

# TopFilm™, Rainfastness with Crop Safety

*“Sticker that Breathes”*

A common problem in pest management for the foliage and horticulture business is wash-off of applied products. This is especially true in hot climates where over-head sprinklers have to irrigate plants 2 to 3 times a day to maintain healthy foliage. Traditional adjuvants made from surfactants, terpenes, organosilicones, ammonium sulfate, and crop oil combinations have the tendency to cause injury to plants.



A new natural-based adjuvant for rainfastness, TopFilm™ (Biosorb, Inc., St. Charles, Missouri), introduces new technology for pest management. TopFilm™ adds coating properties to the applied pesticide application without injury to plants. The new technology is produced from patented cereal grain materials called Biocar® (US Patent #5,888,500), which act as microsponges attaching to surfaces of foliage. The coating of TopFilm maximizes the effect of the applied pesticide on the leaf, thus insuring rainfastness while allowing normal transpiration.

Recent studies at First Foliage, LLC, in Homestead, Florida, have shown the rainfastness properties of TopFilm™. The adjuvant was applied at rates of 4 ounces to 8 ounces per 100 gallons per acre in conjunction with conventional insecticides and fungicides. The main concern of the spray consultant, Bill Hunt (shown in the picture), was crop safety in hot climates. The spray consultant and production managers monitored the shade houses (where temperatures reach the mid 90's ° F daily) and reported 10 days after treatment (10 DAT) with TopFilm™ that there were no signs of phytotoxicity or other crop damage on heat sensitive plants selected: Diffenbaccia, Ferns and Crotons.

Additionally, the Diffenbaccia not treated with TopFilm™ on the surrounding benches to the test area showed blight damage whereas the treated plants were clean, indicating that the rainfastness of TopFilm™ contributed to maximizing the effectiveness of the sprayed materials on the leaf surfaces despite the intensive irrigation schedules.



**Blight Damage (10 DAT)  
With Standard Treatment of  
Fungicide/Insecticide**



**No Blight Damage (10 DAT)  
With TopFilm™ Adjuvant  
Added to Fungicide/Insecticide  
Treatment**