

# Wheat Science News

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## ***In This Issue:***

- ♦ **WHEAT AHEAD OF SCHEDULE MAY CHANGE N PLANS**
- ♦ **MILD WINTER IMPACTS WEED MANAGEMENT DECISIONS**

**UPCOMING WHEAT FIELD DAY  
MAY 15—UKREC, PRINCETON, KY**

### **WHEAT AHEAD OF SCHEDULE MAY CHANGE N PLANS**

**Lloyd Murdock—Extension Soils Specialist**

The winter has been mild and the wheat has continued to grow. For the fields that were planted early, some of the wheat may be well into Feekes 4 (turned erect) or possibly into Feekes 5 (several inches of growth). If the weather remains warmer than normal, these fields may be at risk to severe cold injury if the growing point moves above the ground while there are still chances for temperatures below 24° when the plant has jointed. Most of these fields have tillered well, so early nitrogen is not needed. In fact, it would be good if the plants were slightly N deficient to slow the growth. You would like to delay the development of these plants so they do not joint until we get well into March. This will reduce the risk of cold injury. So the reduced N will help this as well as temperatures that average below 40°. (Average equals daily high plus daily low, divided by 2).

For wheat that is well tillered that is in Feekes 3 (prostrate growth) or early Feekes 4 (just becoming erect), the N can be applied as normal, but use low rates of February N to not accelerate the growth (30 to 40 lbs/ac of N). For the fields that are Feekes 3 or Feekes 4 that are not tillered well (less than 70 good strong tillers per square foot), use a higher rate of February N (40-60 lb/ac).

### **MILD WINTER IMPACTS WEED MANAGEMENT DECISIONS**

**Jim Martin—Extension Weed Scientist**

The warm temperatures during much of this winter have promoted growth of both wheat and weeds beyond what we would normally expect for this time of year. As we progress through the next few days, growers may want to consider the following factors that can affect weed management in this season's wheat crop.

1. **Spray Coverage:** Good spray coverage helps ensure the best possible weed control. If the wheat is growing to the extent that its canopy interferes with spray coverage of weeds, there is a chance weed control will be limited with foliar-applied herbicides. While several herbicides are labeled to be applied in spray volumes as low as 5 gallons per acre, it may be prudent to apply treatments in a minimum spray volume of 10 or more gallons per acre. This helps achieve optimum spray coverage of the weed foliage and limit the risk of spray drift.
2. **Weed Emergence and Weed Size or Growth Stage:** Ideally most weeds should be controlled when they are relatively small and most plants have emerged. While there may be cases where weeds exceed the maximum size for optimum control (See Table 1), it is still not too late to gain some benefits from spraying. The situations that have the greatest risk from weed competition are no-till fields that were not treated with a burndown application before planting or a postemergence herbicide treatment after crop emergence in the fall. Specifically, check for wild garlic emergence to be sure that most plants have emerged. Common chickweed and Italian ryegrass are example of cool-season annuals that are competitive and should be controlled early.
3. **Crop Growth Stage:** The wheat growth stage will affect which herbicide(s) can be used. If wheat has reached Feekes 6 (jointing), do not apply such herbicides as Banvel, Clarity, Finesse Grass and Broadleaf, Metribuzin, Olympus Flex, Osprey, or PowerFlex. The crop safety of 2,4-D applied to wheat at the jointing stage is a matter of debate. Some 2,4-D labels recommend application before jointing; whereas, other labels allow application after jointing but before boot stage. In order to limit the risk of injuring wheat, it may be prudent to avoid high rates of 2,4-D when plants begin jointing. Growers still have the option of using such herbicides as Harmony or Harmony Extra before the flag leaf of wheat is visible. Also, Axial XL may be used for controlling Italian ryegrass before the boot stage of wheat.

4. **Weather Conditions and Herbicide Injury:** While weather has generally been favorable for spraying herbicides, the calendar reminds us it is still winter and crop injury due to poor weather could be a problem. Examples of conditions that cause concern include heavy rainfall, prolonged cold temperatures or wide fluctuation of day/night temperatures prior to or soon after application. In order to limit the potential for crop injury, the labels for Harmony and Harmony Extra recommend including 2,4-D ester as a tank mix partner and apply after wheat is in the tillering stage of growth.
5. **Ryegrass Control and Topdressing Nitrogen:** Growers who plan to spray for controlling Italian ryegrass this spring should be aware that certain herbicides may injure wheat when topdressing nitrogen fertilizer near the time of herbicide application. Osprey and PowerFlex are examples of ALS-inhibiting herbicides that can cause wheat to be stunted and chlorotic when applied in the spring near the time of topdressing nitrogen fertilizer. The PowerFlex label cautions against making applications within seven days of topdressing ammonium nitrogen fertilizer, while the Osprey label suggests waiting 14 days between application and topdressing. Axial XL is an ACCase inhibitor that can be used for ryegrass control without the risk of crop injury when applied near the time of topdressing nitrogen.

**Table 1. Maximum Weed Size or Growth Stage for Certain Wheat Herbicides**

**Harmony Extra\* or Harmony\*\*:** For wild garlic control apply when plants are <12 inches tall and 2 to 4 inches of new growth. Apply to annual broadleaf weeds that are past cotyledon stage and are less than 4 inches tall or wide. For specific weeds consult label for recommended growth stages. As a general rule, Harmony Extra is preferred over Harmony for controlling certain broadleaf weeds, especially common chickweed. For some weed species, the addition of 2,4-D ester may improve control of larger plants, but be aware of crop growth stage limitations before applying 2,4-D.

**Clarity:** Apply to annual broadleaf weeds at 2- to 3- leaf stage and when rosettes are less than 2" across.

**Metribuzin:** Control may be reduced if broadleaf weeds are taller than 1 inch or grasses have more than 2 leaves.

**Buctril:** Apply to annual broadleaf weeds 2 to 4 inches tall or 1 to 2 inches in diameter (4 to 8 leaf stage).

\* Generic Harmony Extra Formulations: Audit, Nimble, TNT Broadleaf, Volta Extra

\*\* Generic Harmony Formulations: Harass, Thief, Unity, Volta