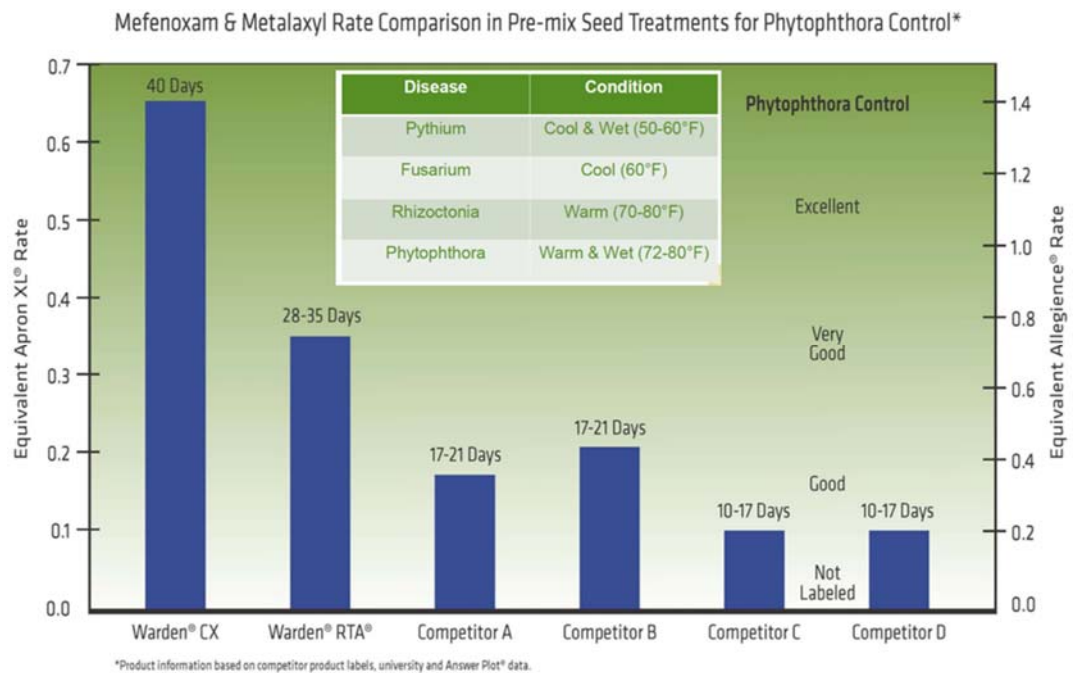


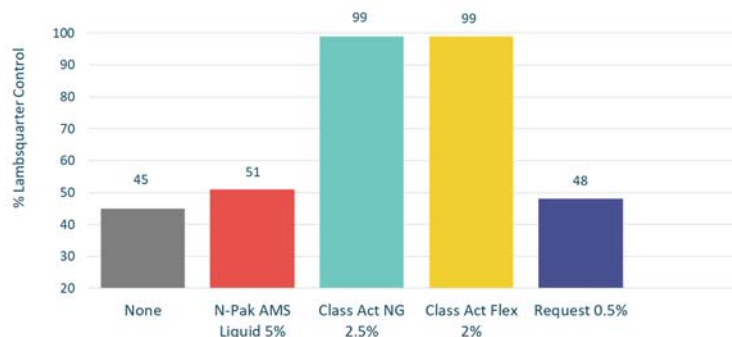
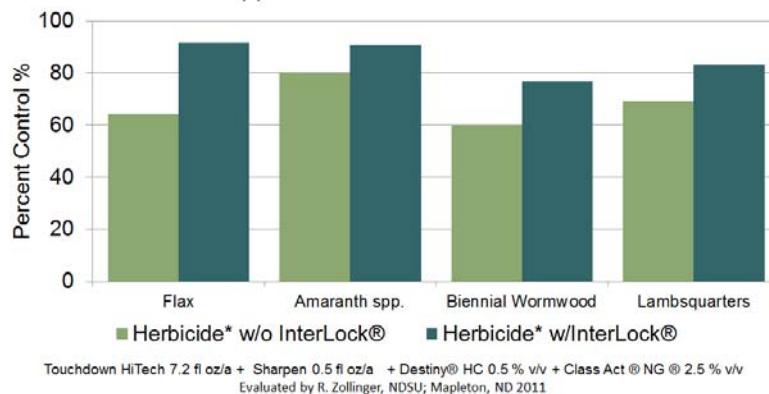
Soybeans –

- CP2200X: In 2019, CP2219X was launched as an offensive variety that would complement the high-yield potential acres that R2C2025 used to be placed on. Answer Plot yield data confirmed the high yield levels as CP2219X topped the early 2.0 RM trials. CP2128X started to be planted 2 years earlier as a strong candidate for White Mold acres for growers looking to have a strong standing variety with above-average yield potential. Combining these varieties in the CP2200X WinPak® brings the best of both worlds, defense and offense, to take yield levels to the step.
- Soybean seed germination is challenged in many cases due to fungal pathogen infection of seed. By applying Warden® CX, we provide seed protection from early season diseases which will increase our stand count and a better chance at high yields.



- Crop Protection
 - We are using a multiple-mode-of-action preemergence herbicide followed by a multiple-mode-of-action postemergence program to ensure quality weed control.
 - *Multiple modes of action only work if we are getting the herbicide on and into the plant. The right adjuvant pairing ensures the best efficacy and performance. We will be using Class Act® and InterLock® to improve coverage, reduce drift, and increase plant uptake.*

Herbicide application with and without InterLock®



- Fungicide

- Corn: We plan to apply fungicide and MasterLock® at VT/R1 because we've seen positive results in Answer Plot research over the years.

Fungicide application timing results



Application timing	N	Adjuvant	Yield increase over control, bu
V10	50	None	4.0
V10	50	MasterLock	11.0
R1	50	None	7.2
R1	50	MasterLock	9.6
Additional yield gain average with MasterLock			4.7

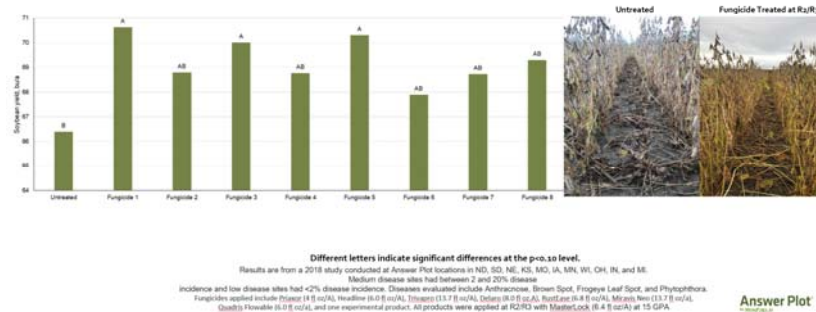
Results are from a study conducted in 2019 at Answer Plot locations in ND, SD, NE, KS, IA, MN, WI, OH, IN, CO, TN, and AR. Different letters indicate statistical difference at p<0.10

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- Soybeans: Fungicide will be applied to soybeans to improve plant health and prevent disease. The major disease we have in MN is Soybean White Mold.

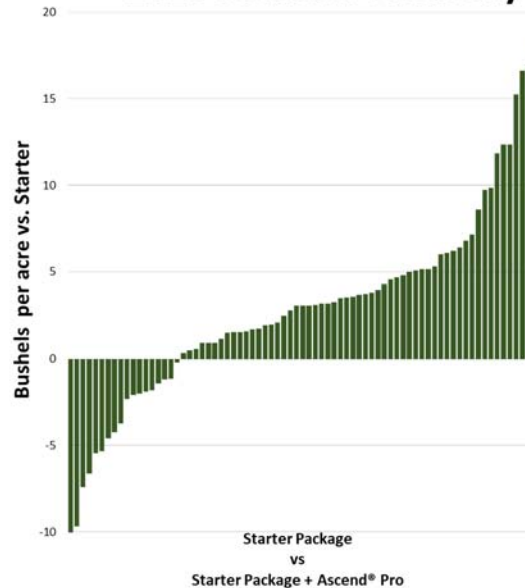
2018 Soybean Fungicide Response

Regardless of disease environment, fungicide applications increase soybean yields



- Micronutrients
 - Corn
 - 1 qt/acre MAX-IN® ZMB applied @ V5
 - **Zinc: Large demand in early stages**
 - Required for auxin synthesis
 - Starch to sugar conversion
 - Carbohydrate metabolism
 - Protein production
 - Chlorophyll formation
 - **Boron: Large demand in early stages**
 - Root development
 - Cell wall strength
 - Cell division
 - Nutrient movement
 - 1 pt/acre Max-IN Boron applied @VT/R1
 - **Boron: Large demand around VT**
 - Facilitates fertilization
 - Pollen tube formation
 - Sugar/starch balance
 - Cell wall strength
 - Nutrient movement
 - Soybeans
 - 1 qt/A MAX-IN Mn at R2
 - Almost half of NutriSolutions® tissue samples come back deficient in Manganese.

2018 Location Summary



- Plant Growth Regulators
 - Corn – Ascend® Pro applied in-furrow
 - Average increase: +2.9 bu/A
 - Count: 75 locations
 - Wins: 57 locations
 - % Wins: 76% positive response
 - Average positive response: +5.1 bu/A
 - $P = < 0.01$
 - Soybeans – Ascend SL applied at R2
- Ag Technology
 - Tools used to monitor the in-season progress and make adjustments when necessary
 - R7® Field Monitoring Tool
 - R7 Field Forecasting Tool
 - NutriSolutions tissue testing
- Nutrition Plan
 - This plan is based on soil test, field history, hybrid selection and preferred guidelines.

Planting - Corn

- Planting Date: 4/26/20
- Seeding rate: 33,000
- Soil temp (2-inch depth) at planting: 51 degrees
 - 2-inch depth hit 60 degrees on 5/25/20
- Soil moisture - adequate
- Planting depth – 2 inches
- Starter application - 10-34-0 @ 5 gallons per acre + Ultra-Che Zinc 9% @ 2 qt + Ascend® Pro @ 5 oz/A

Early, not final stand counts, show faster emergence for the 100% APH practices compared to the standard APH treatment:

- APH 100 - **38%** more emerged plants than standard APH
- APH 95 – 32% more than standard
- APH 90 – 14% more than standard

IMPORTANCE: 5-8% yield loss if half of the stand is delayed by 1.5 weeks. 20% reduction in yield if delayed by 3 weeks.



- CROPLAN® 4203SS is a racehorse hybrid that works at high-yield-level acres with the ability to handle more moderate yield levels on all soil types. It's high RTN score and moderate RTF score make it a perfect hybrid to push N rates and apply a fungicide and see economic benefit.

In 2019 Answer Plot® data, it topped the charts on a corn/soy rotation, under aggressive N management at a moderate population, placed in a high yield environment. Planting it at 33,000 plants per acre in research trials this year helps ensure each plant can acquire all the N it needs to turn it into yield!



- The graph shows that 4203SS/RIB does not yield well (right column) when placed in a stress environment with limited nitrogen. 4203SS has great yield potential (1st-3rd column) when nitrogen is managed correctly.

Planting - Soybeans

- Planting Date: 5/08/20
- Seeding rate: 140,000
- Provide Soil temp
- Soil moisture - adequate
- Planting depth – 1 inch
- Seed Treatment – Warden® CX



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