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# Break Through the Yield Barrier

With Superior Soybean Insect and  
Disease Protection in the South



## Better Plant Stands, Better Plant Vigor, Quicker Canopy and Higher Yield Potential

CruiserMaxx® Beans is an insecticide/fungicide seed treatment combination of one or more separately registered products that protects soybeans against a broad spectrum of harmful seed- and foliar-feeding insects and all major seed- and soil-borne fungal disease pathogens.

In addition to providing superior pest protection, CruiserMaxx Beans seed treatment has shown the ability to improve plant stands, vigor and growth. This Thiamethoxam Vigor effect can lead to more advanced crop development and superior performance. The Thiamethoxam Vigor effect is scientifically proven to offer growers more robust and vigorous plants, even in the absence of insects. It positively impacts plant proteins that resist early-season stressors, which leads to a healthier plant. Additionally there is an increase in speed-to-canopy which may help improve weed control. The overall result is bigger, more developed plants which can lead to higher yield and increased profit at harvest.

CruiserMaxx Beans also can offer the added benefit of molybdenum, which helps ensure proper performance at various pH levels in the soil to allow nitrogen fixation by rhizobia. This results in improved stand establishment, increased vigor and enhanced yield potential.

Experienced soybean growers understand that troublesome insects and diseases, as well as overly acidic soils, can stand in the way of achieving the highest yield possible. Professionally applied by seed companies or certified retailers, a CruiserMaxx Beans seed treatment offers soybean growers a superior choice in insect and disease protection from day one.

## Advantages of CruiserMaxx Beans:

- Offers proven insect and disease protection for increased vigor, stand, speed to canopy and yield potential
- Can contain elemental molybdenum (moly), which aids in nitrogen fixation
- Helps optimize seeding rates by protecting every seed to ensure plant establishment
- Excellent activity against a broad spectrum of soil-dwelling and foliar-feeding insect pests
- Protects against early-season insect damage and often reduces insect populations later in the season
- Protects against target pests with minimal impact to beneficial insects
- Via the Thiamethoxam Vigor effect, Cruiser® insecticide may offer growers more robust and vigorous plants even in the absence of insect pests
- Provides the widest spectrum of disease protection for soybeans
- May reduce virus incidence and transmission
- Convenient, starts protecting plants even before the seed germinates
- Can be used with rhizobia inoculants
- Protects the genetic yield potential of high-value seed
- Provides increased performance, yield and return on investment potential versus competitive products

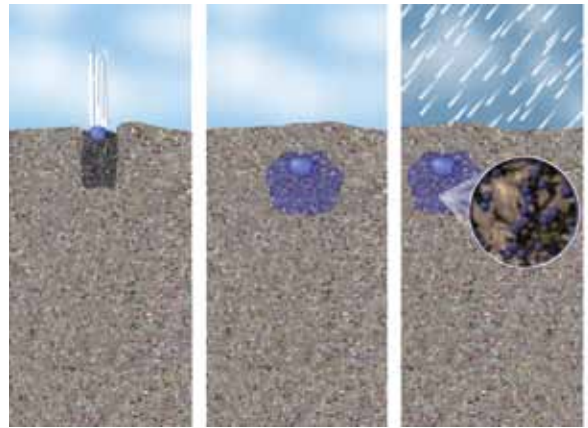


Cruiser seed treatment, the insecticide component in CruiserMaxx Beans, helps soybean growers maximize yield potential by providing broad-spectrum protection against yield-threatening seed- and foliar-feeding insects, including thrips, leafhopper and three-cornered alfalfa hopper. In addition to preventing direct physical damage by harmful insects to the crop, keeping pest populations under control may also protect soybeans from viruses that insects are likely to transmit. Bean pod mottle virus, which is spread by the feeding of the bean leaf beetle, has become a common threat to soybean yields in many areas.

Thiamethoxam, the active ingredient in Cruiser, is rapidly translocated throughout the plant, providing all-over protection, and is active through both contact and ingestion. Insects that come in contact with seed or plants treated with Cruiser show some unique behavioral responses after exposure. Feeding is irreversibly stopped; sucking insects withdraw their stylets, stretch their legs and move their antennae forward. Therefore, insect damage stops shortly after treatment. Death of the insect may occur within a few hours for some species, or require as long as 48 hours for others.

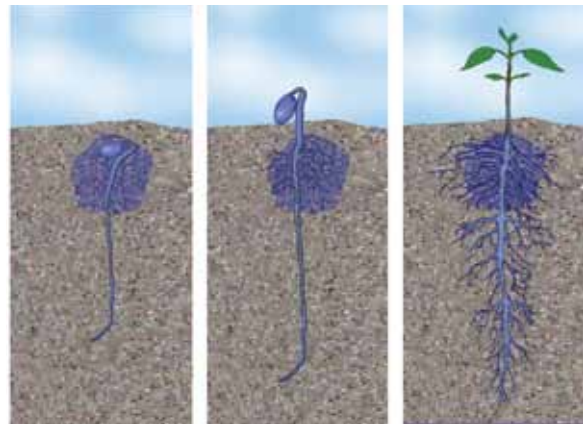
### Effective Insect Protection:

- Thrips
- Leafhopper
- Three-cornered alfalfa hopper
- Bean leaf beetle
- Soybean aphid
- Seedcorn maggot
- Wireworm
- White grub
- Grape colaspis



Cruiser is delivered on the seed as a seed treatment.

Cruiser has the right water solubility so it works even in dry weather.



Once off the seed, Cruiser binds to soil to keep it in the root zone.

As Cruiser is absorbed by the roots it moves systemically throughout the growing plant.

Cruiser provides continuous protection so pests do not get a chance to damage young plants.

CruiserMaxx Beans

Untreated



CruiserMaxx Beans



No seed-applied insecticide

CruiserMaxx Beans

Gaucho® Grande



Multi-State CruiserMaxx Beans Trial  
Scott Stewart – UT – Jackson, TN



The fungicide component of CruiserMaxx Beans, market-leading ApronMaxx® brand seed treatment, contributes to the assurance of a successful crop by providing effective protection against early-season soybean seedling and seed-borne diseases such as *Pythium*, early-season *Phytophthora*, *Rhizoctonia*, *Fusarium* and general seed rots.

ApronMaxx and Cruiser provide outstanding disease and insect protection in rhizobia-friendly formulations that do not harm beneficial nitrogen-fixing bacteria when applied in combination with many inoculants. Nitrogen is an essential nutrient to any developing plant, and by being harmless to the beneficial rhizobia on the seed, ApronMaxx and Cruiser help soybean seedlings reach their full potential, which can ultimately boost yields and potentially increase profits.

#### Advanced Disease Protection:

- *Pythium*
- Early-season *Phytophthora*
- *Rhizoctonia*
- *Fusarium*
- Seed-borne *Sclerotinia* (white mold)
- Seed-borne *Phomopsis*
- General seed rots

#### CruiserMaxx Plus Offers Increased Disease Protection in One Convenient Product

For fields that require an increased level of *Pythium* and *Phytophthora* protection, an additional spike of Apron XL® fungicide may be added to the standard rate of mefenoxam in CruiserMaxx Beans. Additionally, retailers can choose to apply CruiserMaxx Plus, which offers all the benefits of CruiserMaxx, plus a higher rate of mefenoxam (Apron XL fungicide) in one easy-to-use product. Seed treated with CruiserMaxx Plus features a red colorant to distinguish it from the traditional blue-green color of seed treated with CruiserMaxx Beans.

## CruiserMaxx Beans and Karate with Zeon Technology or Endigo ZC: A Smart Choice in Integrated Pest Management Programs

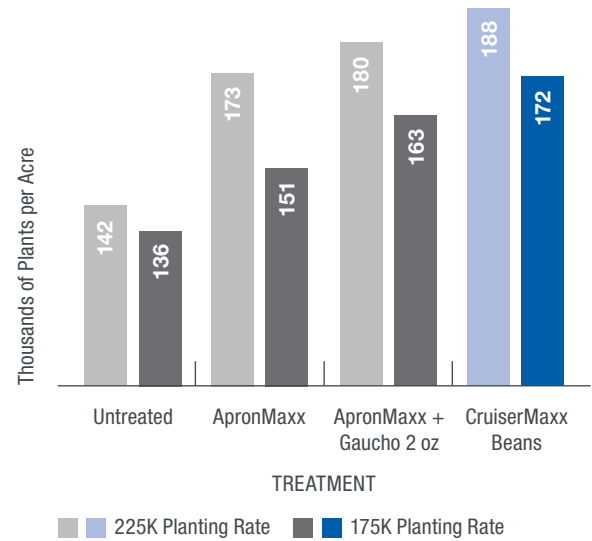
Soybean growers know that an effective integrated pest management program (IPM) is vital to producing a successful crop. CruiserMaxx Beans fits well into an IPM program, with an emphasis on lower rates, preserving biological control mechanisms and allowing a wider window for scouting and spraying. As part of an IPM program, Syngenta recommends applying Karate with Zeon Technology™ or Endigo® ZC insecticide immediately after insect populations reach economic thresholds (refer to your local state agronomy guide for insect thresholds). Endigo ZC combines two industry-leading chemistries, plus a proprietary ZC (Zeon Concentrate) formulation, for quick knockdown and trans-stemic movement as well as extended residual control against key foliar insect pests, including the toughest to control late season stink bugs and bean leaf beetles, resulting in higher yields. Karate with Zeon Technology provides fast knockdown of a broad spectrum of yield-robbing pests, such as stink bugs, bean leaf beetles and worms, and delivers long-lasting residual protection. According to field test results, applying CruiserMaxx Beans plus a follow-up treatment of foliar-applied Karate with Zeon Technology or Endigo ZC can result in higher yields.

## Reducing Insecticide Resistance Potential

Development of insecticide resistance in a field can lead to reduced yields and loss of profit. Using CruiserMaxx Beans and Karate with Zeon Technology or Endigo ZC together in an integrated control program can reduce the potential for this to occur. Rotation between different chemical classes, Cruiser (neonicotinoid) and Karate with Zeon Technology (pyrethroid), with different modes of action, or use of a combination product with different modes of action, Endigo ZC (pyrethroid + neonicotinoid), are proven techniques for reducing the probability of developing insecticide resistance and a critical management strategy for rapidly reducing yield-damaging pests like bean leaf beetles, stink bugs and worms.

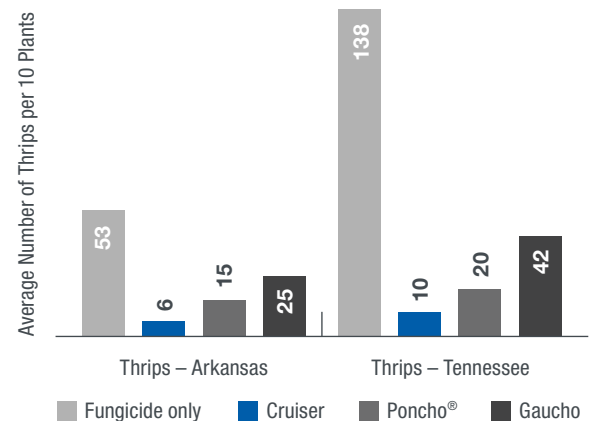
Karate with Zeon Technology and Endigo ZC are highly toxic to bees exposed to direct treatment or to residues on blooming crops and weeds. Do not apply these products or allow them to drift onto blooming plants if bees are foraging in the treated area.

## CruiserMaxx Beans vs. Gaucho Plant Stand, Early Planting Date Study



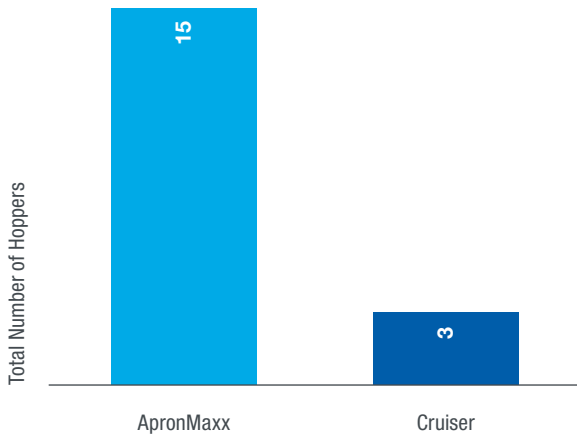
Agri-Tech Consulting, Planting date April 28, 2005, DSR234RR

## Efficacy on Thrips



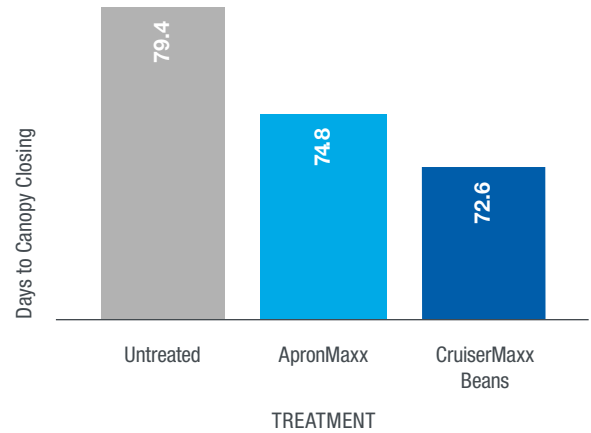
University of Arkansas & University of Tennessee – 2010

## Efficacy on Three-cornered Alfalfa Hoppers



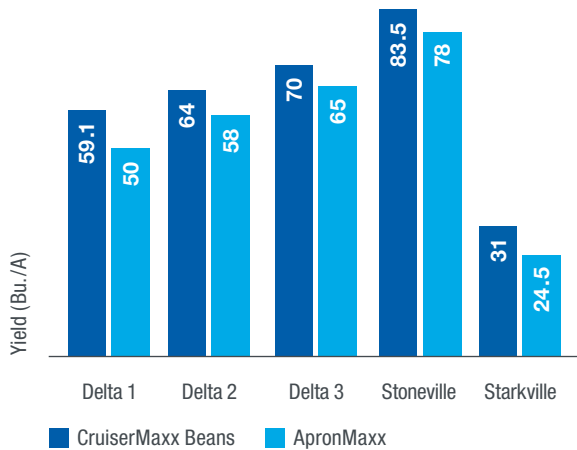
Elaine, Ark., University of Arkansas – Dr. Gus Lorenz

## Vigor: Up to 6 Days Faster Canopy Closure



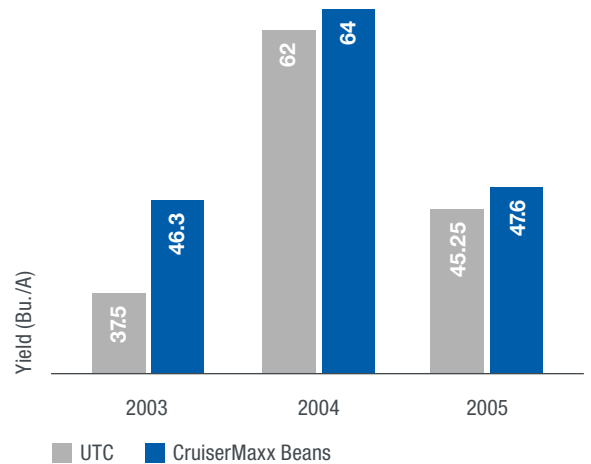
Agri-Tech Consulting, Wisconsin, LSD 0.10=1.5

## Yield Difference Between Treatments by Location (Mississippi)



Mississippi State University – Dr. Angus Catchot

## Average Yield Increase Over 3 Years = 4 Bu./A



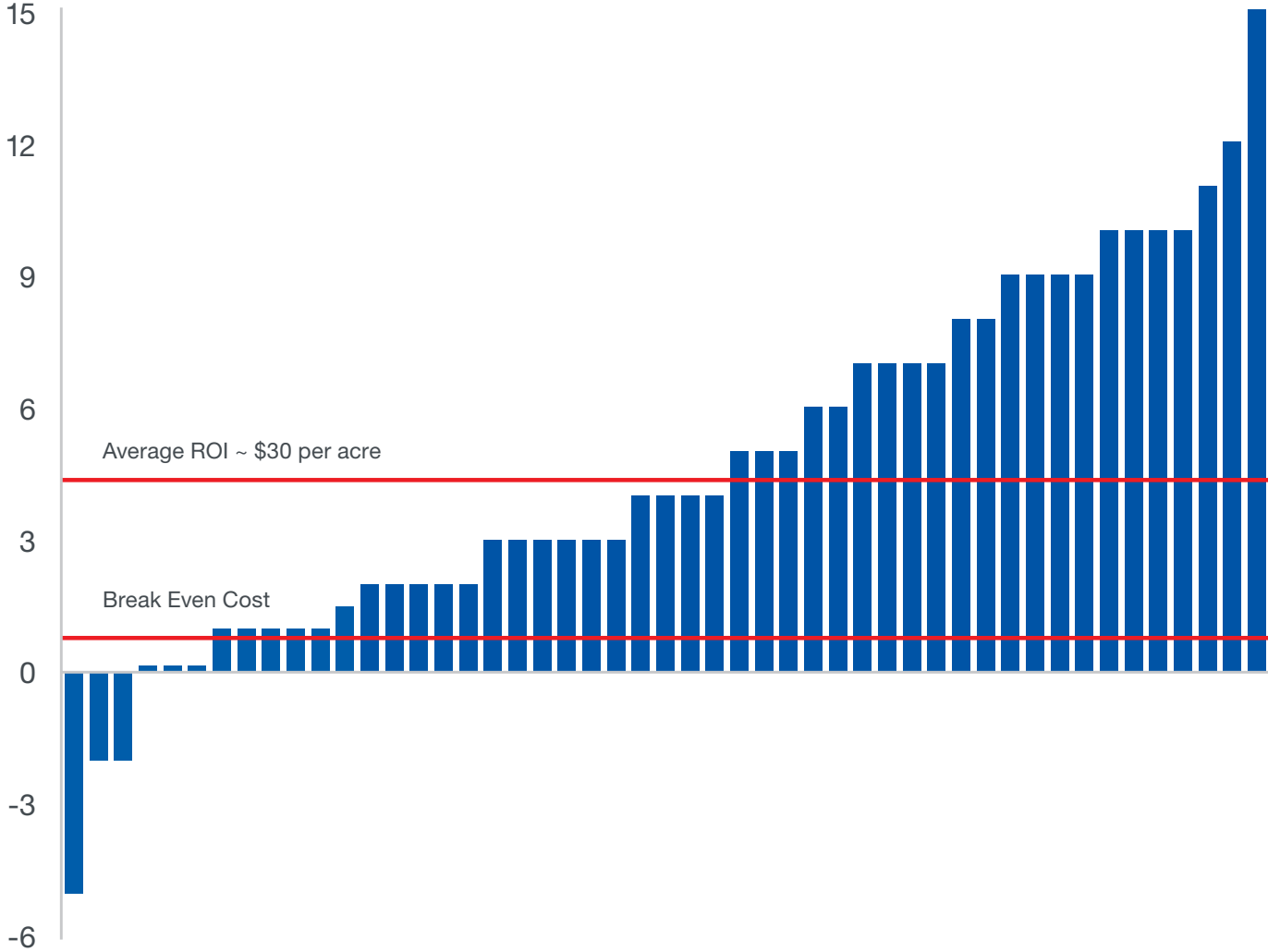
University of Arkansas – Dr. Gus Lorenz



Potential for Positive  
Return on Investment  
88 percent of the time

### CruiserMaxx Beans v. Fungicide Only Check

50 university trials from LA, MS, TN and AR, 2001-2007



\*ROI was determined based on \$8.50 beans per bushel

## CruiserMaxx Beans and Syngenta Seedcare: Trusted Names, Superior Results

With proven performance on more than 40 million acres, CruiserMaxx Beans provides soybean growers with the most advanced insect and disease protection on the market. Additionally, growers planting seed treated with CruiserMaxx Beans can rest assured knowing they also are getting the support and expertise of Syngenta Seedcare. Syngenta seed treatments are backed by years of research, skilled scientists, research centers and knowledgeable sales representatives, providing an even greater value above and beyond creating products that work.





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# Faster Start, Stronger Stands

A Powerhouse Combination of  
Fungicides for Soybeans



## Faster Start, Stronger Stands

Early-season disease is on the rise in soybeans. Changes in production practices, while bringing many benefits, are resulting in more soybean seed being planted earlier into cooler, wetter, residue-laden soil. This creates an optimum breeding ground for seed- and soil-borne diseases, which can stress the unprotected germinating seed and seedling. In the past, growers may have accepted that a certain percentage of their soybean seed would not germinate and establish a healthy plant stand. With higher value seed this is no longer acceptable. But what they may not realize is the problem, in many cases, is due to disease. Soybeans can fall prey to a wide spectrum of diseases that can continue to affect the growing crop, from slower germination to poor emergence to erratic stands – ultimately impacting what is harvested.

ApronMaxx® seed treatment fungicide, applied by seed companies, retailers or growers, reduces these threats and provides protection for your crop investment, which, in turn, can increase your chance of higher yields.

## Performance Advantages

- Protects the genetic yield potential of soybean seed
- Improves stand establishment
- Improves vigor
- Reduces seed-borne infection
- Protects against soil-borne disease
- Helps avoid replanting costs
- Promotes early canopy cover to suppress weeds
- Improves handling with less seed sticking and fewer planter problems
- ApronMaxx + Moly contains elemental molybdenum which helps aid in nitrogen fixation

## ApronMaxx – A Powerhouse Combination of Fungicides for Broad-Spectrum Disease Protection

ApronMaxx is a broad-spectrum, low-use-rate seed treatment. It contains a combination of mefenoxam and fludioxonil fungicides for excellent protection against seed- and soil-borne diseases. ApronMaxx inhibits fungal growth, prevents spore production and also penetrates the soybean seed coat to protect the developing seedling.

**Protecting seed and seedlings through both contact and systemic activity, ApronMaxx is effective against:**

*Pythium*

Present in all soils and more active in cool, wet conditions. Causes seed decay, damping-off and root pruning in young and old soybeans.



*Aspergillus*

*Rhizoctonia*

A universal pathogen. A factor in any kind of weather. Can build up in the soil. Causes pre- and post-emergence damping-off as well as root and system decay. Dark brown or reddish discolored lesions on stem or roots.



*Fusarium*

Favored by cool weather. Causes root rot, and seedlings may die.



Seed-borne *Phomopsis*

Caused by seed-borne pod and stem blight. Young seedlings become blighted and die. Later it strikes the stems and pods and infects the seeds.



Early-season *Phytophthora*

Prevalent in heavy, wet soils, and in warm or cool soils. Causes pre-emergence seed rot and damping-off, and post-emergence root and stem rots. Seedlings wilt and die. Stands are reduced. Even resistant/tolerant varieties benefit from early control until resistance takes effect.



*Penicillium*

Seed-borne *Sclerotinia*

White mold. Can overwinter and build up in soil. Attacks the stems of plant.



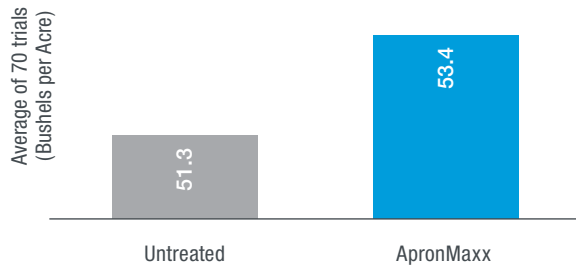
General seed rots

*Photos courtesy of The Ohio State University Extension.*

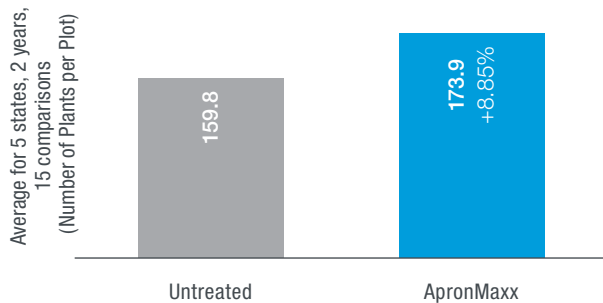
## ApronMaxx Offers the Protection Growers Want, With Results They Can See

When compared with untreated seeds, soybeans treated with ApronMaxx show increases in both stand and yield. Field trials indicate that, on average, yields have been increased 2.1 bushels per acre over untreated acres.

### Yield Increase



### Stand Increase



## ApronMaxx Outshines the Competition

The standard mefenoxam rate in ApronMaxx delivers nearly two times the equivalent active ingredient of the competition's standard package. This is achieved by using the active isomer of metalaxyl known as mefenoxam and delivering more active ingredient per seed, a benefit that is unique to ApronMaxx fungicides. An additional spike of Apron XL® fungicide may be added to the standard rate of mefenoxam in CruiserMaxx and ApronMaxx premix formulations for additional *Pythium* and *Phytophthora* activity. Additionally, retailers can choose to apply CruiserMaxx Plus, which offers all the benefits of CruiserMaxx, plus a higher rate of mefenoxam (Apron XL) in one convenient product.

## Apron XL and Allegiance Rate Equivalency Chart

Mefenoxam is used at half the rate of metalaxyl to deliver the same level of disease protection.

Product	Rate (oz/100 lbs. of seed)	Equivalent Active Ingredient in g/100 kg of Seed
Apron XL® (mefenoxam)	0.16 oz	3.75 g
	0.32 oz	7.5 g
	0.64 oz	15.0 g
Allegiance® FL (metalaxyl)	0.2 oz	2.0 g
	0.375 oz	3.75 g
	0.75 oz	7.5 g
	1.5 oz	15.0 g

## The Most Effective Product Growers Can Use

Check the disease control spectrum below. ApronMaxx protects against more early-season soybean diseases than any other fungicide.

### Disease Control Comparison for Soybeans

**E** = excellent **G** = good **F** = fair **N** = none  
**NA** = information not available

Trade Name	Active Ingredients	<i>Phytophthora</i> Damping-Off	<i>Pythium</i> Damping-Off	<i>Rhizoctonia</i> Damping-Off	Seed-Borne <i>Phomopsis</i>	<i>Fusarium</i> Damping-Off	Seed-Borne <i>Sclerotinia</i>
ApronMaxx	Mefenoxam, Fludioxonil	<b>G</b>	<b>E</b>	<b>G</b>	<b>G</b>	<b>E</b>	<b>E</b>
Apron XL*	Mefenoxam	<b>E</b>	<b>E</b>	<b>N</b>	<b>N</b>	<b>N</b>	<b>N</b>
Trilex®	Trifloxystrobin	<b>NA</b>	<b>F</b>	<b>F</b>	<b>NA</b>	<b>F</b>	<b>NA</b>
Stamina®	Pyraclostrobin	<b>NA</b>	<b>F</b>	<b>F</b>	<b>NA</b>	<b>F</b>	<b>NA</b>
Harp-N-Tek®	Harpin	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
Allegiance®	Metalaxyl	<b>E</b>	<b>E</b>	<b>N</b>	<b>N</b>	<b>N</b>	<b>N</b>
Rancona™	Ipconazole	<b>N</b>	<b>N</b>	<b>F</b>	<b>G</b>	<b>G</b>	<b>N</b>

\*For fields with a history of early-season *Phytophthora*, add additional Apron XL (0.16–0.48 fluid ounces per cwt) to the standard rate of mefenoxam in ApronMaxx brand products.

Note: Efficacy based on labeled rate of active ingredient.

## Compatible with Liquid Rhizobia Products

ApronMaxx brand fungicides were specifically developed to be safe to liquid inoculants when mixed together.

This allows for one-step application without sacrificing the benefits that both ApronMaxx and inoculants provide to soybeans.



Product	In slurry	On seed
Launcher™ Pro*	Up to 2 hours	Up to 12 hours
Launcher with PBX™	Up to 2 hours	Up to 12 hours
Cell-Tech Soybean	Not recommended	Up to 12 hours
Optimize® 400	Not recommended	Up to 12 hours
VAULT® HP	Not recommended	Up to 7 days



**ApronMaxx RTA® fungicide compatibility with liquid inoculants in slurry and on the seed**

Product	In slurry	On seed
APEX Extra	Up to 4 hours	Up to 4 days
Cell-Tech Soybean	Up to 4 hours	Up to 4 days
HiStick L + Subtilex Co-Pack	Up to 4 hours	Up to 14 days
HiStick L + Subtilex Co-Pack w/ Extender	Up to 4 hours	Up to 30 days
Launcher	Up to 4 hours	Up to 4 days
Launcher Pro*	Up to 4 hours	Up to 45 days
Launcher with PBX	Up to 4 hours	Up to 45 days
Optimize 400	Up to 4 hours	Up to 120 days
VAULT HP	Up to 4 hours	Up to 85 days
VAULT NP	Up to 4 hours	Up to 14 days
VAULT NP w/ Extender	Up to 4 hours	Up to 30 days



**ApronMaxx Beans fungicide compatibility with liquid inoculants in slurry and on the seed**

Product	In slurry	On seed
APEX Extra	Up to 4 hours	Up to 24 hours
Cell-Tech Soybean	Up to 4 hours	Up to 4 days
HiStick L + Subtilex Co-Pack	Up to 4 hours	Up to 7 days
HiStick L + Subtilex Co-Pack w/ Extender	Up to 4 hours	Up to 21 days
Launcher	Up to 4 hours	Up to 4 days
Launcher Pro*	Up to 4 hours	Up to 45 days
Launcher with PBX	Up to 4 hours	Up to 45 days
Optimize 400	Up to 4 hours	Up to 120 days
VAULT HP	Up to 4 hours	Up to 60 days
VAULT NP	Up to 4 hours	Up to 7 days
VAULT NP w/ Extender	Up to 4 hours	Up to 21 days



**CruiserMaxx compatibility with liquid inoculants in slurry and on the seed**

Product	In slurry	On seed
APEX Extra	Up to 4 hours	Up to 4 days
Cell-Tech Soybean	Up to 4 hours	Up to 4 days
HiStick L + Subtilex Co-Pack	Up to 4 hours	Up to 14 days
HiStick L + Subtilex Co-Pack w/ Extender	Up to 4 hours	Up to 35 days
Launcher	Up to 4 hours	Up to 4 days
Launcher Pro*	Up to 4 hours	Up to 45 days
Launcher with PBX	Up to 4 hours	Up to 45 days
Optimize 400	Up to 4 hours	Up to 120 days
VAULT NP	Up to 4 hours	Up to 14 days
VAULT NP w/ Extender	Up to 4 hours	Up to 35 days
VAULT HP	Up to 4 hours	Up to 85 days

\* Launcher PRO is a prepack of 3 individual components: Launcher, Nitrogen Fixing Bacteria, PBX, Advanced Bacteria Protector, ProSurge, Catalytic Seed Treatment.

## Ease of Application for Growers and Dealers

ApronMaxx is available in several formulations that deliver convenience and flexibility for any environmental condition or application type.

**For the grower, ApronMaxx RTA** is an on-site or grower-applied dilute colored formulation that is slurry-compatible with inoculants. ApronMaxx RTA + Moly is available for growers wanting to apply elemental molybdenum to the seed in low pH soils.

\*ApronMaxx RTA + Moly may not be compatible with some rhizobia inoculants.

## On-Farm Application – 2 x 2.5 gal.

### ApronMaxx RTA

5 oz. per 100 pounds of seed

### ApronMaxx RTA + Moly

5 oz. per 100 pounds of seed

### ApronMaxx RTA

- Available with and without molybdenum (moly)
- Formulation with moly delivers 0.2 ounces of elemental molybdenum per bushel as an aid in nitrogen fixation (and can be tankmixed with certain liquid inoculants – refer to chart on page 10)
- Both are formulated for direct application through an on-farm treater
- Imparts a blue color to the seed
- No water needs to be added for proper seed coverage

## Commercial or Retail Application

**For the retail dealer, ApronMaxx Beans** features concentrated products for reduced container disposal.

**ApronMaxx Beans** is a pallet pack of separately registered products. It contains four 1-gallon containers of Apron XL, eight quarts of Maxim® 4FS, and eight gallons of blue colorant.

### ApronMaxx Beans

- **Apron XL**  
0.16 – 0.64\* oz./cwt  
(3.75 to 15 grams a.i./100 kg of seed)
- **Maxim 4FS**  
0.08 oz./cwt (2.5 grams a.i./100 kg of seed)
- **Blue colorant**  
0.32 oz./cwt
- Product should be diluted with water in a slurry treater tank with agitation
- Slurry volumes should provide uniform coverage without overly wetting soybeans
- Generally, 4-6 fl. oz. per cwt of total slurry is sufficient

## For Broad-Spectrum Insect and Disease Protection, Plant Seed Treated with CruiserMaxx Beans

If you like the disease protection offered by ApronMaxx seed treatment fungicides and are looking for the same convenient protection against damaging insects, ApronMaxx can be combined with Cruiser® seed treatment insecticide for broad-spectrum insect and disease protection in one convenient package – CruiserMaxx® Beans seed treatment combination. CruiserMaxx Beans is available as treated seed from seed companies or CruiserMaxx Beans certified retail treatment locations.

\* Rate of Apron XL depends on level of early-season *Phytophthora* control desired. For fields with a history of *Phytophthora*, 0.32 – 0.64 oz./cwt is recommended. Seed treated with ApronMaxx also is available from select seed companies.



For more information, visit the Syngenta Crop Protection website: [www.syngentacropprotection.com](http://www.syngentacropprotection.com) or [www.farmassist.com](http://www.farmassist.com), or call the Syngenta Customer Center at 1-866-SYNGENTA (866-796-4368).

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**Important: Always read and follow label instructions before buying and using Syngenta products. The instructions contain important conditions of sale, including limitations of warranty and remedy. Karate with Zeon Technology and Endigo ZC are Restricted Use Pesticides.**

CruiserMaxx Beans is one or more separately registered products containing the following: CruiserMaxx; CruiserMaxx Plus; CruiserMaxx and Apron XL; Cruiser 5FS, Maxim 4FS and Apron XL; or Cruiser 5FS and an ApronMaxx brand fungicide.

ApronMaxx Beans is a combination of separately registered seed treatments: Apron XL and Maxim 4FS plus a blue colorant.

Karate with Zeon Technology and Endigo ZC are highly toxic to bees exposed to direct treatment or to residues on blooming crops and weeds. Do not apply these products or allow them to drift onto blooming plants if bees are foraging in the treated area.

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