Adjuvant

Tip of the Month

July 2019

THE FIVE MOST COMMONLY MADE MISTAKES WITH ADJUVANT SELECTION AND WATER QUALITY

We have experienced the most amazing success stories with adjuvants, and it is not uncommon to see up to a 30% increase in crop protection product (CPP) efficacy when the correct adjuvant is used. However, unfortunately we often see poor pest control, solely because of the wrong adjuvant choice. In this edition we will discuss the most commonly made mistakes with adjuvant selection and water quality, and also give Villa's response to each claim in red.

1. The silver bullet approach.

The use of the one adjuvant suits all CPP approach has become a practice, firstly because of the resistance to stock too many adjuvants, and secondly because there are outrageous claims about certain products and their ability to perform multiple adjuvant functions.

The silver bullet, one adjuvant does it all, is a fallacy and one needs at least a few adjuvants to meet all the CPP limitations.

2. Buffer use as a standard practice.

The culture of using buffers as a standard practice with all applications was developed in the 1980's because it was believed that all CPP were benefitted by low pH. This approach has been successful with certain insecticides and other CPP, but it has also led to antagonism of certain herbicides (eg. SU's) and numerous compatibility issues.

Buffers should only be used to address the alkaline hydrolysis of certain insecticides or to adjust spray solution pH when specifically recommended.

3. The standard use of "penetrants."

Penetrants are not really an adjuvant group, but the term is used loosely for certain oils or in some instances, surfactants that may aid in the absorption process.

Many water-soluble CPP (certain SL and SG products), can be extremely sensitive to the type of adjuvant formulation. For instance, glyphosate activity may be antagonized when applied with certain oil adjuvants. Penetrants may be very effective adjuvants but the chance that they will always be the most effective is very slim.

4. The perception that more droplet spreading is always beneficial.

Excessive droplet spreading has benefits like coverage that may increase the efficacy of certain applications. However, high spreading surfactants are sometimes used excessively because it is believed that they are always the most effective.

The truth is that excessive spreading is not always beneficial, especially with many systemic CPP. It was proved that glyphosate absorption may even be antagonized by too much droplet spreading.

5. The use of pH as an indicator of water salt content.

There is still some confusion about this, and high pH is often associated with high salt content water. The danger with this perception is that it is assumed that salt adjuvants are not needed in neutral and low pH water.

This couldn't be further from the truth. The highest salt-containing water often has a near to neutral pH. Measure the EC or have a water analysis done to determine the salt concentration. Please keep in mind that low salt-containing water has its own set of challenges like foaming, pH-fluctuations and physical incompatibility.

Villa's stance

A general rule with adjuvants is to follow the CPP label and not to use unregistered adjuvants or products that have claims that sound too good to be true.

Contact Brian de Villiers
for more information on
adjuvants and water quality
082 880 0974 or
bdevilliers@villacrop.co.za

villa