



## HOOK-- Deposition Agent #1

CL#27

The design of plants-- crop and weed species--affects the dispersion of the spray droplets. Leaves of plants are covered by a cuticle which forms the interface between the leaf interior and the atmosphere or actual outer world. The leaf cuticle is a thin, waxy protective layer, like skin in humans, that envelops the outermost portion of a leaf, enabling plants to avoid uncontrolled evaporative water loss and leaching of nutrients during irrigation or rainfall.

The cuticle is also the initial point of contact for foliar-applied chemicals and fertilizers and it has a significant effect on the absorption of sprayed solutions.

The droplets come out of the spray head fairly uniformly, but before it hits its target, nature's effect take their toll. Temperature, humidity, wind, etc., move and or reduce the size of the droplet.

When the droplets gets too small it becomes a 'fine' which makes it very susceptible to drift. Most drift problems are the result of fines.

The droplet then approaches the leaf. Some will land fully on the leaf while others will be on the edge. The droplets need to stick on the leaf and then spread out. The objective is for many drops to cover the leaf. With full coverage, droplets are on-target meaning proper dispersion of the pesticide giving full value deposition.

So, when droplet hits the leaf it need to 'stick' and then to 'spread' The sticking is necessary especially to minimize loss due to wind or rain..rainfast..It takes some time before the plant leaf can fully absorb delivery of pesticide.

Now the droplet is sitting on the leaf ,trying to get absorbed into the cuticle. The cuticle is there to prevent foreign invaders so something is needed to get the droplet into the leaf. A penetrator. This 'penetrator' forces its way through the waxy area into the epidermis allowing the droplet with the pesticide to follow. (Hook is also a penetrator.....remember Hook is multi-functional)

How do you benefit with Hook? Hook facilitates' pesticides effectiveness in many ways. By lowering the surface tension, maximizing spray efficiency by increasing deposition –which is transferring a lethal dose to the target. Deposition, is all about on-target accuracy. Think of the leaf rather like a dartboard except you're not looking at it when the droplet is thrown or in this case, sprayed. Add to that you are moving and quite possibly so is the target!

So, if control is so much better with Hook then Hook must be able to be accurate on target..hitting the dart board. The surfactant acts here by reducing the surface tension of the water on the surface of the spray drop and by reducing the inter-facial tension between the spray drop and surface of the leaf. This property of reduced surface tension allows the water to "get to" places it wouldn't normally penetrate.

The effectiveness then, of your spray mixture with the addition of Hook is nothing short of revolutionary!

Vol3 # 6

Jim Mayo 870-995-3701 [Atlantic-PacificAg.com](http://Atlantic-PacificAg.com) Kenneth Crisp 870-995-2582

Please mail any comments to [dhenryaptc@comcast.net](mailto:dhenryaptc@comcast.net) Don Henry 941-474-8382