YieldMaster SOLUTIONS LLC

# 2020 Summer Performance Observations

Soyfx™

alphajoule™

envita

IONfx™

PODfx™

envita

## 2020 Season Highlights:

- ❑ Received label for foliar application!
- ❑ Over 50 proof of concept trial locations
- ❑ Product used in over 30 states from New York to California
- ❑ Crops treated include corn, soybeans, wheat, oats, sugar beets, and more.

## 2020 Notes and Observations:

Envita that was applied in-furrow clearly showed a crop stage difference in many of the plots. We saw faster emergence and enhanced vigor early on. Visual observations included enhanced fine feeder root development, thicker stalk diameter, leaf stage acceleration, increased tillering, and overall healthier looking plants. Soybeans showed increased plant height as well as increased number of pods per plant.

# envita 5 Days Post Planting

## Figure 1:

This photo was taken five days after planting.. No Envita on the left, Envita in-furrow on the right. Again, the Envita treated plant is advanced and emerged faster out of the ground.

## Figure 2 & 3:

*Figure 2 (top)* and *Figure 3 (bottom)* show the consistency that we saw in the field. These two photos were taken from the same field, five days after planting. Figure 2 was the base and figure 3 was treated with Envita. Notice the advanced coleoptile and seminal root development. These were emerged out of the ground before the non-treated corn shown in *Figure 2*.

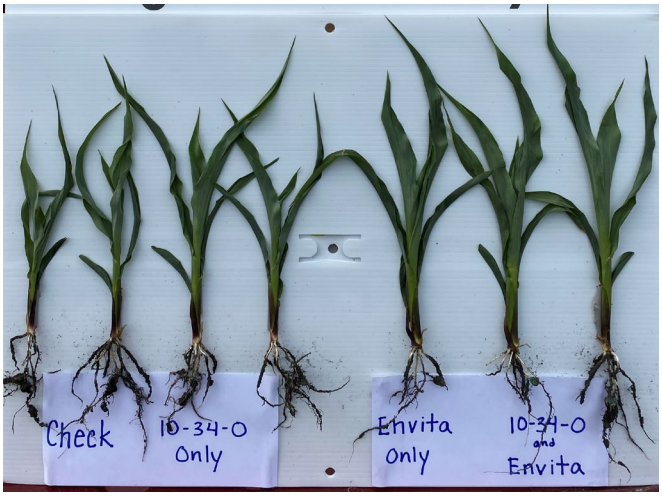
## Figure 4 & 5:

*Figure 4* (left) and *Figure 5* (right) show an early difference between base treatment and Envita Treated. The left side is base treatment, and the right side is Envita treated. Both samples were pulled from same field.

# Early Plant Stages

## Figure 5:

Figure 5 shows the accelerated staging we saw consistently in most of our plots. Notice also the root development on the Envita treated (left) compared to non-treated (right).

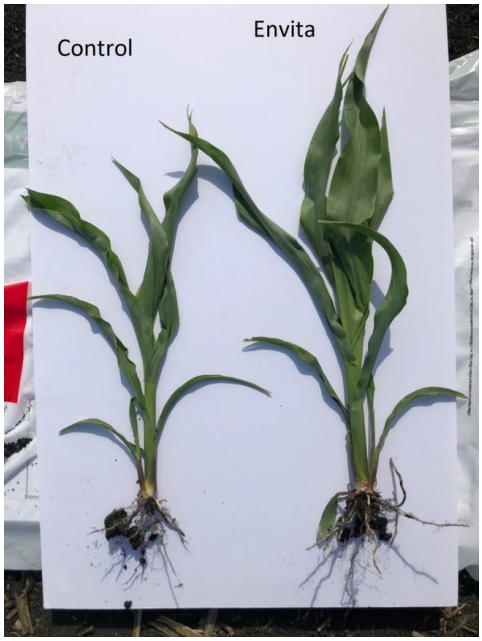




## Figure 6 :

*Figure 6* shows Envita's early stage performance against starter fertilizer. It also shows Envita's performance when applied with starter fertilizer in-furrow. Notice plant development of Envita alone compared to starter fertilizer with no Envita. Starter with Envita appeared to perform the best early on.

## Figure 6 & 7:

*Figure 6* (left) is from a plot in Baldwin WI. *Figure 7* (right) is from a field near Fairfax, MN. Both pictures show significant plant development difference. Notice the increased vegetation with Envita.

# Enhanced Fill



## Figure 8:

Figure 8 shows the increased stalk diameter that we saw at many of the plots. Increased stalk size correlated with an enhanced root system.

## Figure 9:

*Figure 9* shows the enhanced ear fill that is occurring with Envita. This field had Envita applied in-furrow. The field was located in Heron Lake, MN. The non-treated ears (left) averaged approximately 584 kernels/ear while the treated ears (right) averaged 704 kernels/ear


## Figure 10:

*Figure 10* shows non-treated (left) vs treated (right) corn from Platteville, WI. Again, we continue to see more consistent ear fill. In some cases we are seeing the addition of more rows, while in other cases we are seeing increased row length.

# Soybean Observations

## Figure 11:

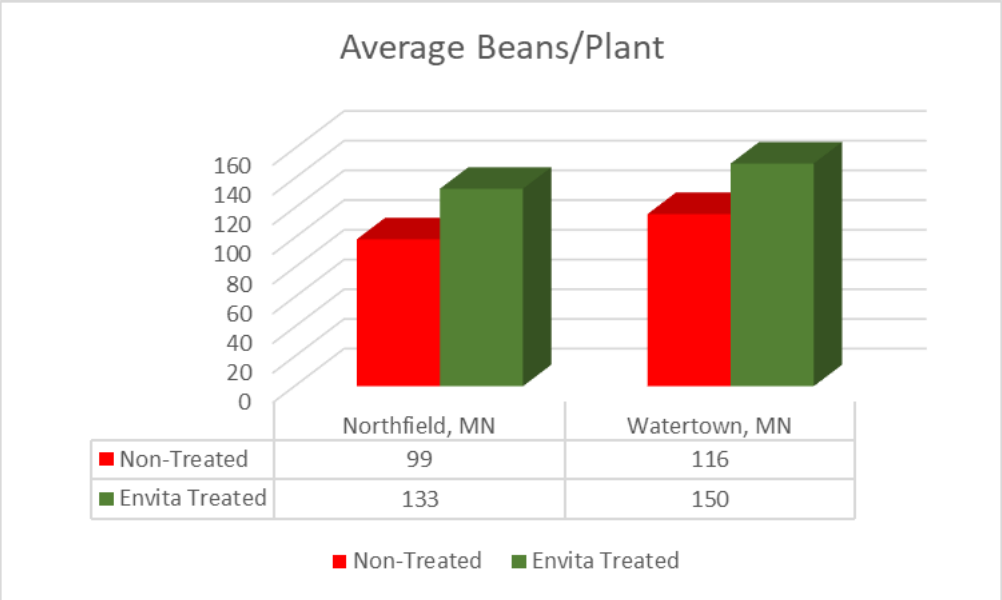
*Figure 11* shows Envita applied in-furrow on soybeans in North Dakota. The planter malfunctioned leaving only one side receiving the Envita treatment. We saw clear evidence of emergence and early vigor enhancements on the strips that received Envita.

## Figure 12:

Figure 12 shows soybeans that were foliar applied with Envita near Luck, WI. The Envita treated plants are shown on the left and right side while the middle plants are from the non-treated strip located in between the treated sections.

## Figure 13:

*Figure 13* shows two farms in which 5 random plants were pulled from Envita treated and non-treated sections of the field. Samples were then averaged out to show the number of beans per plant in each section.



# Nitrogen Trial

One of the exciting trials taking place this year is the nitrogen reduction trial being conducted by an Envita dealer in Fairfax, MN. This trial is looking at the impact of 50, 100, & 180lbs of nitrogen with and without Envita added in-furrow. *Figure 1* shows 50lbs, *figure 2* show 100lbs, and *figure 4* shows the full set. Notice the dramatic differences in ear fill at the lower nitrogen rates. This trial will be taken to yield with results expected later this fall.


Figure 1: 50lbs of Nitrogen


Figure 2: 100lbs of Nitrogen


Figure 3: Picture taken June 24th


Figure 4

## 2020 Season Highlights:

- ❑ Sold out of seed coat, in-furrow, and foliar product
- ❑ Promising IDC treatment observations
- ❑ Over 50 new dealers sold product

## 2020 Notes and Observations:

Soyfx has provided some incredible observations this summer. Some of the most notable include increased branching, accelerated trifoliate stages, enhanced root and nodule development, increased pods per plant, and overall healthier looking plants.

# Soyfx™ Trifoliate & Branching


## Figure 1:

*Figure 1* shows the early difference in trifoliates. Soyfx consistently ran ahead of the non-treated in many of the plots this year. Also notice the lateral roots.

## Figure 2:

*Figure 2* shows the increased branching we saw all season long. Soyfx seed coat seed to set lateral branching lower on the plant and create more overall branches. This led to more room to place pods.




## Figure 3:

*Figure 3* Shows the Untreated 04X765N is just about to start flowering, while the treated variety has already exceeded flowering stages and entered pod formation

# Nods & Pods

## Figure 4:

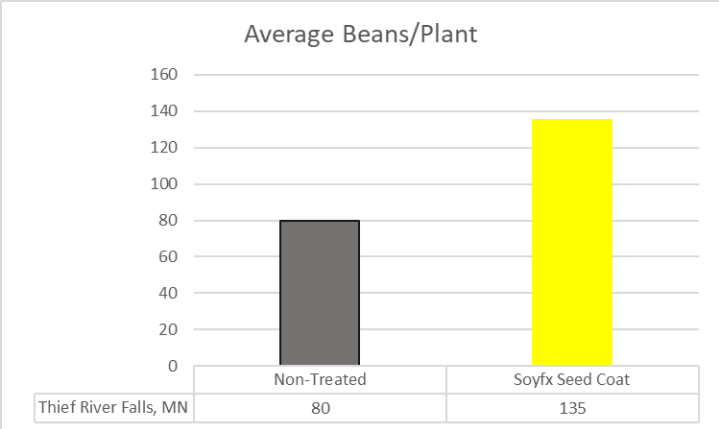
Figure 4 shows the incredible nodules that appeared on Soyfx beans. Wishek, ND & Luck, WI.

## Figure 5 :

*Figure 5* shows the difference in non-treated (left) vs Soyfx treated (Right). Notice the size of then nodules.

## Figure 6:

*Figure 6* shows the difference in pods on 2 treated plants vs 2 non-treated plants.


## Figure 7:

*Figure 7* shows the average number of beans per plant from the figure 6 photo.

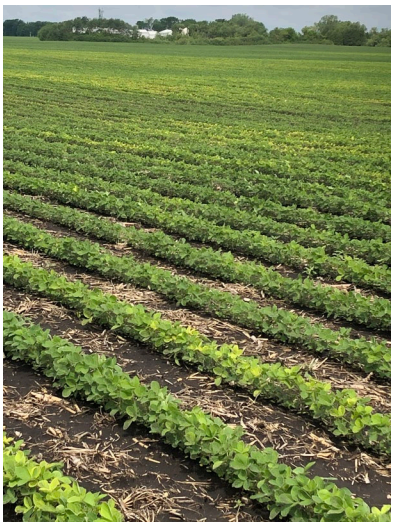
# Iron Deficiency Chlorosis

## Figure 8:

Soybeans showing signs of IDC by flashing yellow. This area typically has a higher pH of between 7.8 to 8.3. Picture taken on June 19th, in Blooming Prairie, MN.

## Figure 9:

This variety of bean is typically rated an "8" against IDC. Bean varieties have struggled in this area in the past.



## Figure 9:

On July 1st the grower sprayed 40 acres of beans with Soyfx foliar. There appeared to be a big difference in color and growth over the 1-month period. The local agronomist concluded that the combination of the soybean variety and the Soyfx helped dramatically.

## 2020 Season Highlights:

- ❑ Ionfx was applied to corn, triticale, sorghum, and more.
- ❑ Product applied in at least 8 states.
- ❑ Successfully applied as a seed coat on corn.

## 2020 Notes and Observations:

Ionfx surprised the entire group with how well the visual observations were this summer. We saw enhanced root systems, accelerated plant staging, increased stalk diameter, and overall healthier looking plants. There was also a dramatic difference in plant vegetation.

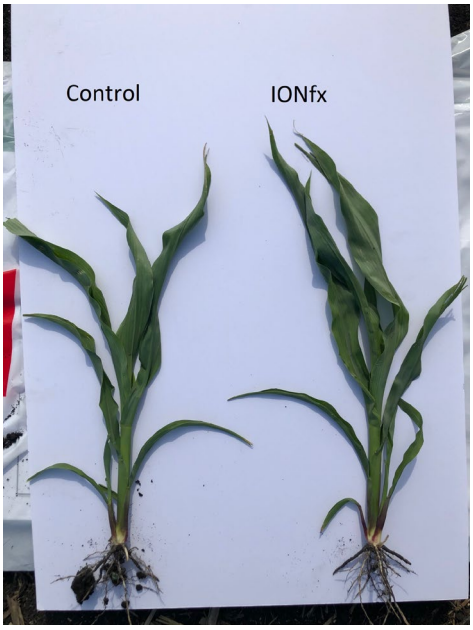
# Consistently More Mature


## Figure 1:

*Figure 1* shows the early difference Ionfx treated corn. Notice the enhanced vigor and root system on the treated vs. the control. Picture taken in Ridgeland, WI.


## Figure 2:

*Figure 2* is from the field that the figure 1 samples were taken from. Notice the difference in vegetation and color on the treated compared to non-treated.





## Figure 3:

*Figure 3* shows samples from two separate fields in Minnesota. We saw consistent advancements in staging on the Ionfx seed coat compared to non-treated. Also saw larger stalk diameters.