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.

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.

**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 hydrolysis of insecticides such as dimethoate
- Increased canopy penetration for pre harvest weed control

**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.
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.

APPLICATION GUIDANCE

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

Always check the product label before application.

Source: Nufarm 2014.

Figure 2: Percentage of driftable fines produced with various adjuvants

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

www.nufarm.com.au

The information and recommendations set out in this brochure are no substitute for professional or expert advice and are based on tests and data believed to be reliable at the time of publication. Results may vary, as the use and application of the products is beyond our control and may be subject to climatic, geographical or biological variables, and/or developed resistance. To the maximum extent permitted by law, Nufarm Australia Limited disclaims all warranties of any kind, whether express or implied, including but not limited to any warranty that the information is up-to-date, complete, true, legally compliant, accurate, non-misleading or suitable.

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