

Conventional corn weed control revisited

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Over the winter there were a lot of growers asking me about conventional corn weed control options. Some growers are looking to capture potential non-GMO corn premiums, dairy producers are intrigued by the possible GMO free milk markets, others are looking to save money on seed costs and some feel that they need to become more proactive with their herbicide resistance management strategies on the farm.

Regardless of a growers' reason to plant conventional corn, preemergence weed control programs are almost a necessity for a conventional weed control program. It is extremely difficult to rely on a total postemergence conventional weed control program. There is a high risk of yield loss if the postemergence application is delayed. Application delays due to weather conditions can lead to tall weeds that are difficult or too big to control.

The goal is to select a solid, one pass preemergence corn herbicide program. It is especially important to use a very good soil residual grass herbicide because it is difficult (and costly) to control certain emerged annual grasses with conventional postemergence herbicides. In conventional corn, a postemergence annual grass rescue treatment will cost around \$24 per acre. These are reasons why so many of the preemergence herbicide programs contain acetamide (s-metolachlor, metolachlor, acetochlor, dimethenamid-P) products or premixes containing one of these active ingredients.

Here are a number of suggested conventional preemergence corn herbicide programs to consider. These suggestions are based on the assumption that the herbicide will be applied before the corn and weeds have emerged. The soil residual herbicides are to be used at the full labeled rate based on weed species and pressure. Some of the products application rates are determined by soil type, pH and organic matter content. If sufficient rainfall is received soon after the preemergence herbicide is applied we should expect season long residual weed control with the following herbicide programs.

S-metolachlor + atrazine premixes (Bicep Lite II Magnum, Cinch ATZ, Cinch ATZ Lite) or acetochlor + atrazine premixes (Harness Xtra, Keystone NXT, Keystone LA NXT, Degree Xtra, Fultime NXT, Breakfree NXT ATZ, Breakfree NXT Lite) or dimethenamid-P (Outlook) + atrazine will provide good annual broadleaf, annual grass and nutsedge control. For the control of triazine resistant lambsquarter and additional broadleaf weed control include pendimethalin (Prowl 3.3, Prowl H2O) or Hornet WDG (a flumetsulam (Python WDG) + clopyralid (Stinger) premix) or Python WDG with one of these listed acetamide + atrazine combinations. If crabgrass or fall panicum is a problem, include simazine (Princep) in the tank mix. Be aware that simazine carryover will injure triazine sensitive rotational crops. If heavy nutsedge pressure is expected, the preference would be to use one of the S-metolachlor + atrazine premixes.

Lumax EZ or Lexar EZ are premixes that contain Dual II Magnum, atrazine and mesotrione (Callisto). Both Lumax EZ and Lexar EZ will provide good annual broadleaf, annual grass and nutsedge control. Lumax EZ contains less atrazine than Lexar EZ. If common ragweed is a problem add an additional pint of atrazine to the Lumax EZ.

Acuron is a combination of Dual II Magnum, atrazine, Callisto, and bicyclopyrone (brand new active ingredient). The site of action for bicyclopyrone is HPPD inhibitor (group 27), like Callisto. You should expect Acuron to control weeds similar to Lumax EZ and Lexar EZ. Acuron will have enhanced control of common ragweed over Lumax EZ and does not require additional atrazine to be added.

Prowl 3.3 or Prowl H2O plus atrazine is a conventional corn herbicide program that controls many annual broadleaf and annual grasses. This program will not control nutsedge. For improved common ragweed control consider using the highest labeled atrazine rate allowed. Sharpen herbicide can be added to this tank mix to assist with annual broadleaf weed control, including common ragweed. Or Verdict (a saflufenacil (Sharpen) + Outlook premix) can be used for improved broadleaf and grass control. Verdict will also add suppression or partial control of nutsedge to this weed control program.

Resicore is a premix of Surpass NXT, Stinger and Callisto. Resicore will control annual broadleaf, annual grasses and nutsedge. For additional broadleaf and grass control add atrazine to this tank mix.

Instigate is a premix of rimsulfuron (Resolve) and Callisto, it should be tank mixed with one of the acetamide + atrazine premixes (Cinch ATZ, Breakfree NXT ATZ etc...) for improved residual broadleaf and grass control. This tank mix addition will also provide nutsedge control. The active ingredients in Instigate are similar to those in Realm Q; however, Instigate does not contain the safener (isoxadifen). Instigate cannot be used on corn taller than V2 growth stage.

Capreno is a premix of tembotrione (Laudis) and thiencazuron-methyl and should be tank mixed with atrazine. If nutsedge is a problem the addition of Dual II Magnum is necessary. Dual II Magnum will also provide additional residual control of annual grasses.

A well planned, total preemergence conventional corn herbicide program can provide season long weed control. While the success of these programs are dependent on sufficient rainfall to move the herbicide into the soil, our spring rainfall patterns are usually adequate to accomplish this. Try to avoid the temptation to skimp on herbicide rates to save money. Always read and follow label directions prior to using any herbicide. If you have additional questions feel free to contact me anytime at (315)788-8450 or meh27@cornell.edu.