News from Nufarm



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NUFARM INTRODUCES ChampION⁺⁺ FUNGICIDE New Copper Formulation Offers Highest Bioavailability For Improved Control

CHICAGO, IL – Dec. 9, 2013 – Nufarm announces the launch of ChampION⁺⁺, a fungicide/bactericide that controls key fungal and other diseases in a wide range of high-value crops such as citrus, walnuts, grapes, tomatoes and peppers. ChampION⁺⁺ is a new dry formulation (<u>Dispersible</u> Granule) of copper that features consistently smaller particles and other unique formulation attributes to provide more thorough coverage – and thus better disease control – with less environmental loading.

"The cupric ion (Cu++) is the active part of the molecule, and it works by attacking the bacteria or fungi where it disrupts enzyme processes," says Rich Houghton, Ph.D., director of formulation chemistry for Nufarm. "Because copper is not systemic and doesn't redistribute after application, complete coverage of the leaf surface is essential for good disease control. The smaller particle size that ChamplON⁺⁺ provides means more complete coverage, which results in more copper ions available to be absorbed into the plant tissue. This improved absorption, in turn, provides more effective disease control."

The superior formulation of ChamplON⁺⁺ fungicide is evident in the product's basic characteristics, says Houghton. "ChamplON⁺⁺ has the smallest average particle size of any dry copper formulation," he points out. "The average particle size of the ChamplON⁺⁺ product is approximately three to four times smaller than the average particle size of competitive products."

The smaller particle size has another important benefit: it means that producers can apply a significantly lower rate of copper but still get effective disease control. "Compared to older copper formulations, we are applying approximately half of the rate of copper per acre with ChamplON⁺⁺" Houghton says. "But because of the smaller particle size and superior absorption with ChamplON⁺⁺, we get equivalent or better disease control, even at this much lower rate of copper."

Copper has been used to combat disease in high-value fruit and vegetable crops since the late 1880s, when the "Bordeaux mixture" of copper sulfate and lime was used in French vineyards to protect grapes from downy mildew. Copper fungicides have evolved over the decades but remain a key disease management tool for producers.

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"Part of the reason for copper's continued use and importance in disease management is the multi-site mechanism which prevents development of resistance," explains Rob Schwehr, Nufarm product manager. "So despite its decades of use, copper continues to play an increasingly important role in disease control programs. In ChamplON⁺⁺ we are able to provide a superior product that gives better coverage and absorption, and effective disease control at much lower copper rates than competitive products. It's the ideal copper fungicide solution for high-value crop producers."

In addition, ChampION⁺⁺ will comply with the U.S. Department of Agriculture's (USDA) <u>National Organic Program</u> (NOP) and be certified by the <u>Organic Materials Review Institution</u> (OMRI) as safe for use in certified organic production operations. "We expect OMRI certification in 2014, when it will join several of our other copper formulations in providing a high-performance alternative for organic production," he says.

To receive OMRI certification, a product undergoes rigorous review to ensure that the product complies with the USDA's National Organic Standard. Acceptable products are OMRI Listed® and appear on the OMRI Products List.

ChampION⁺⁺ will be available for the 2014 growing season.

About Nufarm Americas

Nufarm Americas, Inc. is a subsidiary of Nufarm Limited, a manufacturer, supplier and marketer of crop protection products based in Australia. Nufarm is recognized as one of the leading agricultural and turf chemical manufacturers in the world. Nufarm Americas, Inc. formulates products that serve the agricultural, professional turf, vegetation management and forestry markets in the United States.

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ChampION⁺⁺ is a trademark of Nufarm. Always read and follow label directions.

OMRI Listed is a registered trademark of the Organic Materials Review Institute (OMRI).

