

# Rooting Power: The Link Between Stronger Roots and Higher Yield Potential



## Syngenta Seedcare researchers found that Rooting Power is key to helping enhance crop performance

More and more research is pointing to root health as the key to increasing crop productivity in the future.

As a part of an ongoing commitment to root health and pest defense, Syngenta Seedcare scientists around the globe have been analyzing the interactions between roots, diseases, moisture efficiency and nutrient utilization. Through its research efforts, Syngenta Seedcare developed sedaxane, which contains a seed treatment mode of action designed specifically to improve the quality of roots. Sedaxane is a member of the succinate dehydrogenase inhibitor (SDHI) class of fungicides.

“Root health means that plants can live up to their full genetic potential and can utilize water and nutrients in the most efficient way. Root health means that growers can get the best economic return on their inputs and can use the most sustainable practices with the least environmental impacts.”

– Tim Paulitz, Ph.D.

Research plant pathologist, USDA-ARS  
Washington State University

The first active ingredient Syngenta created specifically as a seed treatment, sedaxane delivers longer-lasting protection against difficult-to-control seedborne and soilborne pathogens while simultaneously improving overall root health and quality. As a result, crops experience Rooting Power™, the link between strong roots and higher yield potential.

## Threats to Root Health

Through broad-spectrum disease protection, Rooting Power can improve yield potential. The primary threats to root health are diseases and insects, although other cultural practices and crop inputs also affect root health and growth.

One of the key culprits, *Rhizoctonia*, is quickly establishing itself as a prominent, yield-robbing soilborne pathogen across the United States. Capable of causing up to 40 percent yield loss, this antagonist is a common soil disease in cereal, soybean and canola fields around the world and throughout the United States. This disease is particularly widespread in cereal crops in the Pacific Northwest (PNW).

Underground insects like wireworms and nematodes can also limit yield potential by chewing through delicate root systems, which also creates an opening for soilborne pathogens to attack the plant.

Fungicide and insecticide seed treatments help prevent the spread of plant diseases and keep insects at bay. The VIBRANCE™ seed treatment fungicide brand family, which features sedaxane, goes beyond ordinary seed protection to offer extended disease control, the best-in-class *Rhizoctonia* activity and enhanced root health and crop vigor.

## Improving Root Health

Wheat and barley growers are among the first to experience the benefits of sedaxane and its Rooting Power through VIBRANCE Extreme fungicide and CruiserMaxx® Vibrance Cereals insecticide/fungicide seed treatments. This revolutionary line of VIBRANCE seed treatment products arms crops with the unique Rooting Power benefits that take seed treatments to the next level.

### **Vibrance™ Extreme**

- Combines sedaxane with difenoconazole and mefenoxam to provide broad-spectrum disease protection applied by commercial, on-site seed treater or seed company
- Stimulates quality root systems to deliver better emergence, stand, nutrient uptake and stress tolerance for enhanced Rooting Power

### **CruiserMaxx® Vibrance™ Cereals**

- Features sedaxane with thiamethoxam, mefenoxam and difenoconazole in a convenient, all-in-one formulation that delivers unsurpassed protection against a broad range of commercially important insects and diseases with improved root health to boost the crop's Rooting Power
- Available for on-farm and through commercial, on-site seed treater or seed company application

#### Improved Root Health



Untreated

Treated with VIBRANCE

#### Impact of *Rhizoctonia* on root growth



Untreated

Treated with VIBRANCE

## The Keys to Rooting Power

Broad-spectrum  
disease protection

Seed treatment fungicides will help defend roots from a range of damaging seedborne and soilborne diseases, including *Rhizoctonia* root rot, to deliver a new level of disease protection.

that leads to stronger,  
more powerful roots

Root systems are more robust and can more efficiently utilize moisture and nutrients.

and enhanced  
crop performance.

More robust root systems help produce healthier, stronger stems and foliage that better withstand environmental stress. This protects the genetics of the crops, and ultimately, leads to improved yield potential.



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