

Forage Advisor

TerraLink Horticulture Inc.

April 2009

Silage Corn

Combating Yield Drag in Glyphosate-tolerant Corn

Once in a while growers comment that where there was a spray miss in glyphosate-tolerant corn culture ("Roundup-Ready"), the corn actually looks bigger and greener. The first thought to mind is that the glyphosate is actually having a negative effect on the so-called glyphosate-tolerant corn. Here is the physiological reason for this observation: according to work done at Purdue University, Kansas State University and the University of Nebraska, some of the glyphosate sprayed onto the corn plants eventually is exuded from the roots and is detrimental to microbial activity. This causes a "yield drag" because microbes assist in the uptake of manganese and zinc into the corn plants. Eventually the roots outgrow the zone of negative effect, and the growth and development of the corn returns to normal, but during this time yield potential is lost. Purdue recommends applying manganese and zinc about 8-10 days after glyphosate treatment, but application of our specially developed micronutrients actually tank-mixed with the glyphosate works as well. To this end TerraLink is introducing a new liquid foliar fertilizer, TigerClaw ManZinc 23. Applied in a tank-mix with glyphosate at a rate of one litre per acre, TigerClaw ManZinc 23 will help



provide manganese and zinc to corn plants until they

have outgrown the negative effects of glyphosate, and also reduce the impact of cold soils and manure on uptake of these critical nutrients.

Weed Control in Corn

Controlling Grass Weeds without Atrazine

What happened to atrazine?

Sometime during late 2008, the industry began to be aware that atrazine was not going to be available for 2009, or perhaps never again. This occurred because of increased requirements imposed on registrants of atrazine by the Pest Management Regulatory Agency (PMRA) to perform more groundwater studies. Since atrazine is old chemistry, and providing new scientific studies in British Columbia is never economic, all the registrants of atrazine elected to drop BC from their labels. In other words, they decided it wasn't worth it. Not only is straight atrazine gone, but every formulation that contains atrazine as well – that includes Primextra.

Although producers of sweet corn are left with almost no choices, none of them satisfactory, silage corn growers can at least depend on glyphosate-tolerant varieties. There are other options for use against broadleaf weeds, but controlling grass weeds is much more difficult, particularly if the producer chooses conventional production rather than glyphosate-tolerant culture. This was all explained to the PMRA, but because it is still possible to control grassy weeds in silage corn, the PMRA stuck to their decision. No atrazine.

What can be done without atrazine?

It is good insurance to apply glyphosate to your field BEFORE pre-plant cultivating. This way you give all

perennial weeds, including quack grass, a severe knock. This reduces the population of root fragments of perennial weeds, such as quack grass, that can grow new shoots during growth of your corn crop. If you depend entirely on one application of glyphosate as a post emergence treatment and the weather does not allow you on your field, you could miss your only opportunity to control weeds.

If you choose to grow a glyphosate-tolerant variety, keep in mind you will not have an option to mix atrazine with your post emergence application of glyphosate. Therefore it is best to plan for two glyphosate treatments, which is Monsanto's original recommendation anyway.

If you choose to grow conventional varieties rather than glyphosate-tolerant ones, your options are more limited. In this case it is best to plan for either a pre-plant incorporation or pre-emergence treatment, followed by a post-emergence application. Again, depending on just one or the other is risky if the weather prevents a well-timed treatment.

It is important to note that most of these herbicide choices were designed to be applied as atrazine tank mixes. Thus, no matter which options are chosen, you may expect a second rate job. Also, even with atrazine, none of these do any better than suppress quack grass, so a pre-cultivation glyphosate treatment must be done to keep your field as clean as possible. Don't forget, we're only talking about grass weeds; there are still good options for broadleaf weeds in silage corn.

Eradicane 8-E:

- Pre-plant incorporation treatment
- Will have effect on broadleaf, annual grasses and quack grass
- Works best if it has not been used for several years, but when used more than two years in a row, weeds become resistant quickly

Rooted in your community.

TerraLink

- Works best in warm, dry, coarse-textured soils
- Use the highest rate if quack grass is present
- Chop and turn the soil thoroughly prior to treatment. You want less than four nodes per root fragment of quack grass

Dual II Magnum:

- Pre-emergence treatment
- Labeled for control of barnyard grass and nightshade, and suppression of redroot pigweed but will not affect quack grass
- Must be rain or irrigation within ten days to be effective
- Works best on soils greater than 1% organic matter, and less than 10%
- Must be applied before spike stage

Linuron 400L or Lorox L:

- Pre-emergence treatment
- Works best on soils less than 7% organic matter
- Labeled for control of many broadleaf weeds and most annual grasses, but will not control quack grass
- Must have 3-5 cm rain or irrigation after treatment to carry the chemical into the root zone of germinating weeds
- Must be applied as a tank mix with Dual

Accent 75DF:

- Post emergence treatment
- For control of quack grass and annual grasses
- Apply with 0.2% Agral 90 or other non-ionic surfactant
- Must be applied at specific crop and weed timing to be effective
- Cannot harvest for at least 40 days
- Can be tank-mixes with Oracle or Pardner
- May be restrictions on which crops may be planted the year following application of Accent. Check label for specific restrictions

Prowl 400EC:

- Can be used alone or tank mixed with Oracle as a pre-emergence spray or tank mixed with Oracle as a post-emergence treatment, or tank mixed with Oracle plus Accent as a post-emergence treatment
- Will control barnyard grass, lamb's quarters and redroot pigweed when applied alone
- When mixed with Oracle and Accent will

control a wider range of annual grasses and broadleaf weeds

- Only apply Prowl to corn grown in medium and fine texture soils with organic matter greater than 3% (but do not apply Prowl to corn grown in peat or muck soils)
- Works best when rain or irrigation follows within seven days after treatment



Hyland Corn Seed

It's Not Too Late to Order Corn Seed!

We have a good selection of Hyland silage corn seed in inventory to suit your customer's needs. Call the Abbotsford Sales Desk for more information.

Variety	Trait*	Heat Units
HL S034	LS	2500-2750
HL SR35	RR, LS	2500-2750
HL SR22	RR, LS	2400-2650
HL SR06	RR, LS	2150-2350
HL S011	LS	2200-2450
HL S041	LS	2800-3050
HL R228	RR, G	2500
HL R208	RR, G	2225

*Trait: RR = glyphosate tolerant, LS = Silage, G = Grain
All Hyland corn has Poncho 250 seed treatment.

New Alfalfa

Introducing WL 348 AP

Features:

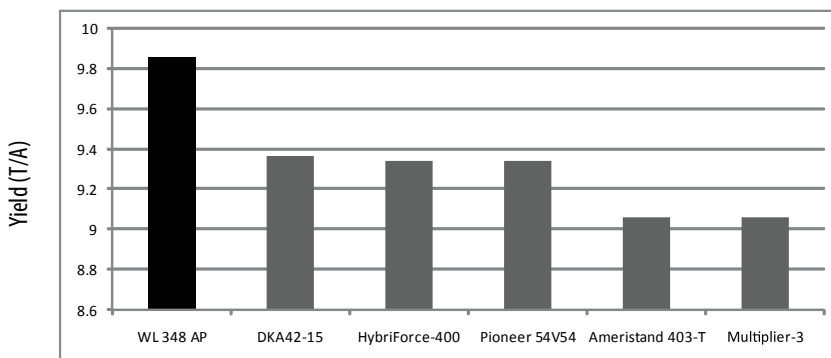
- Early maturity
- Fall Dormancy 3.5
- Winterhardiness 1.8
- Very high yield
- Superior digestibility
- Very fast recovery after harvest

- Very good traffic tolerance
- Excellent standability

Description:

WL 348 AP offers more disease resistance than seen before. This variety is the result of more than 10 years of research and breeding

by W-L for resistance to Race 2 Aphanomyces. It also has uniquely high resistance to a host of other wet-soil diseases. In addition, it is very high yielding (see chart below), dark green, fine stemmed and highly palatable.



Trial Data: Boone, Iowa