



# Tip of the Month

September 2018

## RAINFASTNESS OF HERBICIDES

Rainfastness is a term that is often used with certain herbicides. Rainfastness can have two meanings, namely sticking of the spray droplet deposit with sticker type adjuvants, or it could also mean the rate and amount of absorption.

In the previous issue, we touched on the rate and amount of absorption. In this issue, the absorption process with regard to rainfastness, will be discussed in more detail.

### The absorption process

When herbicides are applied, it is a common mistake to assume that the absorption process is complete once the water has evaporated from the spray droplet. The truth is that in most instances, absorption only starts then! The absorption process for certain herbicides is very rapid and for others very slow, but all systemic herbicides need to go through similar processes.

These processes include the following: (1) Retaining as many droplets as possible on the leaf surface, (2) have the correct amount of droplet spread for adequate absorption, (3) have a spray droplet deposit that has the correct moisture content and (4) have deposit chemical and physical properties that are conducive to an optimal absorption process. Therefore, it is a highly complex process that involves numerous factors.

Under ideal environmental conditions, not all these processes have to be optimal to achieve adequate weed control. However, under sub-optimal conditions, the malfunctioning of one of these processes could mean the difference between acceptable and unacceptable weed

control. It could also drastically affect the rainfastness of the herbicide.

### Rainfastness and adjuvants

Because the absorption process is so complex, one needs an effective adjuvant to facilitate all four processes to attain the best possible weed control. This will ensure that enough herbicide is absorbed to get the job done under most conditions. This optimization of absorption amount and rate can also be referred to as rainfastness. Rain after a certain amount of time will have no effect on efficacy because enough herbicide has been absorbed to attain adequate weed control.

This is why it is so vitally important to use the correct adjuvant to increase the final amount of herbicide that is absorbed into the weed. Adjuvant choice is always important, but it becomes even more important when environmental conditions are poor. This is why adjuvant selection is vitally important in South Africa as conditions are often not ideal.

### Villa's stance

Rainfastness of herbicides indicates that there has been an adequate absorption process for optimal weed control. Tank-mix adjuvants often play a crucial role in herbicide absorption and rainfastness. The Villa adjuvant recommendations are aimed at rapid and increased absorption of herbicides. Please use adjuvants with a proven track record to increase herbicide absorption and weed control.

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