

# Adjuvants: It's all about the numbers



By Brian de Villiers

**A**djuvants have been used in South Africa for decades. However, many producers still do not appreciate the value these agents add to crop protection product (CPP) applications. Adjuvants are therefore often regarded as an optional extra; something that can be left out to reduce costs.

**If the registered adjuvant is not used, or if it is replaced by another product, the efficacy of the CPP could be reduced or crop damage may occur.**

In the past few years, however, it has been repeatedly proven that adjuvants are far more than a luxury

or nice-to-have – they form an integral part of CPP applications.

## Creating balance

When it comes to adjuvants, it is a numbers game – it is all about *decreasing* or *increasing* the numbers. For example:

- Salt adjuvants *decrease* the effect of dissolved antagonistic cations in the spray water in order to *increase* the amount of herbicide that is available for absorption.
- Buffers *decrease* insecticide degradation in high pH water (alkaline hydrolysis) so that the product rate that is available to control the pest is *increased*.
- Deposition agents *decrease* fine, driftable droplets to *increase* coverage and depth of penetration while *decreasing* droplet evaporation and drift.

- Surfactants and oils *decrease* the surface tension of the spray solution to *decrease* droplet bounce and to *increase* retention, coverage and droplet spreading. They also *increase* absorption.
- Stickers *decrease* wash-off of certain contact fungicides and insecticides to *increase* the amount of product available over time.
- Humectants *decrease* the effect of low humidity conditions on CPP by *increasing* the droplet drying time of the spray droplet residual. By doing this, absorption is *increased*.

## Adjuvants are integral

As adjuvants reduce limiting external factors to increase CPP efficacy, they should form an essential part of any crop protection programme. Remember, though, if an adjuvant is recommended with a particular CPP application, it is vital that it is included. If the registered adjuvant is not used, or if it is replaced by another product, the efficacy of the CPP could be reduced or crop damage may occur.

Scan the QR code to view articles and videos on adjuvants.



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