



Tip of the Month

August 2017

Adjuvant side-effects

We often discuss the benefits of using adjuvants, but it is also important to realize that the wrong adjuvant choice could have disastrous consequences. The registered adjuvant is often substituted by a “similar” product without taking in mind that the “similar” product may contain some different ingredients or may lack essential components of the original formulation. This could result in incompatibility issues, reduced pest control or even crop damage! In the ensuing discussion, three types of adjuvants will be discussed with regard to the dangers of substituting products.

Tank-mixture incompatibility

One of the reasons for tank-mixture incompatibility is adjuvant choice. Buffer products may serve as an example. Buffers differ in the type of acidifying system that they contain, the amount of acid in the formulation, as well as other ingredients in the formulation, like surfactants or even oils. Furthermore, buffer products differ with regard to the amount of buffering capacity that they have. This could result in over-acidification, especially in cases where carrier water with a low salt content is used. An extremely acidic spray solution can limit the solubility of certain pesticides. This will increase the chance of precipitation, flocculation, jelly-like spray mixtures, blocked nozzles and sieves. If there are also other solubility-limiting factors like cold water and low water volume, the chance of incompatible spray mixtures will be enhanced even further.

Reduced pest control

Poor pesticide efficacy can often be attributed to the incorrect adjuvant choice. Oil adjuvants may serve as an example. Recommendations are sometimes made to replace the registered oil adjuvant with a substitute product. This could have disastrous consequences as oil adjuvants differ vastly with regard to the type of oil that they contain. Oil adjuvants contain different plant oils, mineral oils or even methylated seed oils. Each of these oil

adjuvants differ tremendously with regard to what pesticides they can be used with and have hugely different pesticide enhancing qualities. If using a mineral or plant oil adjuvant with certain herbicides where a methylated seed oil should be used, poor weed control is guaranteed. The assumption that all oil adjuvants are the same is dangerous and the correct choice of adjuvant will make a difference to pest control.

Crop damage

Adjuvants seldom induce crop damage on their own. However, they can contribute indirectly to crop damage, primarily based on their spreading ability. If a surfactant is replaced on citrus with another product with a greater spreading ability, there may be excessive spreading that could ultimately lead to crop damage with massive negative implications. One must bear in mind that the surfactants on the South African market differ with regard to deposition qualities (retention), spreading of spray droplets, surfactant chemistry and absorption properties. It is an extremely risky practice to use unregistered and untested surfactants as this could ultimately lead to crop damage.

Villa's stance

It is our opinion that adjuvant replacement can have a direct influence on incompatibility, inefficacy and crop damage. It is even more dangerous to replace a tested or registered adjuvant with a totally different type of adjuvant. Please choose adjuvants wisely and make sure that you know what you are adding to the spray tank. We will continue to inform our customers about both the benefits and the risks of adjuvants as this will facilitate excellent pest control without the unwanted side-effects.

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