

Nitrogen on Wheat
Managing Italian Ryegrass in Wheat
Illinois Wheat Forum - February 17



NITROGEN ON WHEAT

Lloyd Murdock, Extension Soils Specialist

Wheat was planted on a timely basis this year and we had a warm fall and early winter. Due to this, most of the wheat has grown well and is well tillered. It is in excellent shape for the Spring regrowth. It is fortunate that we had a dry fall or the wheat might well be too far advanced in the stage of growth and would be more susceptible for winter and late spring freezes. Since conditions are almost ideal, most fields will have adequate tillering (more than 70 good strong tillers per square foot), we will discuss nitrogen recommendations based on this assumption.

I. Tilled Wheat:

For wheat planted with tillage, the total amount of Spring nitrogen that needs to be added for wheat yields in the 70 plus bu/ac range is 100-105 lbs/ac if the nitrogen is to be split into two applications in the Spring. If the nitrogen is split, 1/3 of your total nitrogen should be applied in the first split at "green-up" in February. The remainder should be applied in late March just before jointing.

If one application is going to be used, it should be applied in late March just before jointing and the rate should be 95 lbs/ac of nitrogen. The average yield advantage for splitting the nitrogen is 3 to 5 bu/ac, but can be higher than this if the tiller counts are low or if the stand experiences visual stress in February or early March.

2. No-Till Wheat

An additional 20 lbs/ac of nitrogen is recommended for no-till wheat. When the Spring nitrogen applications are to be split, most of the extra 20 lbs/ac should be applied in February at "green-up". The reason for this is that the conditions in the early Spring are more unfavorable for growth with no-tillage as compared to tilled wheat. The extra nitrogen probably improves the plants growth and vigor during that time.

3. Sources of Nitrogen

There are no differences in the sources of nitrogen on wheat growth and yield. This is true if the nitrogen can be evenly distributed over the field. Since liquid nitrogen can be evenly distributed over the field with well calibrated equipment, it is used by many producers. However, solid nitrogen sources can be also used just as effectively with equipment, such as air flow, that will do an excellent job of distribution. Equipment with spinners make it more difficult to get an even distribution of the nitrogen fertilizer.

4. Sulfur on Wheat

Sulfur is sometimes applied to wheat in Kentucky, but there is no scientific evidence for its need. Last year, a nutrient survey was completed on 12 wheat fields in western Kentucky and in all cases the amount of sulfur in the flag leaf just prior to blooming was well above the sufficiency level needed for wheat. None of these fields had a history of sulfur use of many years. This is additional evidence that supports many other similar observations.

MANAGING ITALIAN RYEGRASS IN WHEAT

James R. Martin, Extension Weed Control Specialist

The dry conditions this past fall has in many cases delayed emergence of Italian ryegrass. Because of these unique circumstances, it may be beneficial to monitor fields for ryegrass, particularly fields with a history of this weed during the last three to four years. The delay in emergence may have caused some folks to overlook ryegrass and create false hopes that problems will not develop.

Hoelon is commonly used for managing Italian ryegrass in wheat. When used properly, Hoelon is very effective in controlling Italian ryegrass, however, it is unrealistic to expect 100% season-long control, particularly when weather conditions delay weed emergence.

If growers determine that a herbicide treatment is needed, they may want to consider such factors as wheat growth stage, size of ryegrass, and temperature to determine when to make applications. Hoelon should be applied before wheat develops the first node.

In order to take advantage of using the minimum amount of herbicide, the treatment needs to be made when Italian ryegrass plants are small. Control from Hoelon will likely be unsuccessful once Italian ryegrass overwinters and begins to tiller. The following chart shows the recommended rate of Hoelon and stage of growth of ryegrass.

Hoelon Rate vs Growth Stage of Italian Ryegrass	
<u>Rate</u>	<u>Growth Stage</u>
1.33 pt/A	1 - 4 leaf
2 pt/A	4 - 5 leaf
2.66 pt/A	5 leaf - 2 tillers

Because of weed efficacy, there may be temptation to make the treatment as soon as possible. However, be aware that crop tolerance to Hoelon, like many other herbicides, depends on temperature. In order to minimize the risk of wheat injury, do not apply Hoelon if temperatures within 72 hours (3 days) prior to treatment are less than 35° F. Likewise, avoid making applications if freezing temperatures are forecasted within 3 days after treatment. The use of oil concentrate as an additive with Hoelon is generally discouraged, particularly when conditions are cool and wet.

Hoelon does not control broadleaf weeds nor wild garlic; therefore, the use of another herbicide may be needed where these type of weeds are present. Applying Hoelon in combination with herbicides such as 2,4-D, Banvel, Clarity, or Harmony Extra may result in poor control of Italian ryegrass. Hoelon should be applied separately from these herbicides, at a minimum of 5 days between treatments. Consult the label for other details including information on mixing Hoelon with liquid nitrogen fertilizer.

The repeated annual use of Hoelon in wheat in other states is believed to have contributed to the development of biotypes that are resistant to this herbicide. Fortunately, there have not been any cases of Hoelon-resistant ryegrass documented in Kentucky. The fact that most of Kentucky's wheat acres are in a good

rotation program and are treated with herbicides of several modes of action helps limit the risk of developing this resistance.

Achieve 40 DG is a relative new postemergence wheat herbicide registered for controlling ryegrass in wheat. Limited research indicates that Achieve provides control similar than that obtained with Hoelon.

ILLINOIS WHEAT FORUM FEBRUARY 17

Bob Frank, Executive Secretary
Illinois Wheat Association

An Illinois Wheat Forum for growers and other representatives of the wheat industry will be held February 17 at Mt. Vernon, Illinois. The location is the Holiday Inn, 222 Potomac Boulevard, near Exit 95 of Interstate 57.

Registration and visiting exhibits will begin at 9:00 a.m. The program will be from 10:00 a.m. to 3:15 p.m. Dr. Steve Ebelhar, University of Illinois Agronomist, will open the Forum discussing, "Illinois Wheat Research Results".

Other morning topics include Dr. Curtis Beazer, AgriPro Seeds, Inc. reporting on, "Breeding Wheat for the Future" and Eric Schmidt, ConAgra Flour Milling Company, discussing, "Soft Red Wheat from the Processor's Viewpoint".

A brief annual meeting of the Illinois Wheat Association will follow lunch.

Afternoon educational topics will begin with Illinois Director of Agriculture, Joe Hampton discussing the department's concerns for the current agricultural situation. Other topics include, "Adding Profits Through Value-Added Cooperatives" by Larry Groce, CEO of Producers Alliance, and Dr. Darrel Good, U. of I., Extension marketing specialist, reporting on the outlook for 2000 wheat prices.

Advanced registration is not needed. CCA credit will be available for eligible agricultural professionals.

The Illinois Wheat Forum is sponsored by the Illinois Wheat Association, University of Illinois Extension, and Illinois Department of Agriculture Bureau of Marketing and Promotion, and Illinois Crop Improvement Association.

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