1. Recropping wheat ground: Herbicide carryover considerations

In parts of Kansas, wheat stands are poor from the effects of dry soils, winter heaving, very late planting, or some other factor. In some of these cases producers might be considering recropping the fields to a row crop. Before making any decisions, it is necessary to consider any potential herbicide carryover that might cause problems for the spring-planted crop.

If producers still aren’t sure whether to keep their wheat, but want to keep their recrop options open, their best options for weed control at this time of year would be MCPA, 2,4-D, dicamba, Affinity, or Harmony products. MCPA generally has better crop safety on small wheat than 2,4-D. MCPA can be applied to wheat from 3-leaf until the early boot stage, while 2,4-D can be applied between full-tiller and early boot stages. Dicamba can only be safely applied to wheat prior to the jointing stage. Application after jointing greatly increases the risk of crop injury. Harmony GT, Harmony Extra, and Affinity BroadSpec or TankMix can be applied to wheat up until the flag leaf is visible. All of these products have very short crop rotation restrictions. However, it is also important to remember that these herbicides do not provide much residual weed control and spray coverage of the weeds in the canopy is critical to get good weed control.

In contrast, many of the commonly used sulfonylurea herbicides, including Ally, Ally Extra, Agility, Amber, Finesse, Finesse Grass and Broadleaf, Glean, Maverick, Olympus, Olympus Flex, Peak, and Rave, are very persistent and have fairly long crop rotation guidelines.

In general, the most tolerant summer crop to residues of these herbicides, is STS soybeans, followed by grain sorghum. Product labels tend to specify grain sorghum, but forage sorghum and sudangrasses would likely have similar levels of tolerance. One
major exception to this guideline is sorghum and Maverick herbicide. Sorghum is extremely susceptible to Maverick and should not be planted for at least 22 months after application.

Producers who want to recrop to sorghum on their wheat acres that have received one of these sulfonylurea herbicides should wait as long as possible to plant. Ideally, sorghum should not be planted on these fields until mid-June.

Cotton and non-STS soybeans are generally intermediate in tolerance to these herbicides. Although most of these product labels generally recommend not planting cotton or non-STS soybeans until the following year, the Maverick and Olympus labels allow shorter recrop intervals in the case of catastrophic events if a field bioassay indicates it is safe to plant the crop. Research at K-State on lower pH soils has shown minimal injury of cotton or STS soybeans planted in early June from residues of Maverick or Olympus applied the previous fall. However, the grower assumes all risk of crop injury.

Corn, sunflowers, canola, and alfalfa tend to be the most susceptible crops to the sulfonylurea herbicides and have rotation guidelines of 12 months or longer. With the high price of corn, many farmers may be interested in planting corn, but corn is very susceptible to residues of these herbicides.

Several herbicide labels make reference to shorter recrop intervals if planting IR corn. However, IR corn is obsolete and current Clearfield corn hybrids do not have the same level of cross resistance to sulfonylurea herbicides as did the IR corns.

Wheat fields that have been treated with Beyond herbicide can be recropped in the spring with any type of soybean or Clearfield sunflowers, but not to sorghum or corn.

In fields where herbicide carryover is a concern, it would be best to wait until later in the spring before planting to allow as much time as possible for herbicide dissipation. Tilling the soil to try to “dilute” the herbicide residue likely will not have a great benefit and could offset the benefits of not tilling the soil. Lowering residue managers on planters, so that an inch or two of topsoil is thrown out of the rows could help get the seed into soil with lower herbicide levels.

Always refer to the specific herbicide label regarding crop rotation guidelines and restrictions. Label guidelines for crop rotation are often complicated by soil pH and geography. Some product labels have very rigid crop rotation restrictions, while other labels allow shorter intervals in the case of catastrophic crop failure, as long as the producer is willing to accept the risk of crop injury. Another confusing issue may be the existence of supplemental herbicide labels with shorter crop rotation guidelines than the regular label. Herbicides with supplemental crop rotation labels include Finesse, Ally, and Ally Extra.

-- Dallas Peterson, Weed Management Specialist
dpeterso@ksu.edu
2. Lumax received full registration for use in grain sorghum

For the past two years, grain sorghum producers in Kansas have been able to use Lumax herbicide, from Syngenta Crop Protection, due to an emergency Section 18 exemption from the EPA. Now Lumax has received a full label for use in grain sorghum in Kansas and Nebraska. Lumax is a premix of the active ingredient in Callisto, metolachlor (e.g. Dual II Magnum), and atrazine, which provides three different modes of action. Lumax can be tankmixed with glyphosate or paraquat if burndown action is required on emerged weeds at the time of application.

K-State has tested Lumax at several locations in the state for the past several years. The following general conclusions can be drawn from the tests:

* Pigweed control has generally, but not always, been satisfactory to very good.

* Weed control appears to be better in earlier-planted than late-planted sorghum, possibly because moisture conditions are better earlier in the season and pigweed vigor increases in warmer soils.

* The biggest advantage of Lumax will be the ability to control triazine- and ALS-resistant pigweed and kochia in sorghum.

* Lumax is not a silver bullet. It requires adequate precipitation for activation, and it can be overwhelmed by heavy pigweed pressure, especially where atrazine doesn’t help with control. Using crop rotation, and doing a good job of controlling pigweed in wheat stubble ahead of sorghum, will help the performance of Lumax in controlling pigweed in sorghum.

* Grass control is very good with Lumax, as long as the herbicide is properly activated by rainfall. At the rate of 2.5 qt per acre, Lumax contains 1.75 pints of Dual II Magnum, which is a high rate. On the other hand, Lumax at the full rate contains only 0.62 pounds of atrazine. Additional atrazine may be beneficial on heavier-textured soils.

* Crop injury (bleaching of the leaves) can occur in some cases, although the injury symptoms have not carried through to yield losses. Crop injury is most likely to occur when there are heavy rains between the time of application and crop emergence. Be sure to follow the label directions. If the full label rate is used in a single application, make sure it is applied 7-14 days prior to planting. If a split application is used, make sure the first half is applied 7-14 days prior to planting. Crop injury is most likely to occur on lighter soils.

Syngenta’s directions for how to use Lumax in grain sorghum:
* Application method options:
  -- Apply Lumax at 2.5 qts/acre 7-14 days prior to planting, or
  -- Apply Lumax at 1.25 qts/acre 7-14 days prior to planting followed by Lumax at
    1.25 qts/acre after planting and prior to crop emergence, or
  -- Apply Lumax at 1.5 qts/acre 7-14 days prior to planting followed by Lumax at
    1.0 qt/acre prior to crop emergence.
* If weeds are emerged at the time of application:
  -- Add a non-ionic surfactant (NIS) at 1.0-2.0 qts./100 gallons or crop oil
    concentrate (COC) at 1.0 gallon/100 gallons.
  -- In addition to NIS or COC, add AMS at 8.5 lbs./100 gallons or UAN at 2.5
    gallons/100 gallons.
* Start clean at planting – for best results, control all emerged weeds.

Restrictions and Precautions:
* Use Lumax only on Concep-treated grain sorghum.
* Do not apply to emerged grain sorghum.
* Do not apply to grain sorghum on coarse textured soils (i.e. sand, loamy sand or sandy
  loam).
* Apply Lumax to grain sorghum only. Lumax is not labeled for other types of sorghum.
* Minimize disturbance of the herbicide treated soil barrier during the planting process.
* Lumax is not approved for aerial application or application through any type of
  irrigation system.
* Do not harvest within 60 days of application.
* Important: See the label for complete details on product use in Kansas and Nebraska.

-- Curtis Thompson, Weed Management Specialist
cthompso@ksu.edu

3. Update on the potential for leaf rust in wheat

There have been significant developments in the status of leaf rust during the first week
of April. Reports from fields near San Antonio, Texas indicate that leaf rust is now
approaching 20% severity on susceptible wheat varieties, and that the disease was also
present at low to moderate levels north of Dallas near the Oklahoma border. Stripe rust
was also detected at trace levels in this same area.

We also continue to find evidence that leaf rust has successfully overwintered in parts of
central, southcentral, and northeast Kansas. The most recent detections of leaf rust in
Kansas come from Barber and Riley counties. The Barber County find was in a field of
Jagger located near Hazelton, approximately 15 miles north of the Oklahoma border. The
disease was only detected on the most mature wheat, and most fields appear to be
disease free at this point. Leaf rust had previously been detected in Rice, Ellsworth and
Riley counties. Evaluation of the fields near Manhattan indicates that the incidence leaf
rust has increased over the last two weeks. At all locations, the leaf rust was limited to the lower canopy, but was actively producing spores.

Recent rainfall in central and northeast Kansas favors the further establishment of the leaf rust. The wheat in many areas of the state is slightly behind normal in growth and development. There are no reports of leaf rust in western Kansas to date.

The top three wheat varieties in the state (Jagalene, Overley, and Jagger) are known to be susceptible to leaf rust. The susceptibility of these varieties, the apparent overwintering of leaf rust, increasing leaf rust pressure in Texas, and the delay in crop maturity all increase the risk of severe disease problems in Kansas this year.

No immediate management actions are necessary, but growers should monitor the leaf rust situation carefully during the next few weeks. Research has demonstrated the most effective time to apply a foliar fungicide to wheat is between flag leaf emergence through heading. The average yield response for foliar fungicides in Kansas is 10%. Wheat prices have fallen slightly this past week, but are still around $9 bushel. The costs of fungicides have also increased recently, with the average cost now approaching $25 per acre for product plus application costs. Fields planted to susceptible varieties and having a yield potential of more than 35 bushels per acre are strong candidates for a fungicide application this year.

-- Erick DeWolf, Extension Plant Pathologist
dewolf1@ksu.edu

4. Heaving damage, late planting, shallow planting, and other wheat problems

In checking wheat fields around central Kansas during the first week of April, I ran across some interesting situations.

Field 1. McPherson County. In this field, there was heaving damage during the winter that actually lifted some seedling plants up out of the ground. Heaving is a common problem in soils with high clay contents. Note the cracks in the soil indicating shrinking and swelling. The most noticeable symptom of heaving injury is that some plants begin to die as wheat begins its spring green up. Close inspection of this plant shows the crown is above the soil surface with only a few roots into the soil.
Field 2. Saline County. This is an interesting situation. This wheat was planted no-till after a 50-bushel soybean crop, using a conventional double-disc drill without upfront coulters. Half the field has a very thin stand, and half the field has a somewhat better stand. In talking to the producer, the portion of the field with the decent stand was planted in the afternoon when conditions were dry. The portion of the field with the thinner stand (at left in the photo below) was planted the next morning, when the residue was wet. In examining the thinner portion of the field, we found that most of the seed was just lying on top of the ground, where it had germinated then formed very shallow roots, and had no crown development or tillering. In some cases the seedlings had already died. The drill (without cutting coulters) was unable to penetrate the wet soybean residue.

-- Jim Shroyer, Extension Agronomy State Leader
jshroyer@ksu.edu
These e-Updates are a regular weekly item from K-State Extension Agronomy and Steve Watson, Agronomy e-Update Editor. All of the Research and Extension faculty in Agronomy will be involved as sources from time to time. If you have any questions or suggestions for topics you'd like to have us address in this weekly update, contact Steve Watson, 785-532-7105 swatson@ksu.edu, or Jim Shroyer, Research and Extension Crop Production Specialist and State Extension Agronomy Leader 785-532-0397 jshroyer@ksu.edu