time rust severity on the ear leaf was about 25%, the final severity of rust was only slightly less than severity on untreated corn and the yield was abysmal (7.8 bu/A). The same rate of Quadris applied at V11, when there were only a few pustules on the ear leaf, held rust severity to 5% and the yield was 44 bu/A.

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