

Condition of the Indiana Wheat Crop

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Soil moisture and weather conditions during the 2007 fall seeding period for the Indiana soft red winter wheat crop were quite good. Most of the crop was seeded in a timely fashion with a small percentage of the acreage seeded a little later than normal. Establishment was good with good stands and adequate, but not excessive, growth prior to entering dormancy. Wheat entered dormancy in mid to late November across northern Indiana and early December in the southern portion of the state. The wheat crop has remained in dormancy since and has been subjected to single digit or below zero temperatures on four occasions across northern Indiana. These were December 6-7, January 3-4, January 20-26 and January 31. Snow cover was present during most of these events in a thickness sufficient to protect the wheat crop.

Observations from three of the outlying Purdue research farms in southeast, southwest and northeast Indiana plus the Agronomy Research and Education Center near West Lafayette suggest that the wheat crop appears to be in very good condition. The wheat plants have remained very green until recently and in some areas are now exhibiting a slight yellowish-brown color, typical for this time of year. This is normal leaf burn caused by cold temperatures and is nothing to cause concern.

Recent rains have resulted in standing water in a number of fields across the state. Usually wheat is not planted on flood plains where it is subject to flooding. The standing water should drain from the upland fields in a few days. When wheat is dormant, it can withstand at least a week under water or in saturated soils without causing damage to the plants.

Growers should be alert for a potential heaving problem that could occur in some wheat fields throughout Indiana but of more concern in southern Indiana. As a result of the heavy rains that have fallen over the past two months, most soils in Indiana have been saturated for an extended period. These very wet soils coupled with the alternating freezing and thawing that has occurred in recent weeks and may occur in the coming weeks, makes the possibility of heaving very likely. Problems with heaving may be more serious where the wheat seed was broadcast with fertilizer and worked lightly to incorporate the seed in the soil. With this method of planting, those seeds near the soil surface have developed weak root systems and will be more vulnerable to heaving.

As the wheat begins to break dormancy, it is time to top-dress with nitrogen as soon as soil conditions permit. Wheat normally will break dormancy in southern Indiana in late

February and in mid to late March in northern Indiana. If you are curious whether your wheat has broken dormancy, there are two ways of making this determination when examining wheat plants. First, carefully wash the roots of a wheat plant and look for new root growth from the crown area of the plant. These roots should be snow white and may be very short (1/4 to 1/2 inch) if the plant has just broken dormancy. Secondly, look closely at the top two leaves of the plant. You should be able to see a line across the leaf at the point where the leaf was covered by the leaf sheath. The area below the line is the new growth and can be characterized by a brighter and/or shiny appearance when compared with the area above the line.

Assuming that 20-30 pounds of nitrogen were applied at seeding time, the rate of top-dress nitrogen is directly related to yield potential. With a yield potential of 50 bushels per acre, we recommend 40 lbs. of N as a top-dress, at 70 bu/ac we recommend 60 lbs. of N and at 90 bu/ac, 90 lbs. of N. If no pre-plant nitrogen was used, the top-dress rate should be increased accordingly. On soils with a cation exchange capacity less than 10, the N rate may need to be increased by 10-15 lbs/ac or a split application used with a one-half rate applied at dormancy break and the other one-half at early jointing. We recommend the use of dry materials for top-dressing the wheat crop. If liquid materials are used, we recommend streamer bars be used to minimize leaf burn. Every effort should be made to keep as much of the nitrogen fertilizer off the wheat leaves as possible. Nitrogen fertilizer applied to a plant with lowered vigor and dead leaf tissue could cause a significant *Rhizoctonia* fungus problem. With the current prices of nitrogen in the sixty to seventy cents per pound range, depending on the form, application should be delayed until the wheat breaks dormancy to minimize loss. Coated urea, though more expensive, may be an option if the application is made in advance of the plant breaking dormancy.

Don't forget, this and other timely information about corn can be viewed at the Chat 'n Chew Café on the Web at <http://www.kingcorn.org/cafe>. For other information about corn, take a look at the Corn Growers' Guidebook on the Web at <http://www.kingcorn.org>.

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