USDA, National Agricultural Statistics Service

Indiana Crop & Weather Report

USDA, NASS, Indiana Field Office
1435 Win Hentschel Blvd.
Suite 110
West Lafayette, IN 47906-4145
(765) 494-8371
nass-in@nass.usda.gov

Released: August 25, 2008
Vol. 58, WC082508

CROP REPORT FOR WEEK ENDING AUGUST 24

AGRICULTURAL SUMMARY

Soil and crop conditions became progressively drier during the week in most areas of the state, according to the Indiana Field Office of USDA's National Agricultural Statistics Service. Scattered showers occurred in some areas, but major crops are showing stress from lack of rain. Soils are becoming very dry. Leaf curling and drying up of plants are evident in many fields. Farmers are very concerned about kernel size in corn and pod development as soybeans are in the critical stage for potential yield. Third cuttings of hay crops made good progress during the week.

FIELD CROPS REPORT

There were 6.6 **days suitable for field work**. **Corn condition** declined and is rated 64 percent good to excellent compared to 42 percent last year at this time. Seventy-two percent of the corn acreage is in the **dough** stage compared with 92 percent last year and 86 percent for the 5-year average. Twenty-two percent of the corn acreage is in the **dent** stage compared with 55 percent last year and 46 percent for the 5-year average.

Ninety-six percent of the **soybean** acreage is **blooming** compared with 99 percent for both last year and the 5-year average, respectively. Seventy-eight percent of the soybean acreage is **setting pods** compared with 96 percent last year and 92 percent for the 5-year average. **Soybean condition** declined and is rated 59 percent good to excellent compared with 41 percent last year at this time.

The third cutting of **alfalfa hay** is 71 percent complete compared with 66 percent last year and 68 percent for the 5-year average. Major activities during the week included: cleaning up and preparing equipment for the fall harvest, reporting crops and signing up at FSA offices, mowing roadsides, scouting fields, baling hay, and taking care of livestock.

LIVESTOCK, PASTURE AND RANGE REPORT

Pasture condition is rated as 9% excellent, 34% good, 33% fair, 16% poor and 8% very poor. Pastures are becoming short in many areas of the state. Livestock are in mostly good condition.

CROP PROGRESS TABLE

Crop	This Week	Last Week	Last Year	5-Year Avg
	Percent			
Corn in Dough	72	49	92	86
Corn in Dent	22	6	55	46
Soybeans Blooming	96	92	99	99
Soybeans Setting Pods	78	61	96	92
Alfalfa – 3rd Cutting	71	53	66	68

CROP CONDITION TABLE

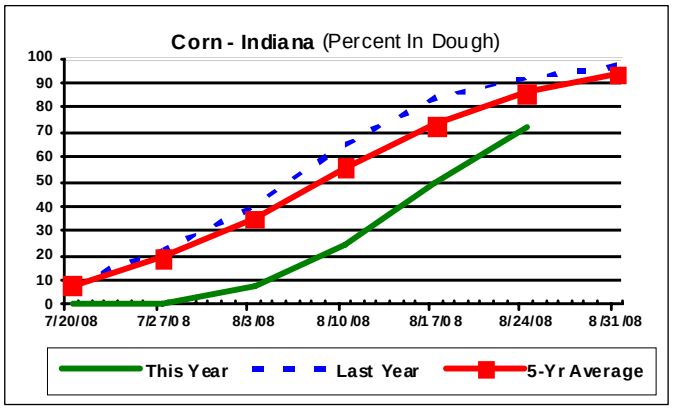
Crop	Very Poor	Poor	Fair	Good	Excel-lent
	Percent				
Corn	3	9	24	45	19
Soybean	4	10	27	44	15
Pasture	8	16	33	34	9

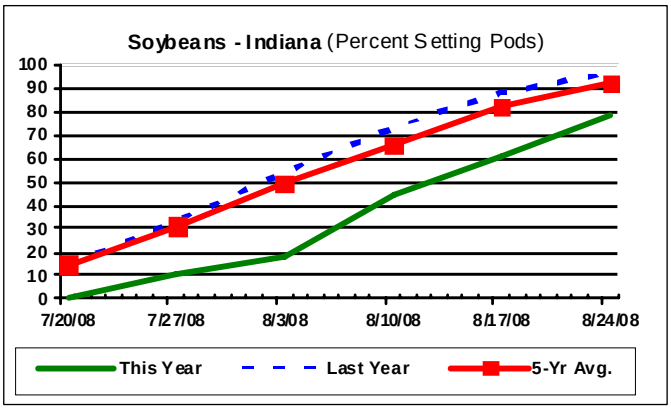
SOIL MOISTURE & DAYS SUITABLE FOR FIELDWORK TABLE

	This Week	Last Week	Last Year
	Percent		
Topsoil			
Very Short	14	6	32
Short	40	31	22
Adequate	45	61	37
Surplus	1	2	9
Subsoil			
Very Short	12	5	31
Short	31	24	30
Adequate	55	67	34
Surplus	2	4	5
Days Suitable	6.6	6.5	4.7

CONTACT INFORMATION

--Greg Preston, Director
--Bud Bever, Agricultural Statistician
E-Mail Address: nass-in@nass.usda.gov
http://www.nass.usda.gov/Statistics_by_State/Indiana/





Other Agricultural Comments And News

Purdue Experts Leave N Detection to Optical Reflectance Sensors

Written Thursday, August 07, 2008

Contrary to what's been considered the gospel for years, in regards to nitrogen rate recommendations, Purdue University agronomists believe that the optimum nitrogen rate is strongly related to the soils' capacity to supply nitrogen.

The soils' ability to supply nitrogen is dependent on the amount of organic matter, drainage capability, rainfall, soil temperature, mineralization potential, leaching potential and denitrification potential, explained Jim Camberato, Purdue Extension soil fertility and plant nutrition specialist.
Camberato and Bob Nielsen, Purdue Extension corn management specialist, conducted trials over a two-year time span at seven Purdue research farms, 39 sites with a corn after soybean rotation and 18 sites with a corn after corn rotation.

After conducting nitrogen rate trials in '06 and '07, we found the optimum nitrogen fertilizer rate is not strongly related to yield potential," Nielsen said. "Or it could be said that higher yielding fields don't necessarily require higher nitrogen fertilizer rates.

"There was however, an excellent relationship between relative yield in each field and the total nitrogen available to the crop, which is the nitrogen the soil supplies plus the fertilizer. In some cases more than half of the nitrogen supplied from the crop originated from the soil itself."

Camberato said when the new data is plotted out yield plateaus at about 275 lbs. per acre of soil plus fertilizer nitrogen.

"This means if we know how much nitrogen the soil supplies, we can subtract that amount from 275 and know how much additional nitrogen the plant actually needs," Camberato said. "But predicting the amount of nitrogen supplied by the soil is difficult."

The fact that the nitrogen cycle is dynamic, mineralization rates are hard to predict, rates of nitrogen loss are hard to predict and required weather data is hard or costly to obtain, all make it hard for a successful model to be developed, Camberato said.

Despite the challenges, Purdue University agronomist Brad Joern is working to develop a model that will estimate up-to-date mineralization and nitrogen loss variables.

Until then, optical reflectance sensors can be used to measure light reflectance from leafy crop canopies, which can be used to estimate the nitrogen status of plants and ultimately estimate how much additional nitrogen needs to be applied. Healthy, large plants reflect light differently than struggling, smaller plants and plants with adequate nitrogen reflect light differently than nitrogen deficient plants.

Optical sensors helps us recognize and quantify differences in the nitrogen content of plants in

(Continued on Page 4)

Weather Information Table

Week ending Sunday August 24, 2008

Station	Past Week Weather Summary Data							Accumulation				
	Air Temperature				Precip.		Avg 4 in Soil Temp	April 1, 2008 thru August 24, 2008 Precipitation			GDD Base 50°F	
	Hi	Lo	Avg	DFN	Total	Days		Total	DFN	Days	Total	DFN
Northwest (1)												
Chalmers_5W	88	54	71	+0	0.48	1		19.55	+1.22	52	2079	-356
Francesville	86	55	71	+2	0.33	2		20.93	+2.65	57	2097	-149
Valparaiso_AP_I	89	58	73	+4	0.01	1		9.02	-9.92	45	2250	+28
Wanatah	88	51	71	+3	0.43	2	80	17.23	-1.24	54	2042	-85
Winamac	89	58	73	+4	0.44	2	75	23.23	+4.95	56	2115	-131
North Central(2)												
Plymouth	89	57	72	+2	0.40	3		18.27	-0.24	60	2101	-252
South_Bend	89	59	75	+5	0.60	4		12.15	-5.65	51	2245	+34
Young_America	86	53	70	+0	0.30	1		23.36	+5.89	54	2135	-171
Northeast (3)												
Columbia_City	90	57	72	+4	0.03	2	69	17.72	+0.09	56	2057	-52
Fort_Wayne	91	57	74	+4	0.06	2		18.07	+1.57	58	2307	-2
West Central(4)												
Greencastle	91	52	72	-2	0.00	0		31.29	+10.59	54	2156	-440
Perrysville	90	54	73	+3	1.73	1	79	24.85	+5.15	56	2395	-31
Spencer_Ag	92	55	74	+3	0.00	0		33.50	+12.30	60	2358	-90
Terre_Haute_AFB	91	52	74	+2	0.23	1		26.57	+6.96	48	2483	-101
W_Lafayette_6NW	89	54	72	+2	0.79	2	74	19.79	+1.50	62	2239	-60
Central (5)												
Eagle_Creek_AP	92	60	76	+4	0.00	0		27.96	+9.43	59	2564	+1
Greenfield	90	55	73	+2	0.00	0		29.07	+8.65	63	2260	-196
Indianapolis_AP	92	60	76	+4	0.00	0		23.98	+5.45	56	2593	+30
Indianapolis_SE	91	57	73	+1	0.00	0		27.11	+7.89	52	2257	-290
Tipton_Ag	91	55	72	+3	0.00	0	77	21.69	+3.11	61	2153	-80
East Central(6)												
Farmland	91	53	71	+2	0.00	0	78	19.98	+1.94	55	2073	-107
New_Castle	88	52	71	+2	0.00	0		25.35	+5.66	58	2080	-152
Southwest (7)												
Evansville	92	57	77	+2	0.13	2		22.60	+3.90	49	2956	-20
Freelandville	89	58	74	+1	0.00	0		25.90	+6.38	51	2593	-76
Shoals_8S	93	51	72	-2	0.00	0		24.23	+3.05	51	2382	-198
Stendal	92	57	75	+1	0.34	2		28.18	+7.22	75	2740	-64
Vincennes_5NE	94	57	75	+3	0.00	0		22.42	+2.90	45	2691	+22
South Central(8)												
Leavenworth	92	57	76	+4	0.12	2		22.61	+0.90	78	2699	+130
Oolitic	92	53	73	+2	0.00	0	77	25.59	+5.16	55	2332	-137
Tell_City	92	59	77	+3	0.00	0		21.67	+0.28	45	2863	+16
Southeast (9)												
Brookville	95	54	75	+5	0.13	2		21.23	+1.40	61	2428	+84
Greensburg	92	56	74	+4	0.15	1		27.69	+7.80	57	2442	+47
Scottsburg	93	56	75	+2	0.04	1		22.94	+2.84	65	2630	-24

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.

The above weather information is provided by AWIS, Inc.
For detailed ag weather forecasts and data visit the AWIS home page at
www.awis.com

Purdue Experts Leave N Detection To Optical Reflectance Sensors (Continued)

areas of a field," Camberato said. "The nitrogen rate can be controlled manually or electronically to change application rates based on reflectance differences in a field."

There are two primary commercialized sensors in use in the United States, Crop Circle™ and GreenSeeker™ units, Nielsen said. Both units emit near infrared rays and visible light wavelengths.

Nielsen and Camberato said there are three rules to remember when working with optical reflectance sensors.

The first being optical sensor measurements and nitrogen content of corn relate best once the crop is well into its rapid growth phase, the V8 stage and beyond where approximately 60 percent of nitrogen uptake occurs. The uptake of nitrogen during the rapid growth phase is dramatic and differences in plant nitrogen levels become more evident to the human eye and especially to optical sensors.

The down side of waiting to apply nitrogen after the V8 growth stage is that the corn plants are much taller, which limits the technology to operations that can apply fertilizer through irrigation water or with high clearance applicators," Camberato said.

Second, growers need to include a high-nitrogen reference strip for each hybrid in each field. These strips are used to help drive the predictive formulas for the sensors. Because hybrids vary naturally in their "greenness," the sensor will need to be recalibrated for each one, Camberato explained.

Third, not all low reflectance areas in a field are simply nitrogen deficient. Consequently, low reflectance areas within a field need to be carefully interpreted by the operator or the sidedress applicator if the intent is to vary nitrogen rates on a site-specific basis. It's important to keep in mind that not all low reflectance areas will be "no-brainers" like drowned out spots, Nielsen said.

Ag Answers, Business and Science of Agriculture, An Ohio State Extension and Purdue Extension Partnership.

The INDIANA CROP & WEATHER REPORT (USPS 675-770), (ISSN 0442-817X) is issued weekly April through November by the USDA, NASS, Indiana Field Office, 1435 Win Hentschel Blvd, Suite 110, West Lafayette IN 47906-4145. Periodicals/Second Class postage paid at Lafayette IN. For information on subscribing, send request to above address. POSTMASTER: Send address change to the USDA, NASS, Indiana Field Office, 1435 Win Hentschel Blvd, Suite 110, West Lafayette IN 47906-4145.