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STORED GRAIN "PROTECTANT" INSECTICIDES: SOME CONFUSION ON AVAILABILITY Doug Johnson—Extension Entomologist

You may have read or heard me speak about some label changes that were anticipated in time for the 2003 wheat harvest. **Some of this information is already out of date.** I will try to clear up the situation in this article but as always **READ THE LABEL** before any use. The label is the best authority on the use of that product.

Tempo 2 (cyfluthrin) You may have heard that there were uses added to the Tempo 2 label. Please remember there are three formulations of Tempo for insect control in various facets of stored / processing grain sites. They are: Tempo 2, Tempo SC Ultra, and Tempo 20 WP. These compounds have long been used for treating inside empty bins before filling with grain, but NOT for use directly on grain as a protectant. As far as I can tell, these uses are still current.

In 2002 Tempo 2 (NOT SC Ultra or 20 WP) received a label change to allow it to be used directly on grain. However, it appears that this product will not be sold for that use. In fact, it may not be sold at all. This has to do with international marketing concerns. You will see this product listed in my printed recommendations for use as a protectant on stored; wheat, grain sorghum, and popcorn. However, I recommend you **DO NOT APPLY ANY** Tempo formulation directly to the grain.

Storcide (cyfluthrin and chlorpyrifos-methyl) B This product is a mixture of cyfluthrin (Tempo) and chlorpyrifos-methyl (Reldan). It was generally expected that Storcide would be available for use

on wheat by the time of harvest. However, it appears that this may not be the case.

The Gustafson web pages list labels for Storcide but only for states with Section 18 Emergency Exemption Use Only labels. Gustafson does have a Sec (3) National label but there are some business / liability issues on the international front that complicate its use. Gustafson is expected to make a decision in the next month or so on how Storcide will be marketed.

Reldan (chlorpyrifos-methyl) - Currently, Reldan 4E is being sold and is available for use. Reldan 4D is NOT being sold but existing stocks may be used.

The fate of Reldan is still undecided. The base manufacture and Gustafson expect to meet with appropriate government agencies to discuss the fate of this product. I believe that they will argue that there is no appropriate replacement for the product and removal will leave the industry with no product to use in its place.

Summary

- Tempo will not be sold, at least not for stored grain. Do not use it as a protectant.
- Tempo SC Ultra and 20WP are still available for use in empty bins but NOT on grain!
- Reldan is available in the 4E formulation. It's fate would change at any time.

DO NOT use any pesticide in a way that is not consistent with the label.

HEADLINE FUNGICIDE ADDED TO WHEAT DISEASE CONTROL ARSENAL

Don Hershman, Extension Plant Pathologist

In September 2002, BASF Corporation received an EPA Section 3 registration for the Foliar Fungicide, Headline. This is important news for Kentucky's wheat producers because it adds yet another "tool" to the wheat disease control "tool box." Headline contains the active ingredient pyraclostrobin (23%) Pyraclostrobin is a strobilurin chemistry in the same chemical class as the active ingredient in Quadris (azoxystrobin), and one of the two active ingredients in Stratego (trifloxystrobin). Headline will be available for sale and use on wheat (and barley) this spring.

Headline is a valuable addition to the wheat fungicide arsenal because, like Quadris, it may be applied until the crop begins to flower. In contrast, Tilt, PropiMax and Stratego, all of which contain propiconazole, must be applied to the crop before 50% crop flag leaf emergence. This is an important distinction since research and experience in Kentucky indicate that wheat foliar fungicides are usually most effective when applied during early to late head emergence. An exception is when powdery mildew is a problem; in those cases, flag leaf and earlier applications may be appropriate.

Headline, PropiMax, Quadris, Stratego, and Tilt are all excellent fungicides. I came to this conclusion after reviewing published research reports from seven different states for 1999-2002. The bottom line is this: assuming proper timing, rate, and method of application, there is very little practical difference in disease control achieved between the different products (see Table 1). Quadris, and to a lesser extent Headline and Stratego, have somewhat less activity against powdery mildew compared to Tilt, and the

opposite is true for leaf rust (i.e., Tilt has somewhat reduced activity compared with Headline, Quadris, and Stratego). Nonetheless, I have not seen any data which indicates that any one fungicide is "head and shoulders" above the others as long as sufficient rates of active ingredients are applied at the proper time, and sufficient disease pressure exists.

Cost is a big factor in making wheat foliar fungicide selection decisions. Recently we called various ag dealerships in different parts of the state and conducted a limited price comparison survey for the different foliar fungicides available for use on wheat. The results are as follows:

<u>Product</u>	<u>Ave Retail Price/Gal</u>	<u>Price Range</u>	<u>Cost/Rate Applied*</u>
Headline	\$209	\$200-\$229	6.0 fl oz = \$9.80 9.0 fl oz = \$14.70
PropiMax	\$292	\$280-\$305	4.0 fl oz = \$9.12
Quadris	\$271	\$250-\$289	6.2 fl oz = \$13.12 8.2 fl oz = \$17.36 10.8 fl oz = \$22.90
Stratego	\$140	\$137-\$143	10.0 fl oz = \$10.98
Tilt	\$341	\$295-\$380	4.0 fl oz = \$10.66

*Based on average retail price at different use rates. Does not include cost of additives or application.

<u>Product</u>	<u>Powdery Mildew</u>	<u>Leaf/Glume Blotch</u>	<u>Leaf Rust</u>
Headline	++(+)	+++	++++
Quadris	+(+)	+++	++++
Stratego	++(+)	+++	++++
PropiMax or Tilt	+++	+++	+++

Very good control = ++; excellent = +++;
superior = ++++; (+) = Control at higher use rates

As can be seen in the above table, the price-competitiveness of Headline and Quadris, compared with the industry standard, Tilt, is dependent on the rate applied. Because of the newness of these fungicides, I do not yet feel qualified to recommend a specific use rate for either fungicide. This, obviously, is an important decision with great potential for economic impact. Thus, I suggest you consult your company sales rep for specific use rate recommendations for both Quadris and Headline.

Anytime you decide to spray a foliar fungicide, it is always a good idea to leave a small amount of wheat unsprayed for comparison purposes.

EARLY SPRING NITROGEN APPLICATION
Lloyd Murdock, Extension Soils Specialist

This has been an unusual fall for planting and growing wheat. What is usually an ideal time to plant wheat (Oct. 15-20) was a little late this year in terms of tiller development. Stands were excellent but the cooler than normal conditions resulted in slow plant development and growth. Consequently, the number of tillers per plant are less than normal. Instead of approximately 3 tillers/plant, there are approximately 2.

Plantings made the first few days in October have plants that are tillered at about the same rate as mid-October plants. The mid-October plantings are less than usual and the late October and early November plantings have very limited tiller development. The early November plantings have almost no tillers.

The wheat stands with limited tillering need a higher rate of February nitrogen to stimulate tillering and plant development. The rate of nitrogen needed will be in the neighborhood of 50 lbs/ac.

The early October plantings do not need the extra nitrogen and 30-40 lbs/ac in February should be sufficient for a split application. The mid-October planting will probably need the higher rate of around 50 lbs/ac at this time. The late October and early November definitely need the higher rate to encourage early plant development and growth. These rates should be 50-60 lbs/ac.

The higher rates of nitrogen in February does not necessarily mean a higher total rate of nitrogen. It simply means that a higher proportion of the total nitrogen would shift to the February application and a smaller amount in March. The March application rate will again depend on the conditions at that time.

ILLINOIS WHEAT FORUM

An Illinois Wheat Forum will be held February 24
8:30 AM—3 PM at the Holiday Inn
in Mt. Vernon, Illinois.
Registration Fee is \$20.
Advanced registration is not needed.
CCA credits available.
The Holiday Inn is located close to Exit 95 on I-57.

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