THE EFFECT OF CYAZYPYR™ IN REDUCING HEMIPTERAN PEST-TRANSMITTED DISEASES IN CROP PLANTS.

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Hemipteran pest-transmitted plant diseases are currently causing severe yield and quality declines in multiple crops resulting in significant economic losses to growers. Insecticides are an important component in the management of insect-vectored diseases in agricultural systems. However, while most insecticides provide good to excellent control of the insects that vector plant diseases when applied correctly, they do not reduce disease transmission to satisfactory economic levels. Cyazypyr™ (a.k.a. DPX-HGW86 and cyantraniliprole), is a novel cross-spectrum second generation anthranilic diamide insecticide that was discovered by the DuPont Company, and is currently being commercialized for use in agricultural crop management systems and other pest management systems. Cyazypyr™ is the third molecule in the anthranilic diamide class of chemistry to be to be commercialized, but the first with significant efficacy and control of Hemipteran pests. It exhibits a novel mode of action, by selectively activating the ryanodine receptor in insect muscles, resulting in rapid cessation of feeding in affected pest insects. This causes reductions in the capability of the affected pest insects to vector plant diseases. The effect of Cyazypyr™ on viral and bacterial diseases transmitted by several Hemipteran (whiteflies, psyllids, and aphids) and non-Hemipteran insects will be discussed.