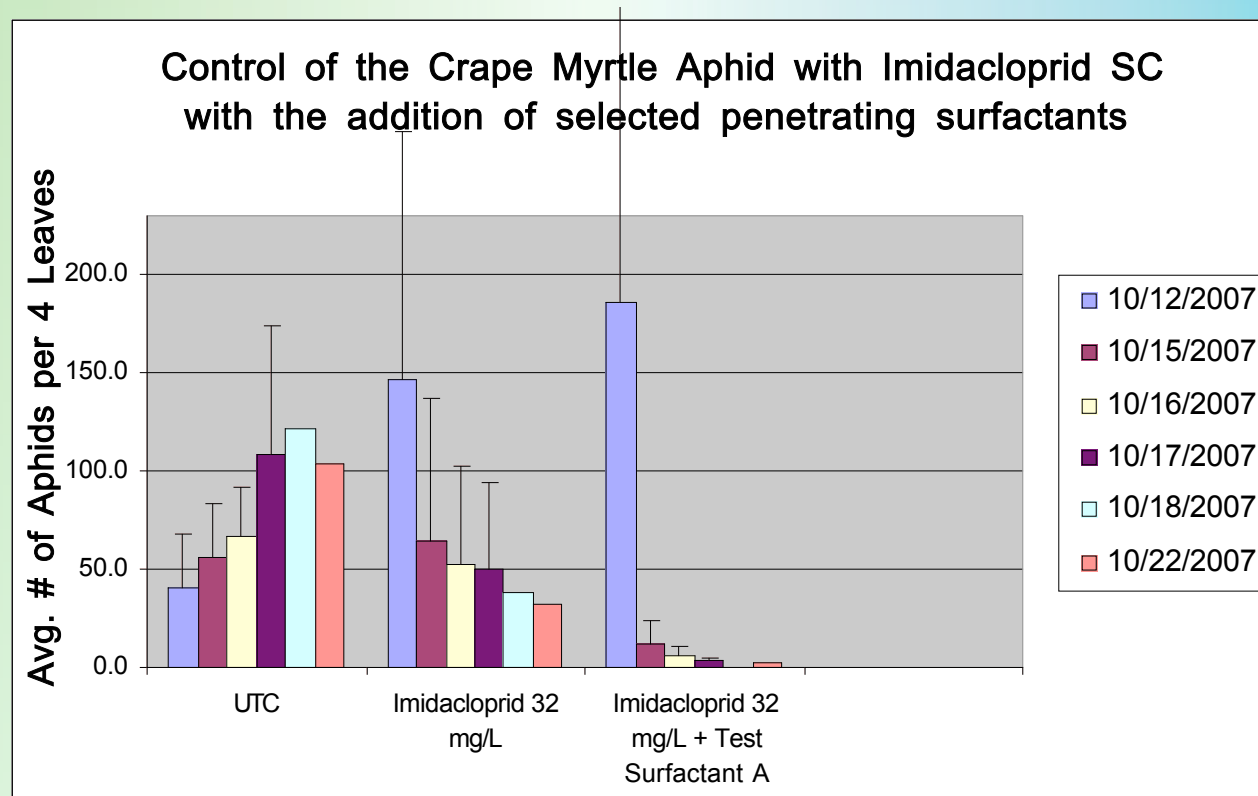


Figure 1 - High speed photography captures spray droplets being repelled after striking the waxy cuticle of plant. Without measurement of dynamic surface tension and the addition of selected surfactants, up to 90% of droplets may be lost to “runoff” and therefore unavailable for pest or weed control.



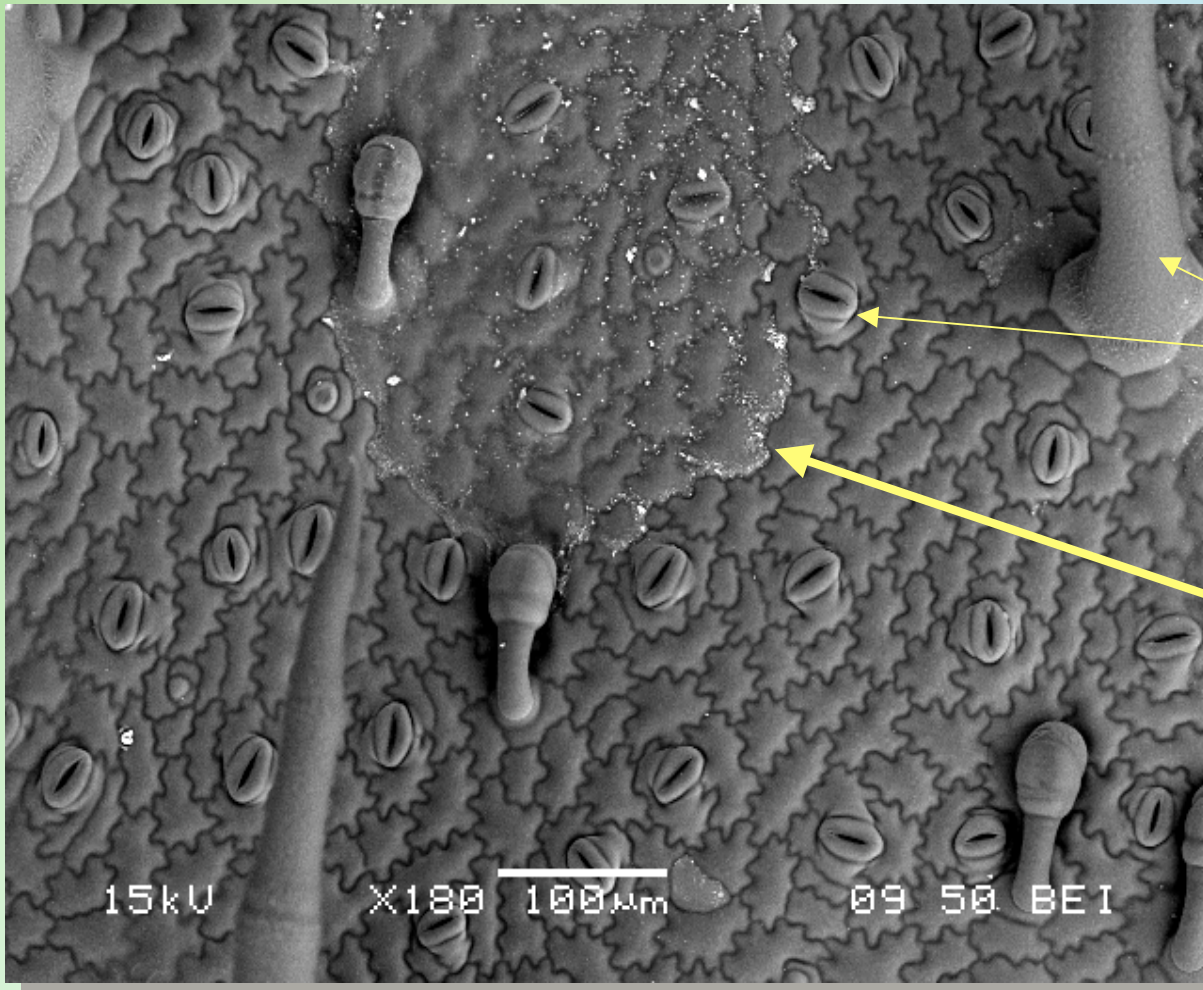
Property of Bayer CropScience

Figure 2 - The effects of surfactant optimization on increased activity of the product!



The selection of the correct surfactant can vastly improve the speed of activity of the product

Figure 3 - Scanning electron microscopy used to observe droplet deposition on leaf surface

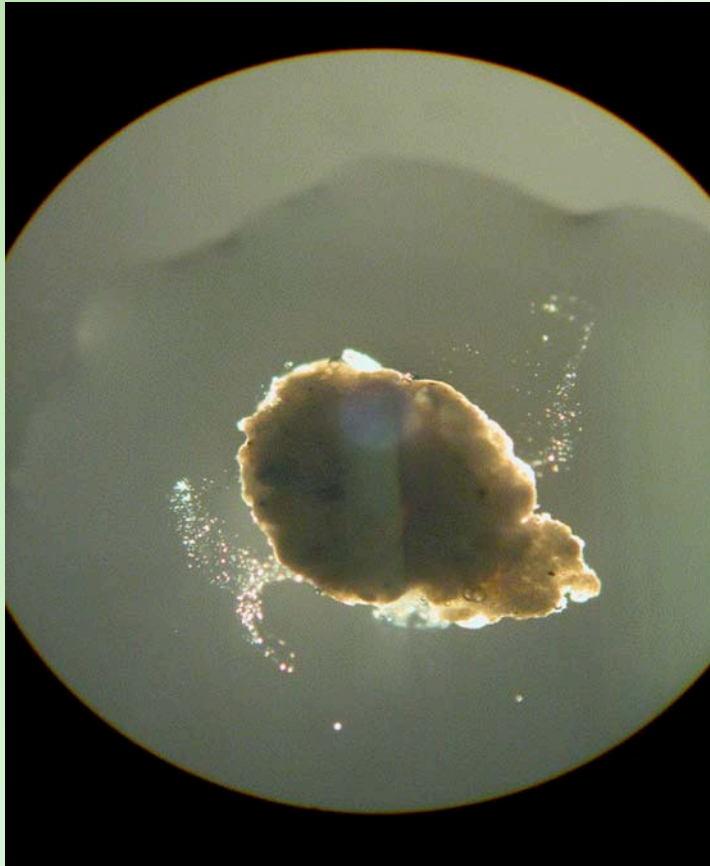


Leaf stomates and hairs

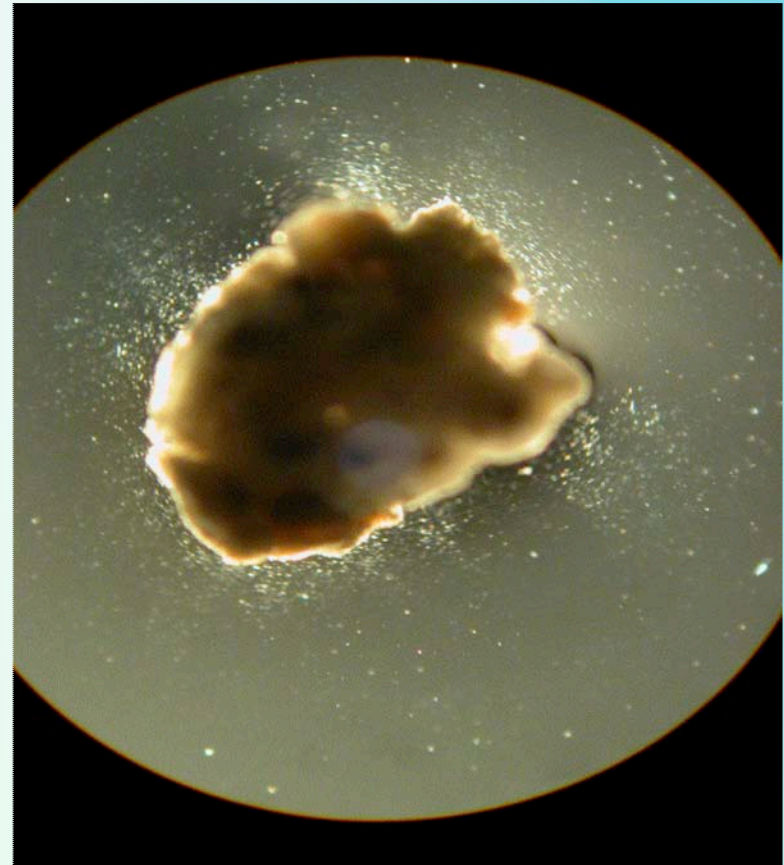
Droplet deposit with active ingredient micro-crystals for enhanced pest control

Additives may be included in the sprayable concentrate to promote leaf penetration and rainfastness with the active ingredient

Figure 4 - Bayer Formulation Technology – Selected emulsifiers added to the active ingredient help promote release of herbicide from the granule after 0.25 cm simulated rainfall.



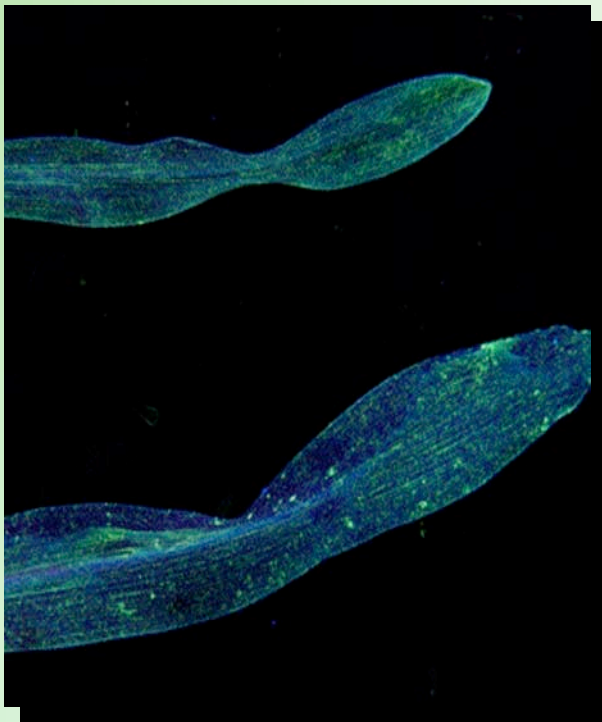
Non-Optimal Release  
Herbicide bound to granule



Emulsifiers Added to Herbicide  
for Quick and Total Release

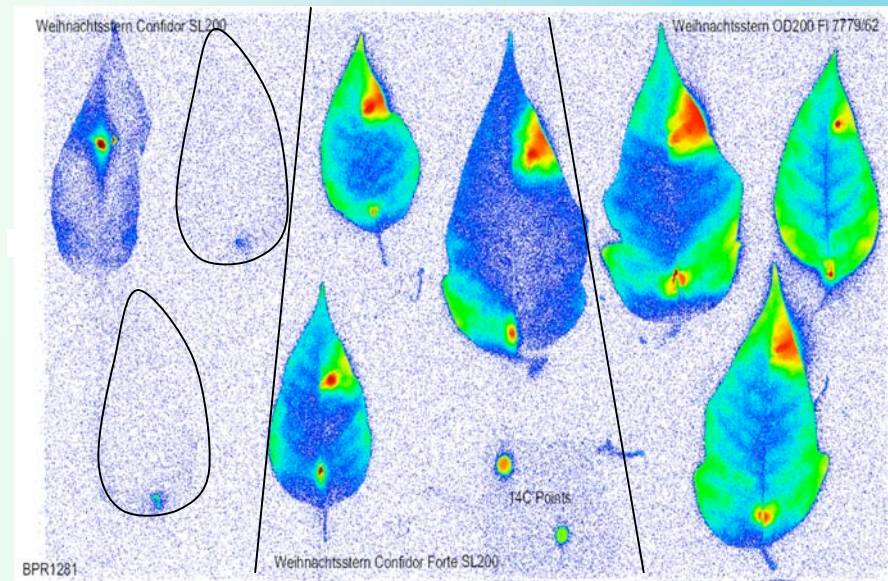
Figure 5 - Fluorescence Microscopy and Autoradiography allow precise detection of the active ingredient as it is applied to and translocates throughout the plant.

### Fluorescence Microscopy



Herbicide spray droplet deposits on leaf blade surface

### Autoradiography to Measure Systemicity



Formulation A Formulation B Formulation C

Systemicity of Imidacloprid in Poinsettia Pulcherrima leaves 3wks after soil application