

ENHANCE THE UPTAKE

PRO 700 SURFACTANT

Multipurpose adjuvant composed of natural surfactants

- Prevents alkaline hydrolysis
- Improves penetration and uptake of chemicals
- Reduces the risk of off-target movement of chemicals
- Improves droplet size and deposition
- Quality product backed by Imtrade Australia's laboratory
- Formulated in Australia



PRO 700

SURFACTANT



IMPROVED PENETRATION OF THE LEAF SURFACE

The natural surfactants and penetrants in Pro 700 have been derived from soya bean oils. When the product is used at rates of 0.25-0.5% of spray volume (2.5-5L per 1000L) it will affect the waxes on the leaf surface, allowing greater uptake of herbicides, fertilisers, fungicides and growth regulators. Whilst rain fast periods should still be observed, use of Pro 700 will enhance the speed of uptake and reduce the risks associated with spraying in adverse conditions.

DROPLET SIZE & DRIFT MANAGEMENT

Imtrade Pro 700 Surfactant mixed at 0.3- 0.5% of spray volume will reduce the number of fine droplets (<150 micron) produced by flat fan nozzles without increasing the number of large spray droplets (>400 micron). This will reduce but not eliminate, the fine droplets associated with off-target movement of the pesticide being used. In a spray solution, finer droplets have lower velocity and can be affected by wind, drifting off target and potentially not reaching the desired target. Using Pro 700 will reduce the number of these small droplets and improve deposition to the spray target. The issue of off target drift is a major concern for the Australian Agricultural industry and a combination of appropriate spray equipment set up, spray pressure, nozzle selection and water volume is critical to the long term sustainability of products for successful results as well as regulatory support.

Experiments have shown that oil-based adjuvants can reduce spray drift; however international studies have also shown that when compared with water only, Soyal phospholipids can have a greater effect on the reduction of droplets smaller than 100 μ compared to mineral oils. They can also increase volume median diameter (vmd) of the spray solution more than mineral oils. Both these factors are critical to reducing off target drift and indicate Soyal phospholipids products such as Pro 700 have a role to play in drift management.

DROPLET UPTAKE

The ability of adjuvants to alter droplet sizes has implications for spray drift management, however once a droplet hits the leaf, the properties of droplets are also critical. While an oil based adjuvant can reduce droplet drift and improve deposition, for water-soluble herbicides such as glyphosate and glufosinate, lipophilic adjuvants can be antagonistic to uptake. This means when using traditional spray oils, depending on the surfactant loading, there can be a conflict between droplet distribution and ability to infiltrate the leaf surface and gain maximum uptake into the plant.

The unique properties of Pro 700 mean there are benefits in deposition and drift reduction as well as an improvement in uptake of many products through the leaf surface.

ACIDIFICATION OF THE SPRAY SOLUTION

While growers understand that good clean water is a pre requisite for successful spraying, however many agricultural water sources exhibit higher pH than neutral. Many water sources for spraying are in the order of pH 8.5 – 9, which is well outside the optimum range of both stability and activity for many herbicides and insecticides. Most herbicides and insecticides have the greatest chemical stability in the range of pH 5-6. Insecticides such as Dimethoate are particularly susceptible and in higher pH water can lose 50% of their activity level before the spray unit even reaches the paddock.

At the lower end of labelled use rate of 0.1% of total spray volume (1L per 1000L); Pro 700 acts as an acidifier which will reduce solution pH to a desired level, decreasing the likelihood of alkaline hydrolysis or degradation of susceptible insecticides and herbicides. Additionally, many plants have an alkaline leaf surface and this reduces the efficacy of some weak acid herbicides. By creating a more acid spray solution you not only reduce alkaline hydrolysis but may provide a more favourable environment for the herbicide on the leaf surface of the plant.

