# $\label{eq:prevation} PREVATHON @ \mbox{ AND } BENEVIA^{\mbox{\tiny TM}} \mbox{ FOR CONTROL } OF \mbox{ KEY } PESTS IN \mbox{ SOUTHERN } COTTON \\$

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### <u>Abstract</u>

## Cyazypyr<sup>TM</sup> Technical Info and Formulations

The Chemical name for Cyazypyr<sup>TM</sup> is Cyantraniliprole and is a Group 28 Insecticide (Ryanodine receptor modulators). Cyazypyr<sup>TM</sup> is not registered in the U.S. and currently under review by the EPA. The brands that are expected to be registered are:

Verimark<sup>™</sup>: 1.67 lb ai/gal suspension concentrate Soil applied for vegetables and Nursery Stock Exirel<sup>™</sup>: 0.83 lb ai/gal suspoemulsion Primarily vegetables, tree fruits and nuts
Benevia<sup>™</sup>: 0.83 lb ai/gal oil dispersible Primarily row crops – Potato, Bulb veg., sunflower, and cotton

The biological data in cotton includes 109 trials from 2003 - 2011 conducted in 13 States (Alabama, Arizona, Arkansas, California, Delaware, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, Virginia). The majority of trials were 3 -4 replicates, applied at 30 - 50 PSI and 6-15 GPA via backpack or tractor mounted sprayers.

Benevia<sup>TM</sup> applied at 13.5 to 20.5 fl oz/a resulted in 73-84% control of whitefly nymphs and 56-72% control of whitefly adults and 62-64% reduction in square and boll damage by bollworms and budworms. Beet armyworm control ranged from 67-75%, armyworm control at 94-97% and cabbage looper control at 51-64%.

Benevia<sup>TM</sup> is a different mode of action that has cross spectrum activity on mixed populations of sucking pests and worms. Benevia<sup>TM</sup> has a favorable toxicological and eco-toxicological profile, is long-lasting, broad spectrum and has excellent crop safety. Benevia<sup>TM</sup> is soft on beneficial arthropods and is an excellent fit into IPM and IRM Programs.

### **Rynaxypyr® Technical Info and Formulations**

The Chemical name for Rynaxypyr<sup>®</sup> is Chlorantraniliprole and is a Group 28 Insecticide (Ryanodine receptor modulators). Rynaxypyr<sup>®</sup> is labeled on more than 400 crops and is currently sold as:

Coragen <sup>®</sup> : 1.67 lb ai/gal suspension concentrate	Primarily vegetables and row crops
Altacor®: 35 % water-dispersible granules	Primarily fruit
Prevathon®: 0.43 lb ai/gal suspension concentrate	Primarily row crops – corn, sugarcane, cotton
	Soybeans, sorghum, wheat expected in 2013
Dermacor® X-100 : 5.21 lb ai/gal suspension concentrate	Rice Seed treatment formulation

Rynaxypyr<sup>®</sup> has excellent toxicology with the applicator PPE requirements of long-sleeved shirt, long pants, shoes plus socks. Rynaxypyr<sup>®</sup> is labeled in cotton for control of Armyworms (beet, southern, fall, western yellowstriped), Tobacco budworm, Cotton Bollworm, Saltmarsh caterpillar, and Cabbage looper. Soybean looper is labeled as suppression. Rynaxypyr<sup>®</sup> has low to no impact on pollinators, parasitoids and predators. The primary route of exposure is ingestion, with rapid feeding cessation, general lethargy, regurgitation, muscle paralysis and death within 72 hrs.

The biological data in cotton includes 152 trials from 2002 - 2011 conducted in 13 States (Alabama, Arizona, Arkansas, California, Delaware, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, Virginia). The majority of trials were 3 -4 replicates, applied at 30 - 50 PSI and 6-15 GPA via backpack or tractor mounted sprayers.

Prevathon<sup>®</sup> applied at 14, 20 and 28 fl oz/a resulted in 77-82% reduction in square and boll damage by bollworms and budworms. When compared to BT cotton varieties which reduced square and boll damage by 94%, Prevathon<sup>®</sup> applied to conventional cotton in these same studies reduced damage by 76-83%. When Prevathon<sup>®</sup> was applied to BT cotton as an overspray, lint yield was increased by 225 lbs in 5 studies.

Rynaxypyr<sup>®</sup> is a different mode of action, has favorable toxicological and eco-toxicological profile, is long-lasting, broad spectrum and has excellent crop safety. Rynaxypyr<sup>®</sup> is soft on beneficial arthropods and is an excellent fit into IPM and IRM Programs.

## **Disclaimer**

Results of performance discussed in this presentation are a reflection of the data obtained under conditions of these field trials only. Results from different or future field trials under different conditions may not be the same.

DuPont<sup>TM</sup> Cyazypyr<sup>TM</sup> is not registered for use or sale in the United States. No sale, offer for sale or use of this product may be made prior to issuance of all Federal and State registrations. Anticipated EPA Federal registration is 2013.