Collide™ 700

TECHNOTE
AN ADJUVANT TO IMPROVE SPRAY EFFICACY AND SPRAY EFFICIENCY

When choosing an adjuvant, consider Collide.™ Adjuvants play an important role in knockdown and other spray programs to improve the efficacy and efficiency of a wide range of herbicides and pesticides. Collide offers buffering, penetration and drift management properties, all in one formulation.

Collide penetrates weeds, acidifies high pH (alkaline) water, and is compatible with Nufarm's range of summer and knockdown herbicides, including weedmaster® DST®, Amicide® Advance 700 and various glyphosate formulations. Importantly, it is an effective tool in droplet size management to reduce spray drift and increasing penetration through the crop canopy.

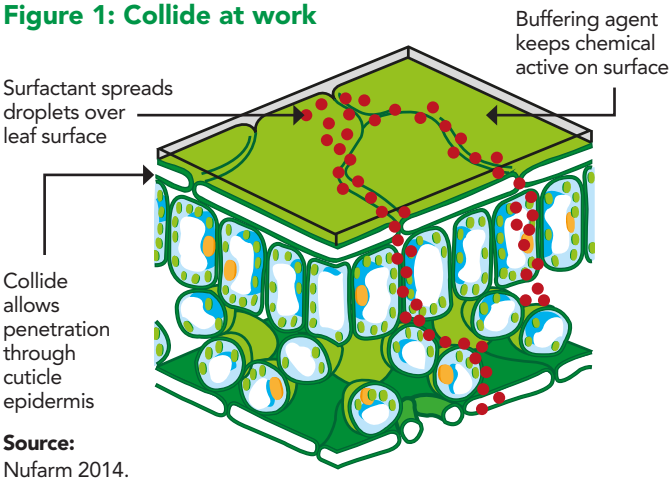
KEY FEATURES

- Offers the convenience of buffering, penetration and drift management, all in one formulation
- Maximises efficacy for fallow and knockdown herbicide tank mixes, including weedmaster DST and Amicide Advance 700
- High quality formulation that increases herbicide penetration in hard to control weeds
- Ideal for use in highly alkaline water
- Effective tool in droplet size management to reduce off-target movement and spray drift
- Ideal to reduce alkaline hydrolosis of insecticides such as dimethoate
- Increased canopy penetration for pre harvest weed control

Collide contains high quality lecithin, which improves the uptake of active ingredients into the weed by opening pathways through the leaf's waxy cuticle layers and across the cell membrane to penetrate the plant. (See Figure 1).

This accelerates the translocation and penetration into the plant to deliver faster control. Collide also aids this process on stressed or hard to control weeds.

Figure 1: Collide at work



Source:
Nufarm 2014.

DECREASES pH FOR UPTAKE

The acidifying properties of Collide help minimise chemical degradation when applying pesticides such as dimethoate that are affected by alkaline hydrolysis or chemical breakdown in alkaline water. Adding Collide in these conditions lowers the pH of the spray solution to the optimum level of 4 to 6 for herbicide and insecticide activity. (See Figure 3).

Acidifying is also beneficial when targeting broadleaf weeds, because they have naturally occurring high pH or alkaline surfaces. Collide creates a more favourable pH environment on the leaf surface, so the active ingredient lasts longer and works better.

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Collide™ 700
The powerful partner

DRIFT MANAGEMENT

A key benefit of Collide is the reduced risk of spray drift. Independent trials have shown that Collide significantly reduces the number of driftable fines during spray applications.

Collide also narrows the droplet spectrum, reducing both the number of very fine droplets and very large droplets, delivering more droplets in the effective size range for good coverage. Figure 2 compares Collide's performance with water and non ionic wetter, which produce a large number of fine droplets prone to spray drift.

APPLICATION GUIDANCE

USE	APPLICATION RATES	COMMENTS
Addition to herbicide to improve spreading and penetration	250 - 500mL/100L	Use higher rates on stressed or difficult to control weeds
Reduction of pH to reduce alkaline hydrolysis	100mL/100L	Add to water in spray tank before adding product affected by alkaline hydrolysis
Droplet size management to reduce fine droplets and drift potential	300 - 500mL/100L	Collide helps reduce the number of fine droplets

Always check the product label before application.

Source: Nufarm 2014.

Figure 2: Percentage of driftable fines produced with various adjuvants

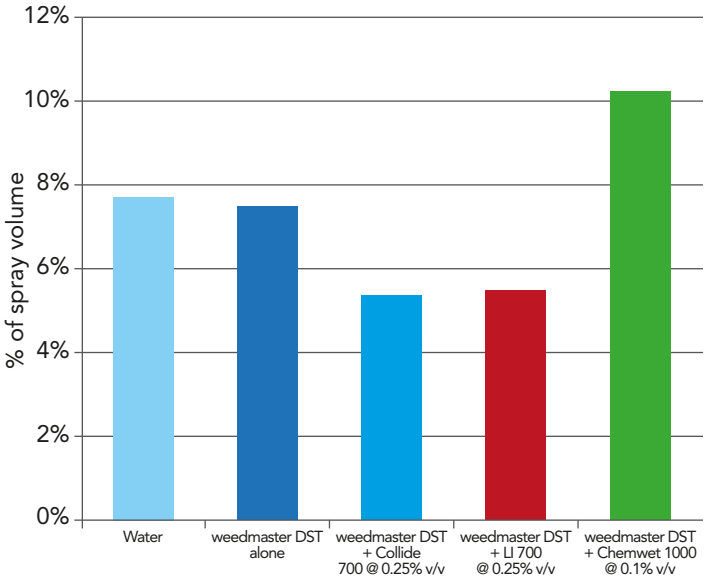


Figure 2: weedmaster DST rate 1.0 L/ha 80L water/ha with an Airmix 11002 at 3.5 bar (COARSE spray quality).

Source: Uni QLD, Gatton 2012.

Figure 3: Buffering capacity of Collide

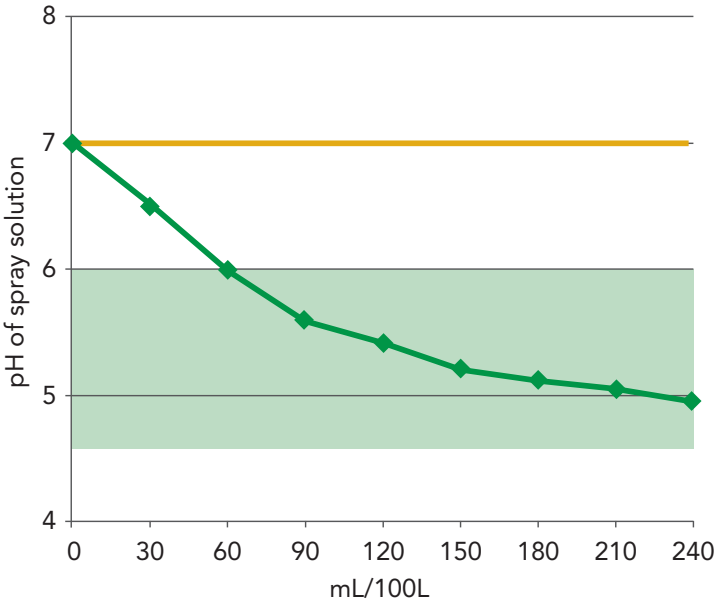


Figure 3: Collide buffers spray water to the optimum pH shown in the green band to maximise the performance of herbicides such as glyphosate.

Source: Nufarm 2014.

For more information on Collide, contact your local Nufarm Area Sales Manager.

nufarm.com.au

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