

Weed Management

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Switching from a conventional tillage weed control system to a no-till weed control system is similar to a mechanic loosening their open-end adjustable wrench (i.e. Crescent® wrench). The open-end adjustable wrench is often the wrench of choice for many jobs, or those jobs that require a metric wrench that you never have purchased. Likewise, tillage is a reliable method to combat weed populations regardless of the species and is still an option for controlling weeds whose chemical control options do not exist. Just like the mechanic loosening the wrench, crop producers should remember there are four other methods of weed control besides mechanical control (e.g. preventative, cultural, biological, and chemical). In general, the reliance on these four methods will increase in no-till crop production systems.

Cultural Control Practices

A Healthy Crop is a Competitive Crop

Cultural weed management should not be overlooked when planning for a crop. Too often, producers forget the basics of ‘crop health,’ which leads to weed problems. The best weed control tool we have is a healthy, actively growing crop. Therefore, getting a no-till system off to a good start in terms of proper adjustment of soil pH and nutrients will benefit the health of a crop and also improve weed management practices. A healthy crop is more likely to out-compete weeds than a crop lacking proper fertility.

Small Changes May Drastically Ease Weed Control

Narrower row spacing and higher seeding rates result in quicker canopy closure and a denser crop canopy, which enables the crop to shade out weeds. Likewise, planting into good soil moisture, planting

Successful weed control for no-till production systems will ensure:

- A healthy, actively growing crop.
- Timely applications of an appropriate herbicide.

at uniform depths across the field, and closing the seed furrows ensures uniform crop emergence, improves crop competitiveness, and lessens chances of herbicide injury to the crop.

Crop Rotations Complement Weed Control Strategies

A summer rotational crop will help kill infestations of winter annual grasses that may have plagued winter wheat production. Similarly, rotating to a summer broadleaf crop may help address the control of summer annual grasses that may infest the corn or grain sorghum planned the following year.

Chemical Control Considerations

Burndown Programs For a Good Start

Planting a crop into growing weeds is not a good practice. Significant crop competition occurs when crops and weeds emerge at the same time, however, the crop is damaged even more if the weeds are established prior to planting the crop. Too often when the crop is planted into actively growing weeds

rainfall, mechanical problems, or other issues delay burndown efforts, which result in early-season weed competition and the use of more expensive, and often less efficacious, herbicides for early in-season weed control that may result in crop injury, negatively impacting the health of the crop.

Consider Soil Residual Herbicide Programs

The use of soil residual herbicides is one way to lessen the potential of early-season weed competition and to help manage problematic weeds difficult to control with current postemergent herbicide options. If planned appropriately, these soil residual herbicides will diversify the herbicide chemistry in the field and prolong or prevent weed resistance from occurring. A possible downside of using residual herbicides is potential herbicide carryover into the following crop. For this reason, it is always important to read herbicide labels to determine rotational provisions prior to its application.

“Probably the greatest obstacle is weed control...it is hard when your fields look like they are full of trash, plus the neighbors want to know if you have quit farming... strange thing is the ones that gave me fits are now beginning to do the same thing!”

**David Shultz
Altus, OK**

Herbicide Selection can Impact Crops Planted up to Three Years Later

Chemical carryover occurs when an herbicide applied to a crop remains active in the soil long enough so it impacts the growth of following crop(s). For this reason, one must consider not only the crop to plant, but also the herbicides that will be sprayed to control the major weed pest in the field, and the rotational interval required by the label prior to planting the next crop in the rotation.

Timely Herbicide Applications are Critical

Early season weed interference can significantly lower crop yields and make chemical control of weeds much more difficult. To maximize your yield, weeds that emerge with the crop should be controlled during the third to fifth week after crop emergence. In order to achieve acceptable control, postemergent herbicides should be applied to small, actively growing weeds. The application timings should correspond to weed height ranges indicated on the herbicide labels. Consider purchasing your own sprayer if timely application from your commercial applicator has been a problem. Another consideration is to purchase one with a neighbor and share the cost.

Prolong Herbicide Resistance Problems at all Cost

Alternating herbicide modes of action may prevent or at least prolong the development of herbicide resistance. Avoid sole reliance on an herbicide resistant cropping system where the same mode of action is used application after application, but rather incorporate other herbicide modes of action to compliment this program and have more activity on potential problematic weeds (e.g. Palmer amaranth, horseweed, Italian ryegrass, tall waterhemp, etc.)

Some Misperceptions that Should be Avoided

No-till Will Save me a lot of Money

Perhaps the most common misperception is, “changing to no-till will save a lot of money.” Although changing to no-till should not increase your

“All growers should be ready for a shift in their weed species the longer they leave a field in a no-till system...but also observe a great increase in their soils the longer it is no-tilled.”

**Greg Leonard
Afton, OK**

“The additions of herbicide-tolerant soybeans and corn have greatly aided in dealing with undesirable vegetation in the fields, but it still presents a challenge.”

**Brent Rendel
Miami, OK**

expenses drastically, the money you may save in fuel costs will likely be used in chemical weed control during both the crop and fallow periods.

Going No-till is Simple With the Use of Herbicide-resistant Crops

Herbicide-resistant crops (HRC) (i.e. Roundup Ready®, Liberty Link®, and Clearfield® crops) have

made the conversion from conventional tillage to no-till production systems a lot easier, but there are still pitfalls to avoid. Several weeds in Oklahoma have become resistant to one or more of the herbicides used in these HRC.

Any Field can be Switched to No-till

Although this is a correct statement, one should also consider the expense it will take for each field. Fields with excessive weed pressure may be more trouble to convert to no-till. One should first concentrate on the cleaner fields before tackling the “weed patch.” When the decision to convert the problematic field has been made, get the perennials and other bad weed problems under control for a couple of years prior to conversion to no-till.

Also, one should consider any herbicide resistant weeds you or your neighbors may have.

