



Why I should consider using a fungicide this year.

Lower commodity prices have some producers asking themselves ‘what costs can I cut out of my production program’, when they should be asking: ‘which management practices will give the greatest opportunity for positive ROI?’ In times when prices are lower, maintaining or increasing yield is the alternative solution to cutting costs for generating more income per acre. Data from the Answer Plot® systems has helped identify acres that have a greater probability of seeing a response to fungicide. In 2019, 90% of hybrids generated a positive ROI.

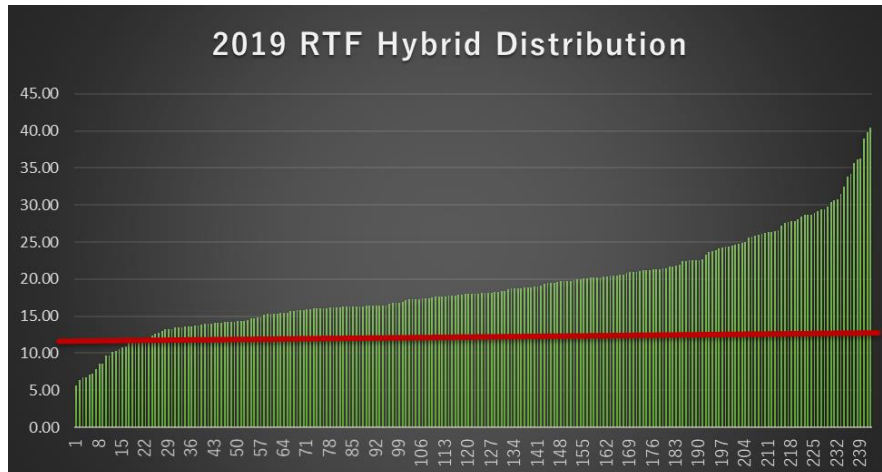


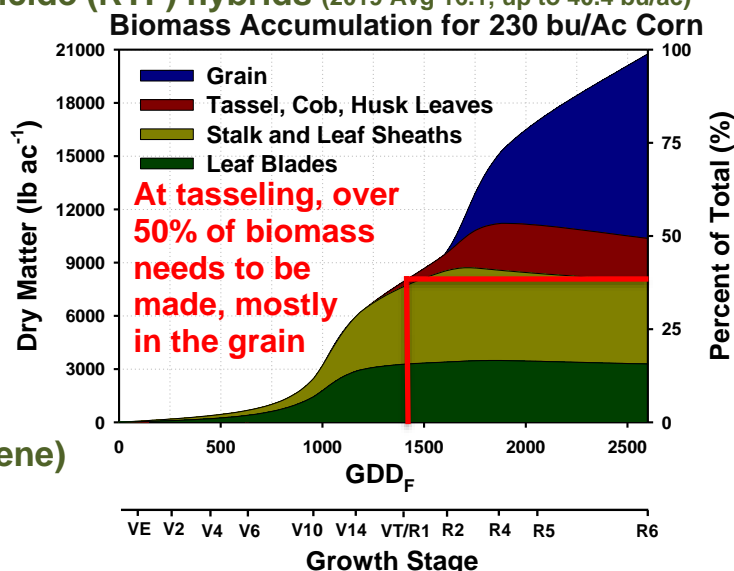
Figure 1: 2019 Individual hybrid yield response to fungicide
Red line represents the yield required for positive ROI based on \$3.00/bu corn and a \$35 fungicide and application cost.

What factors increase the likelihood of fungicide response?

- High and moderate Response to Fungicide (RTF) hybrids (2019 Avg 16.1, up to 40.4 bu/ac)
- Historic disease pressure
- Corn on Corn residue
- No-Till or reduced till
- Disease model predictions

How do fungicides help increase yield?

- Maintain late-season plant health
- Reduce disease infection
 - Decreased lodging
 - Increase grain fill efficiency
- Decrease plant stress signaling (ethylene)



When should I apply a fungicide?

The optimal timing for a fungicide application would be just prior to disease infection since most fungicides are preventative in nature. Since it is often difficult to know when or if this will occur, historically one of the most consistent application timings on corn has been at VT/R1. In some geographies, timely applications can be a challenge. Testing throughout 50 Answer Plots® in 2019 showed that V10 fungicide applications were within 1 bushel of the tasseling applications, which would open more opportunities for application windows and alternative equipment such as ground rigs. When diseases come in during later reproductive stages, delayed or multiple fungicide applications have been successful. It should be noted that waiting until disease is visually apparent will have already sacrificed some of the photosynthetic and yield potential from the plant due to disease lesions.

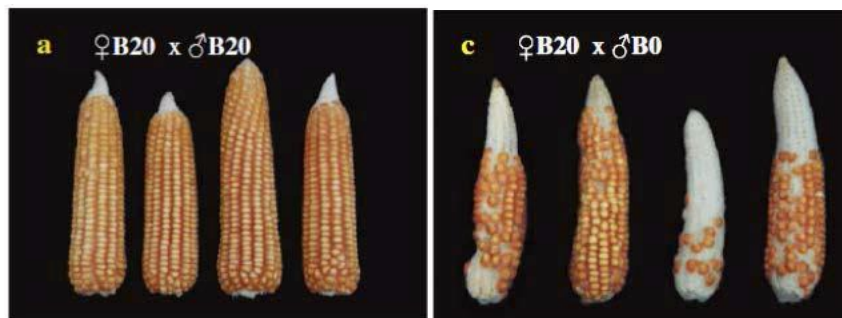
†Always read and follow product labels directions. Because of factors outside of WinField® United's control, such as weather, product applications, results to be obtained, including but not limited to yields, financial performance, or profits cannot be predicted or guaranteed by WinField® United. Actual results may vary.



Should anything else be put in with my fungicide application?...Yes!

Boron

Over 85% of NutriSolutions® Tissue Samples came back as responsive or deficient in Boron last year. Boron plays a key role in pollen formation and is mobile within the plant for a short period right prior to pollination. As a mobile nutrient in the soil, boron can leach from the soil profile, especially during wet conditions. Boron loss from the soil can negatively impact plant uptake and yield potential. If boron is not available, plants produce pollen without the starch required for growth once it lands on a silk. Severe boron deficiencies may result in a completely barren plant where an ear shoot does not even develop. When tissue samples call for boron, Max-In® Boron has been formulated with CornSorb® technology to increase boron uptake into the plant by 40%.



Sufficient boron levels (left) vs. scattered grain resulting from boron deficiency (right)

Source: Lordkaew et al., 2011, Plant Soil 342:207-220

MasterLock®

Testing in the Answer Plots® during 2018 and 2019 revealed that 90% of hybrids had the potential for a positive ROI from a fungicide application paired with MasterLock®. Since many diseases come from the bottom of the canopy upward, ensuring the fungicide is adequately deposited into the lower canopy and having greater protection of the ear leaf is important. Multi-Year testing has showed over 5 bu/A yield increase from MasterLock® paired with fungicide applications compared to fungicide alone.

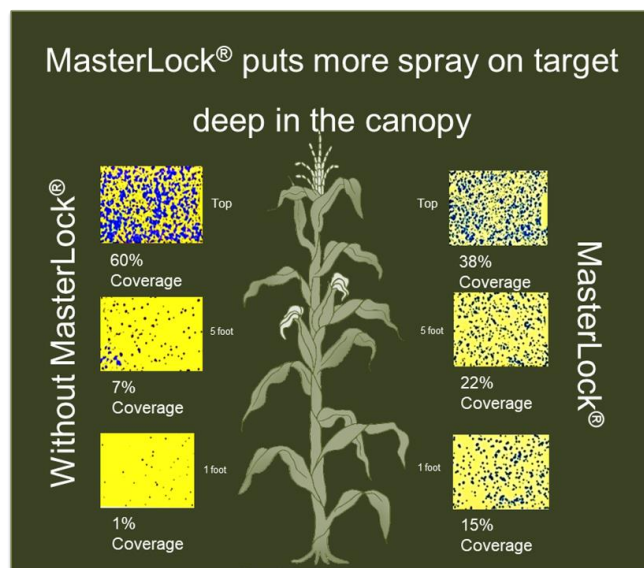
What are benefits of MasterLock®?

InterLock® technology plus Non-Ionic surfactant

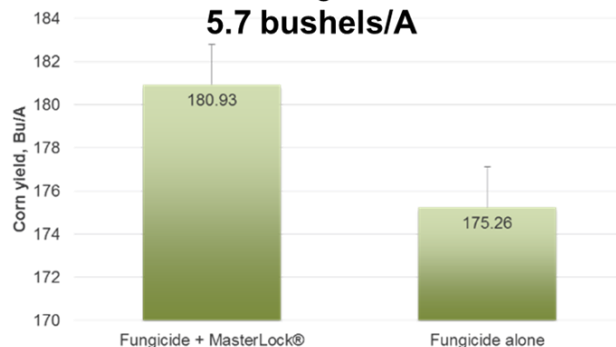
- **Drift Reduction**
- **Improves deposition**
- **Canopy penetration**
- **DropTight® Technology enhances performance of Insecticides & Fungicides**
- **Optimizes adhesion by reducing droplet bounce and increasing spreading**

Secondary benefits of MasterLock®

- **Does not negatively affect spray pattern**
- **Great aerial tank mix partner**
- **CPDA Certified**
- **NPE Free (Does not cause arrested ear)**



MasterLock increased corn yields by an average of 5.7 bushels/A



Source: WinField United contracted data, 14 studies, 8 states, all fungicides, 2012-2017

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