



Achieving Clean Corn Fields with a Pre-Emergence Herbicide

What weeds, if any, on your farm have become hard to control over the past few years? I would venture to guess your answers would be all across the board with variances by region, but with some similarities. Let's take it one step further: what chemistry has been our silver bullet for the past 15 to 20 years? The most likely answer across the entire United States would be: Roundup® (glyphosate).

Looking back: When glyphosate came into the marketplace in the mid-1990s along with Roundup Ready® crops, it truly was the miracle chemical. Mechanical means of weed control were parked by the trees because they were no longer needed, not to mention pre-emergence chemicals also became just another added cost, which wasn't needed due to the efficiency of glyphosate. We didn't know it at the time, but we were setting ourselves up for a train wreck!

The adaptation rate of glyphosate took off like a wildfire. Within a few years, a vast majority of growers were using it and in many cases they made multiple passes across the field with it each growing season. Farmers soon discovered that cutting the labeled rate in half had the same performance as a full rate. Glyphosate worked so well that a pre-emergence chemical or even a tank mix chemical was no longer necessary.

Today's Issues: Fast-forward a few years, glyphosate is still the primary chemistry; however, the half-rate doesn't work anymore. Producers went back to using the full rate and now that isn't as effective as it was initially. We are seeing a lot of performance issues with glyphosate currently and we realize that even the full rate, double rate, and so on do not perform well on our problem weeds. So, what happened to these weeds? Why doesn't glyphosate kill them anymore?



In short, they evolved to be super weeds. These weeds are now resistant to glyphosate along with many other herbicides. So, what do we do now?

Dealing with the "Super Weeds": To handle our current situation, we must look back and begin using some of the old methods growers relied on before glyphosate came into the marketplace; specifically, pre-emergence applications, tank mixes, and tillage practices. There are several pre-emergence residual

herbicides for corn on the market today. These herbicide programs are key to managing those tough to control weeds, and glyphosate resistant weeds.

Choosing the correct herbicide program is essential, a few things to consider are: tillage practice, existing problem weeds, and a carrier that will be used (water or UAN), soil pH, and soil texture. All of these play a very important role in effectiveness and environmental safety.

- Most pre-emergence chemicals have the flexibility to be broadcast sprayed on top of the soil, incorporated in the soil with a field cultivator, or impregnated with your fertilizer to reduce an extra pass across the field.
- Many of the pre-emergence chemicals on the market have the flexibility to be applied up to 8-inch corn as well. This can be essential if we get caught in a rainy spell for a week or so and can't apply herbicide pre-emergence.
- Chemicals are broken down into groups by their active ingredients. Many of the available pre-emergence chemicals are pre-mixes and have two or three ingredients, which helps increase control and increases their residual. This information can be found on the product label. Always read and follow the label to ensure we are applying the chemical correctly to get the best control.
- Consider rotating your chemicals, by rotating chemical groups from year to year and following labeled rates we can decrease the likelihood of resistance.



Chemical Product Selection:

There are many good options when considering a corn pre-emergence chemical. Here are a few that work well in my area:

1. **TripleFLEX™** – Control up to 60 key grasses and broadleaves with flexible application timing from pre-plant to 11-inch corn. TripleFLEX is a group 15, 4, 2 herbicide. TripleFLEX is an excellent choice for fighting giant ragweed, lambsquarter, and woolly cupgrass.
2. **Resicore®** – New chemistry from Dow that helps fight glyphosate and ALS resistant weeds by offering long lasting residual control. It also gives the producer the flexibility to apply pre-emergence up to 11-inch corn. Resicore is a group 15, 27, 4 herbicide. Resicore is very effective on controlling waterhemp, and very effective on grasses.
3. **Acuron®** – Contains four active ingredients to control the toughest weeds, controls up to 70 key grasses, and broadleaves with flexible application timing of 28 days pre-plant up to 12-inch corn.

Acuron is a Group 15, 27, 5 herbicide. Acuron is an excellent choice for fighting waterhemp and palmer amaranth.

How important is it to start with a clean field?

According to research from the University of Minnesota, three to four inch weeds have the capability to take three bushels per acre every day off the high-end yield potential of your corn crop. By letting those weeds go for two weeks at the beginning of the growing season, we've lost 27 to 29 bushels/acre in yield potential! That's not a good way to start the year. The cost of a common pre-emergence corn chemical program runs about \$18-\$24 per acre. This shows us that the economics favor using a residual pre-emergence program to effectively manage weeds.

As producers, we will be expected to double our yields in the next 30 years in order to meet world demand. Managing and controlling our weeds will be a vital key to help us reach that goal. Consult your agronomist and chemical provider with any questions or concerns you have about using a pre-emergence chemical. This will help ensure that the most effective, customized package is put together for your individual operation and fields.

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