




# CROP LINE

A Growing Newsletter  Creative Research Original Products

## A Look at **HOOK'S** Surfactant 'Side'

CL# 25

**Hook** is a zwitterionic surfactant meaning it can be cationic, anionic, or non-ionic. Most surfactants that are used with pesticides are nonionic because they do not interact with pesticides after they are ionized.

**Hook's** non-ionic side is capable of making your chemical--- surfactant like.

Technically this is known as a fatty acid/amine complex. What this does to the effectiveness of your spray mixture is revolutionary! This means better and more efficient spreading and penetrating power of your pesticide.

A nonionic surfactant is a material designed to reduce the surface tension of water. In a simplistic sense, it will make the water wetter. This property of reduced surface tension allows the water to get to places it wouldn't normally penetrate. This is very important for a plant leaf surface which is hard to wet due to a waxy cuticle.

If the pesticide material fails to maintain an intimate contact with the leaf surface, the effectiveness is greatly reduced to almost nothing.

**Hook** forms a unique complex with the active ingredients in most sprays, so the active ingredient itself will work like a surfactant. This will reduce the surface tension of the water---making the water wetter.

This is a unique procedure to increase the effectiveness of the compound used. It is because of this effect that only a small active ingredient is necessary to reduce the surface tension. **Hook** will help increase compatibility of unusual mixture due to its ability to help solubilize (dissolve) oil like materials.

In addition the particle size in **Hook** is uniform because of **Hook's** unique chemistry and processing. **Hook** through particle size uniformity will help control pesticide drift.

**Hook** is a positive charge material which attracts to negative charged plants. It is important to note that **Hook** when mixed with a pesticide becomes a totally new sticking agent.

The Rate for **Hook** is: ' One Quart per 100 gallons of spray mix.'

Now you know the reason for saying: "Please remember to Add **HOOK** Last"!

Vol 3 #4