



The TGA Insight



Start Clean, Stay Clean

Get the jump on early season weed control

- Danielle Chamberland

Start clean, stay clean. You will likely hear me say this a few times as we move closer to spring. Controlling weeds early, before and during the critical weed-free period (CWFP), is important for minimizing yield loss from weed competition. The critical weed free period is a specific window when crops are most susceptible to weed competition. Weeds impact yield primarily by competing for nutrients, water, and sunlight.

Crops differ in competitive ability with weeds, which determines when the CWFP begins. Canola for instance does not compete well with weeds and can be adversely affected right after germination to the 6-leaf stage. Research conducted on the timing of weed removal in canola found that delaying weed control until the 2-leaf stage resulted in a 10% yield loss. Cereals are typically more competitive with a CWFP of 2-4 leaf stage. And for pulses the beginning of the critical weed free period was from the second to third node. Weeds not controlled prior to the CWFP are larger, more competitive and become more difficult to control. The use of a pre-seed or pre-emergent herbicide protects the crop during this vulnerable time. Keep in mind, a weed that emerges ahead of the crop is 10x more competitive than a weed that emerges after the crop. Below are a few strategies to ensure you are providing your crop with the greatest competitive advantage.

Know Your Enemy:

The first step in effective weed control is to properly identify the weeds. This allows for correct herbicide selection and helps both the grower and agronomist develop an appropriate control strategy. In my opinion, the distinction between perennial and annual weeds is the first step in making herbicide recommendation for pre-burn applications. Perennials are typically larger in the spring and have a taproot rooting systems which makes them harder to control compared to annuals. Weeds like Canada thistle, white cockle, dandelions, and sowthistle will show increase response when a pre-burn with contact and systemic activity is used. Using a product that is translocated into the rooting system ensures the field is kept clean during the CWFP.

Boots on the Ground

To know your enemy, its imperative you get out there and scratch the surface. Have a look under the trash and see if there are small weeds that have yet to emerge above the crop residue layer. With cooler spring conditions, there is a good chance those weeds will not emerge from under the trash cover until we get warmer weather. If the decision is made to forgo a pre-burn application the weeds will be larger, better established and harder to control with in-crop rates.

A weed specialist from the canola council estimated that the yield effect of one weed emerging a week before the crop is equivalent to that of 100 weeds emerging three weeks after the crop. Nothing replaces good scouting. If you are unsure about weed identification, I would be more than happy to pop out to the field and help with seedling identification. Taking clear, focused, and up-close pictures of the weeds is always an option as well. If staging the weeds is troublesome, have a look at the weed staging guide on page three. With all the information gathered from scouting, accurate recommendations can be made so that your fields start clean and stay clean.

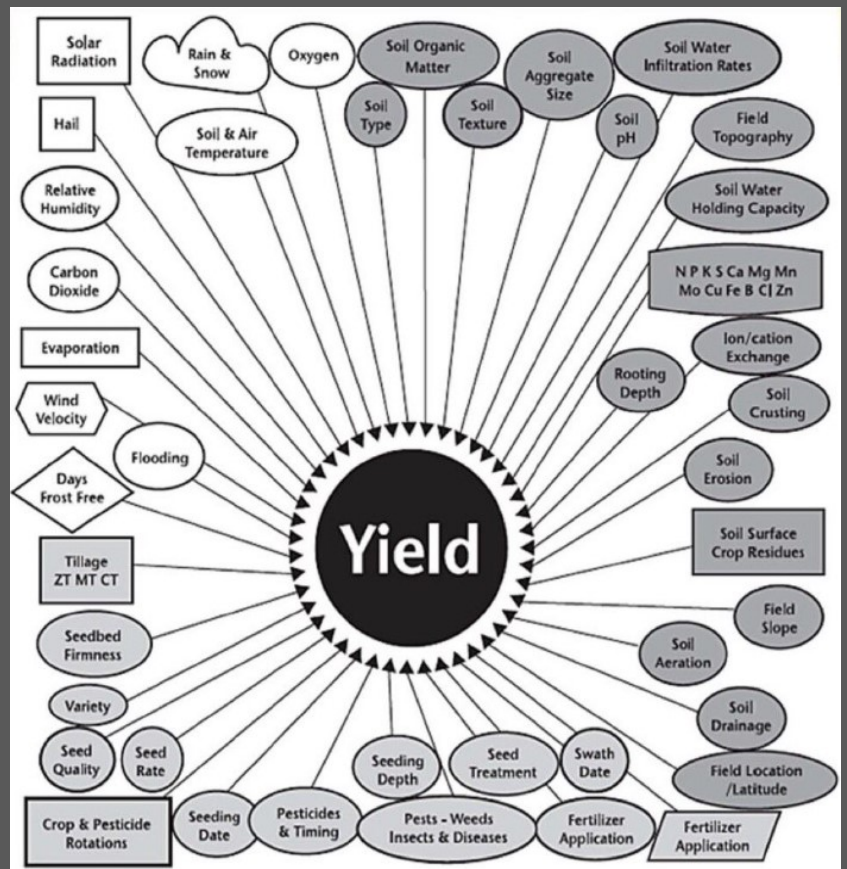
Herbicide Options:

There are a number of pre-seed and pre-emergence options that offer the best opportunity for effective weed management. Utilizing multiple modes of action, herbicides that can't be used in crop and offer residual control will enhance control, increase efficacy, and will lower your risk of herbicide resistance.

Soil active herbicides are an important part of your weed control portfolio. Pre-emerge products like Fierce EZ or Valtera EZ provide up to 8 weeks of residual control in front of your peas. Gaining residual control of volunteer canola, wild buckwheat, and lamb's quarters is incredibly important especially if the in crop options tend to fall down against these weeds.

It is rare to have ideal conditions during pre-burn spray timing. Among some of the challenges you find yourself battling wet fields and cool overnight temperatures that delay when you can get into the field. Having the ability to use an active ingredient like Arylex in Paradigm Pre, gives you a wider window of application when overnight temperatures are predicted to drop. The Arylex formulation retains robust activity at cooler temperature above freezing and provides a dual mode of action in front of cereals.

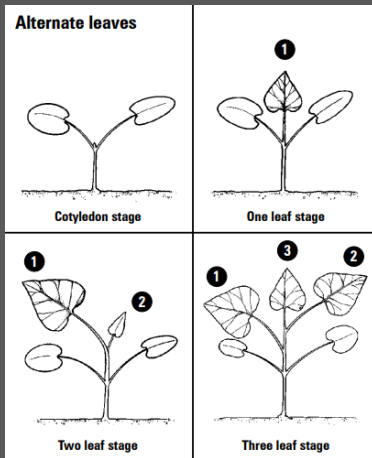
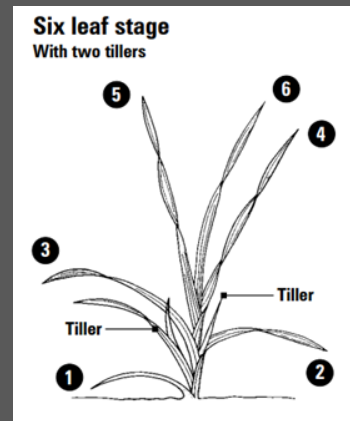
The most potential your crop will ever have is before you put it in the ground. All of the variables in the photo to the right can rob yield from your crop, but they also have the ability provide your crop with everything it requires for maximum yield potential. As we get closer to spring if you have any questions regarding what pre-burn options would fit on your farm, stop by or give us a call – the coffee is always on!



Know your leaf stages

Cereals and annual grasses

Tillers or stools are the secondary shoots or stems of a grass. Similar to the branches of a broadleaf plant, tillers will emerge from the axils between the leaf and main shoot. Tillers usually begin to spear at the three to four leaf stage. When staging the plant, be sure to identify the tiller first, then count only leaves that originate from the main shoot.

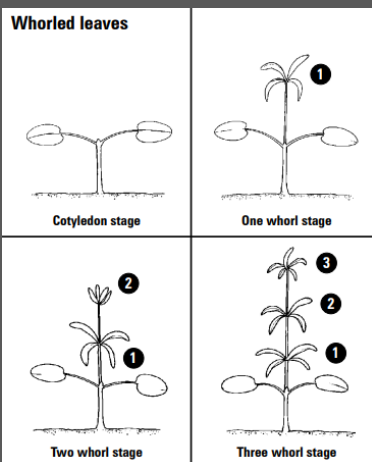
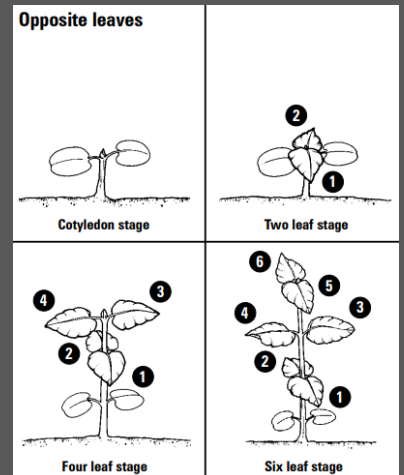


Weeds with Alternate leaves:

These plants have one leaf at each node on the stem. The next leaf emerges at the next higher node and extends away from the stem in the opposite direction. To determine the leaf stage, simply count the number of leaves present. Some examples of an alternate-leaf weed are **Lamb's quarters, Stinkweed, Canada thistle, and Shepherd's purse.**

Weeds with Opposite leaves:

These plants have matched leaf pairs directly across from each other. Each new leaf pair will develop at a 45 degree rotation from the previous pair. They always have even number of leaves and are generally shorter than alternate-leaf plants at a similar leaf stages. Be sure to count each pair as two leaves. A few examples of an opposite-leaf weeds are **hemp nettle, chickweed, and white cockle.**



Weeds with Whorled leaves:

These plants have three or more leaves at each node on the stem. In this geography, there are not many weeds that present with this leaf pattern. A few example of a whorled-leaf weed is **cleavers and corn spurrey .**

