2017 Another Difficult Year to Apply Pre’s

The Spring season of 2017 proved challenging to keep up with the planters and get all the soybean pre’s applied, but as evidenced in the picture below the value of the soybean preemergence herbicides is undeniable. Many growers are now faced with weeds they will have difficulty controlling postemergence. The next few pages will talk about post options and diversifying your soybean postemergence programs.

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Soybeans: Post + Residual Weed Control

**Anthem® MAXX herbicide:** 3-4 oz/A + glyphosate 1-1.5 lb a.i./A + AMS 8-17 lb/100 gal

- Apply early post from emergence through V3 stage soybeans. If weeds such as glyphosate resistant waterhemp, palmer pigweed, or morningglories are over 2-3” tall, then tank-mix additional post herbicides for stronger control of emerged weeds.
- Excellent option for early post on acres that did not receive a PRE. Post activity from 0.4-0.55 oz equivalent of Cadet® herbicide as part of Anthem MAXX herbicide plus 4-6 weeks of residual control of waterhemp, grasses, lambsquarter, pigweed, as well as suppression on velvetleaf, morningglory, kochia.
- Can be tank-mixed with other post broadleaf herbicides, or any of the post grass herbicides commonly used for volunteer corn control.
- 10 GPA minimum, 15 GPA recommended for increased post activity.
- Adjuvants: NIS – 1 qt./100 gal or COC 0.5 - 1 gal/100 gallon. If using a loaded glyphosate formulation, additional NIS / COC is optional or use ½ rate recommendation. COC is preferred under dry, stressed conditions.
- Rainfall (0.5” minimum) is required after application to get residual control of later flushes.

**Anthem MAXX herbicide following Authority® First DF herbicide as a PRE base**

- 2.5 - 3 oz/A + glyphosate 1-1.5 lb a.i./A + AMS 8-17 lb/100 gal
- For high weed populations or resistant weeds.

**Photo:** 80 days after Post treatment.

**Total Post Program:**

- Cobra® herbicide 10 oz + glyphosate applied at V3 stage.
- Glyphosate – 30 DAT.
- Anthem MAXX herbicide 8 oz + glyphosate – 30 DAT.
Marvel™ Herbicide for Soybeans

Marvel herbicide is a pre-mixture of two protoporphyrinogen oxidase (PPO) inhibitors that react with light to break down cell membranes. An optimized ratio of both PPO’s (fomesan and futhiacet-methyl) provides complimentary activity on broadleaf weeds offering improved consistency in weed spectrum. Applications of Marvel herbicide (7.25 oz/a) + glyphosate (1 lb ai/a) will implement rapid phytotoxicity in addition to contributing supplemental activity on weed species that glyphosate is less effective at controlling.

Resistant weeds including amaranth species have made postemergence (POST) weed control more difficult. There are few POST options available to control glyphosate-resistant amaranth species in soybeans. The only options are tank-mixtures including PPO herbicides. Performance of PPO herbicides is greatest when targeting weeds 4” or less in height. If managed correctly PPO herbicides can be very effective for controlling herbicide resistant amaranth species in addition to other weeds competing with soybeans.

Marvel Herbicide Benefits
• Brings the strengths of fomesafen on waterhemp and Palmer amaranth to fluthiacet-methyl’s effectiveness on lambsquarters, morningglory and velvetleaf for broad spectrum activity.
• Wide application window (preplant to full flower).
• Fast activity, visual symptoms occurring within 24 hrs. of application.
• Lower carryover risk because of optimized ratio of fomesafen and fluthiacet-methyl.
• Low use rates improve handling characteristics.
• Apply with NIS (0.25%) or COC (1% v/v).
• If mixing with loaded glyphosate formulations no additional NIS is needed.
• Apply Marvel herbicide 7.25 oz + glyphosate 1 lb to control waterhemp, palmer amaranth, lambsquarters, morningglory, velvetleaf, ragweeds, and grasses. In order to achieve greatest effectiveness make application before weeds reach 4” in height.

*A maximum of 9.75 fl. oz. of Marvel herbicide or 0.313 lb/A fomesafen (from any product containing fomesafen) may be applied per acre in ALTERNATE years in Region 3, which includes Iowa and Missouri.
The Marvel herbicide label states to use NIS @ 0.25 – 0.5% v/v, COC at 0.5 – 1% v/v, or MSO 0.5 – 1% v/v. We also state that if a loaded glyphosate formulation is utilized as a tank-mix partner no additional NIS is needed. The choice of the best surfactant and rate is going to depend on a number of factors and can change from field to field. If we are early in the year with small weeds and small soybeans with good growing conditions I would stay on the lower end of the surfactant rates and probably use NIS or not add any additional surfactant if tank mixed with a loaded glyphosate. When the weeds start getting bigger, under dry conditions, fields with known glyphosate resistance will need surfactants added even to loaded glyphosate and the COC and MSO would be the best choice. The pictures on this page give an example of the different surfactants 9 days after treatment and on the next page you see the same plots 28 days after treatment.
Since PPO chemistry is a contact herbicide and not translocated, crop response is only cosmetic. New leaves will emerge green and totally unaffected as evidenced in the pictures on this page from plots treated 28 days earlier. Insect thresholds for vegetative soybeans with defoliation is 50% so having some leaf necrosis from PPO herbicides will not affect soybean development and yields.
**Corn Insect Pest Update**

As we start planning for the fungicide plant health applications it is a very wise choice to evaluate what insects are out in the field and/or soon to be coming into the corn field. There is a wide spectrum of late season insects that attack silks, ears, stalks, and the upper leaves and include the following insects:

- 2nd Generation European Corn Borer
- Corn Rootworm Adults
- Japanese Beetle
- Corn Earworm
- Fall Armyworm
- Southwestern Corn Borer
- Western Bean Cutworm
- Spider Mites

**Benefits of an Insecticide at Silking?**

1. **Greater Yields**
   - Research has shown 8-12 bushels/acre
   - Increase stalk quality and stand ability
   - Fewer dropped ears
   - Increased pollination and ear fill

2. **Insect Management**
   - Rootworm population reductions
   - Help reduce insect species shifts

3. **Multi-Pest Spectrum**
   - Many thresholds are out of date
   - None include additive effect of multiple pests

**Is an insecticide application necessary?**

In the past this depended on the average number of insects per plant, the expected corn yield, the market value of the corn, and the insecticide and application costs. The economic thresholds from your local university was then computed to determine if an insecticide was justified. However with the planned fungicide treatments we don’t have to figure application costs since we can tank mix the insecticide with the fungicide, this cuts our threshold by ½ or more. In addition, many thresholds were figured based on one pest, what if you have a number of different insect species in your field when you are making that plant health treatment. **Also, what about future insect populations, a perfect example is corn rootworm, if you have rootworm adults feeding on corn silks and reducing pollination and subsequent yield this year, and if you control them with an insecticide application you not only increase crop yield this year but also reduce rootworm larval populations next year in that same field.**
Soybean Insect Pest Update
As we start planning for the fungicide plant health applications and/or late glyphosate treatments it is a very wise choice to evaluate what insects are out in the field and/or soon to be coming into the soybean field. There is a wide spectrum of late season insects that attack soybean leaves, stems and pods and include the following insects:

- Soybean Aphids
- Corn Rootworm Adults
- Green Cloverworm
- Stink Bugs
- Bean Leaf Beetle
- Japanese Beetle
- Grasshoppers
- Potato Leafhopper

Benefits of an Insecticide!

1. Greater Yields
   - Research has shown 5-15+ bushels/acre with above threshold aphid populations
   - Better seed quality and yields

2. Insect Management
   - Rootworm population reductions
   - Help reduce insect species shifts

3. Multi-Pest Spectrum
   - Many thresholds are out of date
   - None include additive effect of multiple pests

Is an insecticide application necessary?
In the past this depended on the average number of insects per plant, the expected soybean yield, the market value of the soybeans, and the insecticide and application costs. The economic thresholds from your local university was then computed to determine if an insecticide was justified. However with the planned fungicide treatments and/or late glyphosate treatments we don’t have to figure application costs since we can tank mix the insecticide with the fungicide or herbicide, this cuts our threshold by ½ or more. In addition, many thresholds were figured based on one pest, what if you have a number of different insect species in your field when you are making that plant health treatment. Also, what about future insect populations, a perfect example is corn rootworm, if you have rootworm adults feeding on soybeans, and if you control them with an insecticide application you will reduce rootworm larval populations next year in that same field.
Always read and follow label directions. NOTE REGARDING RESTRICTED USE PESTICIDES: Anthem ATZ herbicide; Athena insecticide, Brigade 2EC Insecticide/MITicide, Brigade WSB Insecticide/MITicide, Brigadier Insecticide Capture 3RIVE 3D insecticide, Capture LFR Insecticide, Declare Insecticide, Hero Insecticide, Mustang Insecticide, Mustang Maxx Insecticide, Pounce 25WP Insecticide, Stallion Brand Insecticide, Ethos XB Insecticide/Fungicide and Gladiator Insecticide/MITicide are Restricted Use Pesticides. VGR Soil Amendment is not a pesticide. NOTE FOR CALIFORNIA: Accurate Extra herbicide, Aim EC herbicide, Anthem herbicide, Anthem ATZ herbicide, Anthem Flex herbicide, Anthem Maxx herbicide, Authority Assist herbicide, Authority Elite herbicide, Authority First DF herbicide, Authority Maxx herbicide, Authority MTZ DF herbicide, Authority XL herbicide, Cadet herbicide, Chisum Herbicide, Command 3ME microencapsulated herbicide, Crusher Herbicide, Edition Broadspec herbicide, Edition Tankmix Herbicide, Marvel herbicide, Nimble Herbicide, Nuance Herbicide, Preemptor SC, Report Extra Herbicide, Solstice herbicide, Spartan 4F herbicide, Spartan Charge herbicide, Spartan Elite herbicide, Zeus Prime XC herbicide, Zeus XC herbicide, Capture 3RIVE 3D insecticide, Ethos XB Insecticide/Fungicide, Hero Insecticide, Mustang Maxx Insecticide, Topguard Terra Fungicide, Topguard Fungicide Specialty Crops fungicide, Display cotton harvest aid are not registered for sale or use in California. Beleaf and Carbine are trademarks of Ishihara Sangyo Kaisha, Ltd. Cercobin is a trademark of Nippon Soda Co., LTD. Sovran is a registered trademark of BASF. FMC, 3RIVE 3D, Accurate, Aim, Anthem, Athena, Authority, Brigade, Brigadier, Cadet, Capture, Chisum, Command, Crusher, Declare, Display, Edition, Ethos, Fortix, Fracture, Fyfanon, Gladiator, Hero, Koverall, LFR, Marvel, Mustang, Nimble, Obey, Pounce, Preemptor, Report, Rhyme, Rovral, Shark, Solida, Solstice, Spartan, Stallion, Topguard, Topguard Terra and Zeus are trademarks and HatchTrak and "Investing in farming's future" are service marks of FMC Corporation or an affiliate. ©2016 FMC Corporation. All rights reserved.

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