



# GLOBAL ADJUVANTS COMPANY

## An Introduction

# What are adjuvants?


**An adjuvant is anything that aids the activity of a pesticide, especially a substance added to a tank mix to aid the effect of the main ingredient.**

Examples of types of adjuvants include:

- Surfactants
- Oils
- Compatibility agents
- Buffering and conditioning agents
- Defoaming agents
- Deposition agents
- Drift control agents
- Thickeners.



# Who are Global Adjuvants Company (GAC)?

- 
- 💧 Incorporated in UK on 8<sup>th</sup> September 2014.
  - 💧 Designed to create a major global brand in adjuvants.
  - 💧 Supporting sales with trials and marketing promotions.
  - 💧 Investing in data to secure registration positions.
  - 💧 Preparing now for EU 1107 regulations on adjuvants (your long-term supplier).

# GAC Environmental Impact Products


## Impacting Positively on Effective Pesticide Use



Our aim is to allow pesticides to be used to their full effect, thus reducing pesticide use while helping the farmer to achieve maximum yield potential.



# Benefits of GAC to the distributor

- 
- 🌍 A new brand - fresh look.
  - 🌍 Good cost position - we aim to give you a good margin.
  - 🌍 Long-term business cooperation.
  - 🌍 Exclusive brands.
  - 🌍 Innovative new products eg. **SU Wett, Rapido**

# Product Range

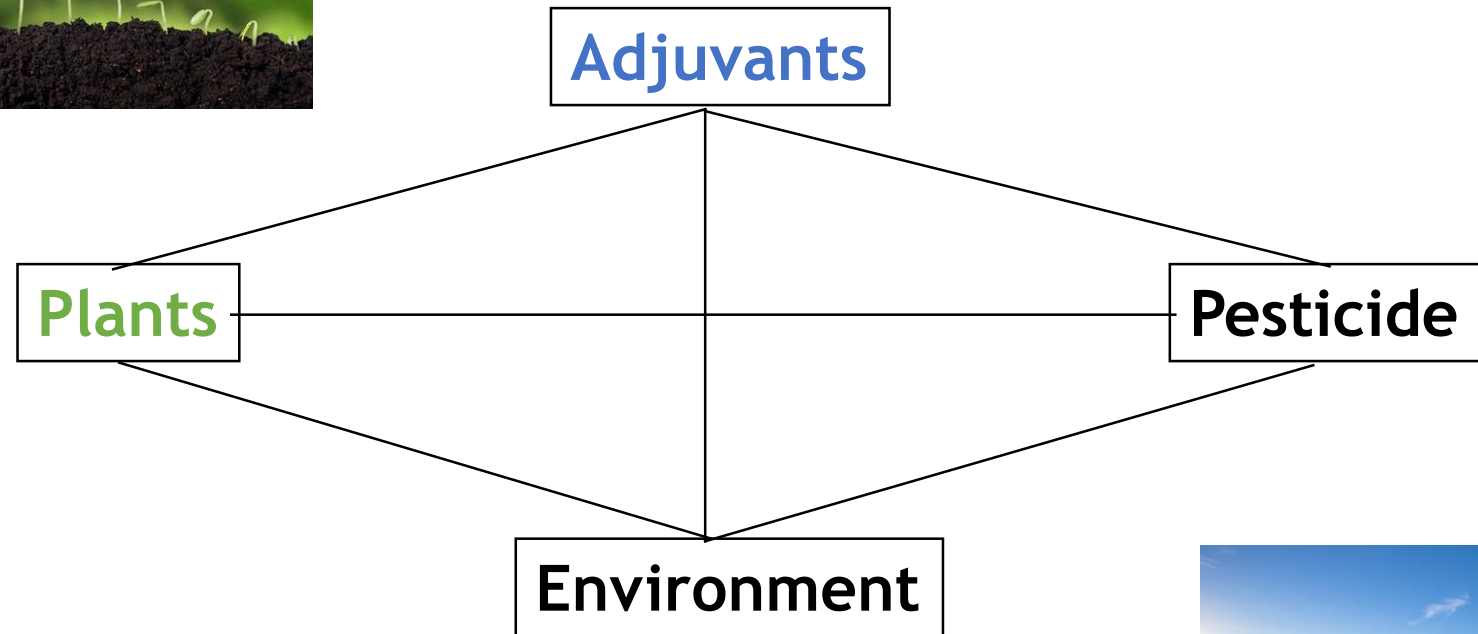
Code	Brand	Active ingredients	Class	Type	Use	Use with				
						Herbicides	Fungicides	Insecticides	Foliar fertilizers	Micronutrients
OS-01	Velvet	Organosilicone 42%	Adjuvant	Super wetter	Wetting / spreading	✓	✓	✓		
OS-02	Master Wett	Organosilicone 100%	Adjuvant	Super wetter	Wetting / spreading		✓	✓		
OS-03	Master Gold	Organosilicone 84%	Adjuvant	Super wetter	Wetting / spreading	✓	✓	✓		
F-10	Rapido	Organosilicone 10% + Veg Oil 56%	Adjuvant	Super Wetter-Penetrant	Wetter / Penetrant	✓	✓	✓	✓	✓
AP-01	Spreadex	Alkyl Polyglycol 20%	Adjuvant	Low cost economic wetter	Wetting agent	✓	✓	✓	✓	✓
LP-20	Covermax	Alcohol ethoxylate 20% + Latex 22%	Adjuvant	Wetter / sticker	For contact fungicides		✓		✓	✓
SU-01	SU Wett	EO-PO copolymers 57% + Uptake agent 10%	Adjuvant	Activator / uptake agent	All pesticides at low rate. Herbicide uptake at high rate.	✓	✓	✓	✓	✓
DC-01	Driftcare	Propanols + specially selected polymers	Adjuvant	Anti-drift	Drift control and coverage improvement	✓	✓	✓		
AMS-01	Gly-Aktiv	Ammonium sulphate + surfactants	Water conditioner	For hard water	Activates all Glyphosate formulations	✓				
GO-01	GO-pH	Phosphoric acid + Non-ionic wetter + anti-foam + 4% N	Water conditioner	For hard water	All pesticides that suffer from high pH	✓	✓	✓		
WCC-01	Komplex	Acids, surfactants, sequestrants	Water conditioner	Complex water conditioner	For buffering and complexing hard water with high metal ion content	✓	✓	✓		
LP-45	Laminex	Latex polymer 45%	Crop aid	Sticker / pod sealant	Use pre-harvest in rape and legumes	✓				
TC-01	Extra Clean	Surfactants, sequestrants	Tank Cleaner	-	To clean all sprayers tanks and equipment.	✓	✓	✓	✓	✓

# Typical Uses - expanded information



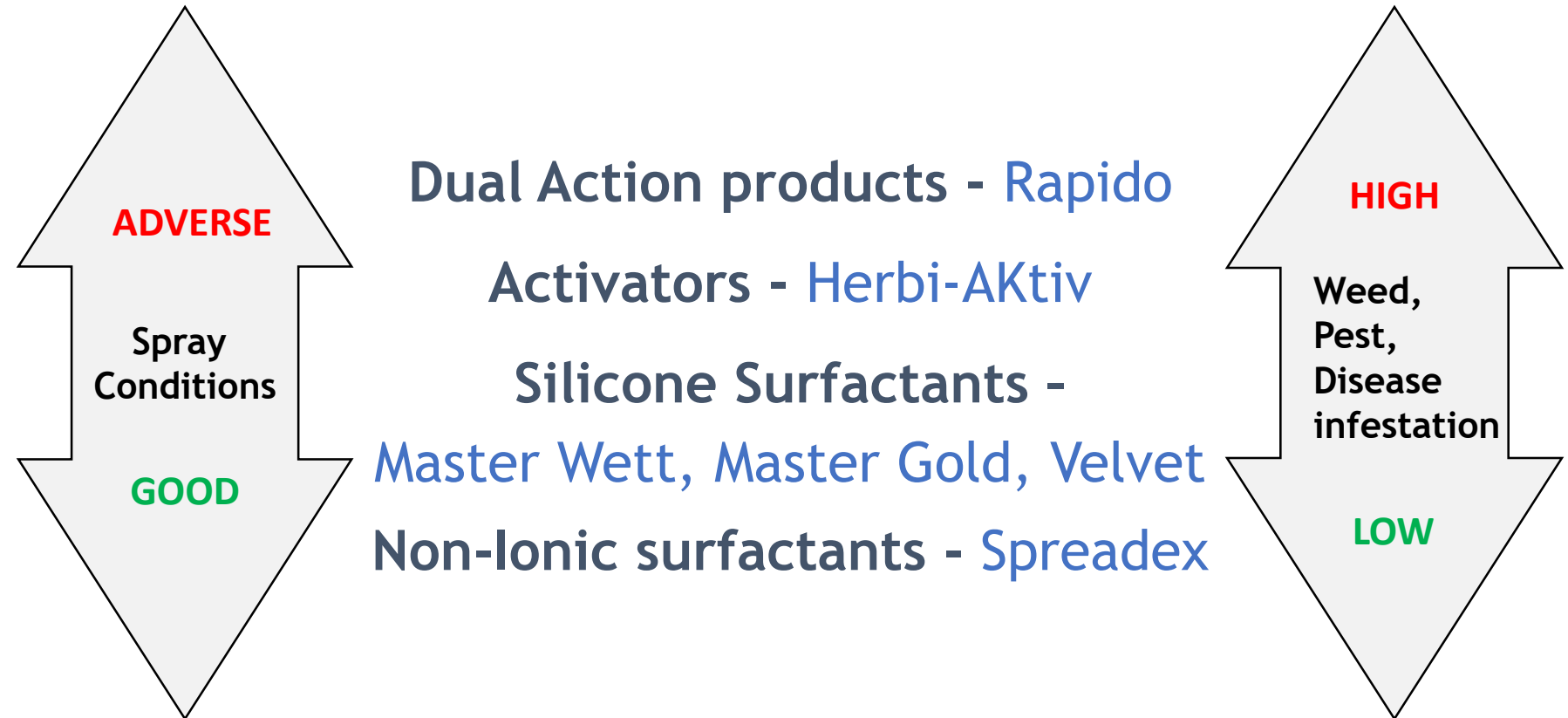
PRODUCT	USE
Master Wett, Master Gold, Velvet	Super spreaders / wetters for use with all pesticides especially fungicides & insecticides e.g. Tebuconazole, all triazoles, strobilurins, prochloraz, and so on.
Rapido	Use as a general wetter for all pesticides. Dual action mode improves wetting & spreading of contact products and uptake of systemic products.
SU-Wett / Herbi Aktiv	Activator specially formulated for SU and phenoxy herbicides. Can be used with most herbicides to improve uptake. e.g. Nicosulfuron, Thifensulfuron, Metsulfuron, Tribenuron, Dicamba, 2,4-D, MCPA, Fluroxypyr. Can also be used as a general non-ionic wetter at low rates.
Laminex	For pod sealing on oilseed rape and legumes to reduce crop losses due to pod shatter. Also reduces volunteer weeds in the following crop.
Gly-Aktiv	Use in hard water to improve glyphosate availability. Improves efficacy, uptake and speed of action of all Glyphosate formulations.
GO-pH	Use for pH reduction in the spray tank. Contains COLOUR CHANGE indicator. Also contains anti-foam, non-ionic wetter, and 4% Nitrogen.
GAC Extra Clean	Use as a general tank and equipment cleaner for BEST PRACTICE.

# Interactions that affect pesticide performance





# Selecting the Best Adjuvant



# Velvet - Features & Benefits

Cost-effective  
organosilicone  
formulation

*Velvet is a cost-effective formulation of “superspreading” spray additive based on polyether modified trisiloxane (organosilicone). The superspreading effect is caused by a reduction of surface tension of the spray solution giving better coverage of the leaf, and quicker uptake of the spray into the plant.*

## Improves spray coverage and penetration

This gives higher efficacy of the applied pesticide.

## Increases rainfastness

This is done by increasing the area for uptake in addition to faster drying.

## Increases speed of uptake into the leaf

This gives improved contact effect and knockdown leading to increased efficacy.

## Improves pesticide efficiency

Most effective on waxy leaved crops such as oilseed rape, sugar beet, cabbage etc.

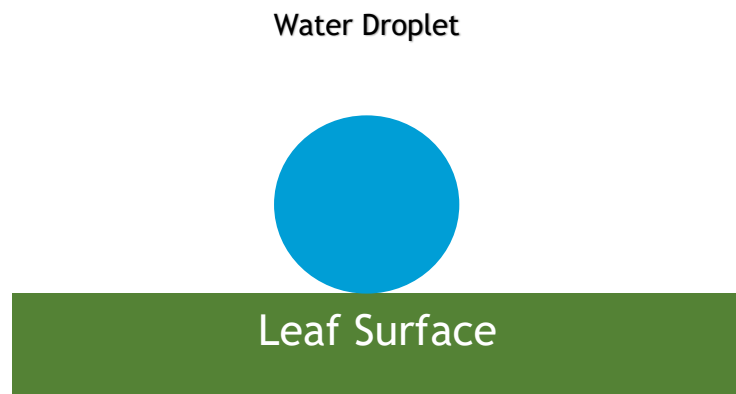
## Environmental & working benefits

Can be used to reduce the amount of water per Ha, giving faster work rates and more ‘spraying days’ per season.

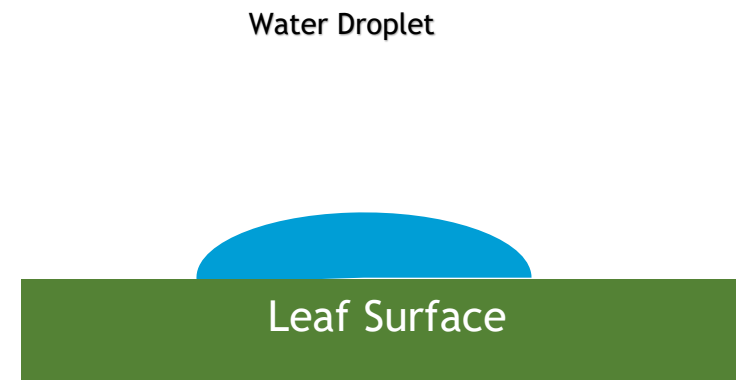
## Improves crop penetration

Helps the pesticide penetrate hard-to-reach areas.

# Master Wett / Master Gold - how they work



Pesticide alone



Pesticide + Master Wett

Master Wett reduces surface tension and helps the chemical spread on the leaf.

**MASTER** Wett

# Master Wett / Master Gold

## TRIPLE ACTION



Optimises  
pesticide  
deposition and leaf  
coverage



Helps the pesticide  
penetrate through  
the stomata onto  
the leaf



Aids retention of  
the pesticide on  
the leaf



# Rapido - Features & Benefits

*Rapido is a new-generation spray additive based on polyether modified trisiloxane (organosilicone) + esterified vegetable oil. It can be used as a tank-mix adjuvant with all pesticides for increased wetting, spreading and uptake.*

## Dual Action

1. Esterified Vegetable Oil to penetrate the leaf wax and increase the uptake of systemic fungicides.
2. Organosilicone to improve the spread and leaf retention of contact fungicides.

## Improves crop spray coverage

Higher efficacy of the applied pesticide.

## Reduced Water Volumes

Increases efficiency of the spray operation.

## Reduces surface tension

Organosilicone reduces surface tension to give better leaf coverage.

## Uniform Droplets

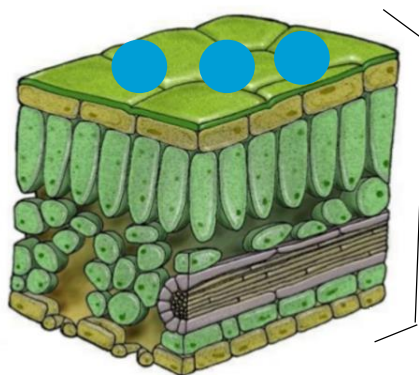
Results in less drift and reduced 'droplet bounce'.

Makes products more **rain-fast** // 1 product for use with most pesticides // More of the valuable pesticide stays on the crop - good for the farmer and the environment.

# Rapido - Mode of action

## Pesticide alone

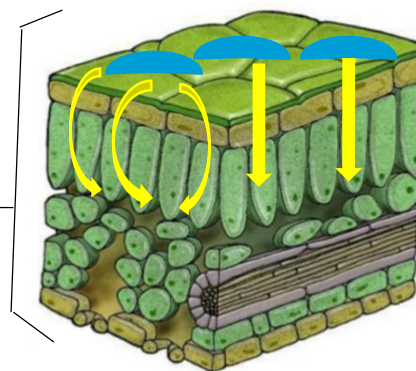
- Uneven spray coverage due to high surface tension.
- Waxy cuticle layer of the leaf - pesticide finds it difficult to pass the waxy cuticle of the leaf.



Without Rapido

## Pesticide + Rapido

- Reduced surface tension, given a more even spray deposit and improved distribution.
- Enhances uptake of the pesticide.
- Aids penetration of the wax cuticle and helps open the stomatal pores = enhanced uptake of the product.



PESTICIDE MOVEMENT  
with Rapido

# Herbi-Aktiv - Features & Benefits

*Herbi-Aktiv is a spray **ACTIVATOR** for use with translocated herbicides. It is particularly recommended for use with Sulphonyl urea and phenoxy herbicides but can be used with all herbicides. The product dramatically increases speed of kill and improves control of difficult weeds.*

Improves translocated herbicide applications as follows:

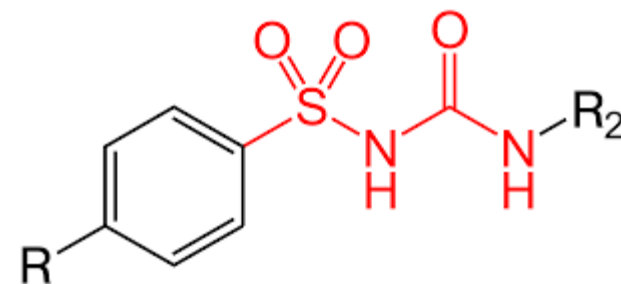
- Improves **leaf coverage**.
- **Aids herbicide movement** across the leaf membrane.
- **Aids herbicide movement** within the plant to its point of activity.
- Increases **speed of uptake** and **speed of action** of the pesticide into the leaf giving improved contact effect and knockdown, leading to increased efficacy\*.
- Improves the **reliability** of herbicides on less susceptible weed species.
- Helps **reduce weed resistance** risk.

*Ask for our UK trials results with maize herbicides*

# Herbi-Aktiv cont.

Use with sulphonyl urea herbicides such as those based on:

- Metsulfuron-methyl
- Thifensulfuron-methyl
- Tribenuron-methyl
- Rimsulfuron
- Nicosulfuron (including OD formulations)
- Florasulam



Use with translocated herbicides such as:

- Fluroxypyr
- Dicamba
- Mecoprop P
- MCPA
- 2,4-D
- Triclopyr



# Gly-Aktiv - Features & Benefits

- Use in hard water and high pH water to activate **ALL** Glyphosate formulations.
- Prevents lock-up of Glyphosate by **stopping the alkaline ions** from inhibiting the pesticide.
- Increases Glyphosate efficacy - **better value for money**.
- Increases Glyphosate **speed of action** - critical in autumn season & adverse conditions.
- Improves the **reliability** of pesticides in high pH water.
- Recommended by Monsanto\*\*.

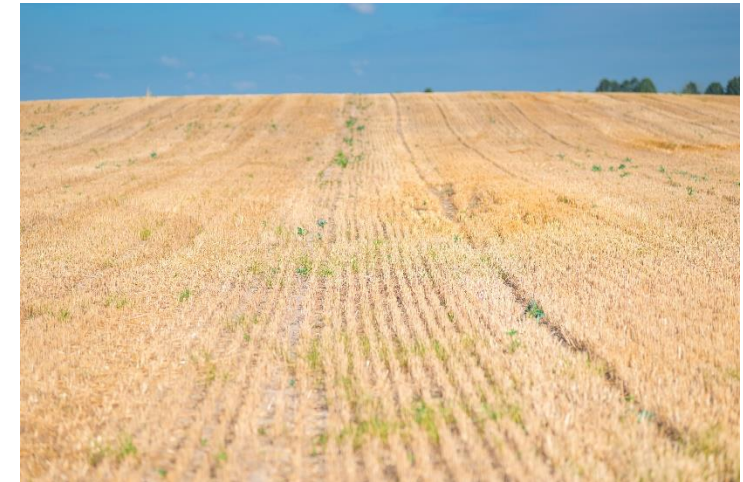
\* \*\*Ken Brown, Murray State University, USA

**“Ammonium sulphate is best for speed and enhanced activity”**

(Monsanto EMEA presentation 2011)



Speed of weed control is critical  
in busy autumn drilling time



# GO-pH with Colour Indicator

*GO-pH is a pH corrector based on Phosphoric Acid with a colour indicator + added Nitrogen*

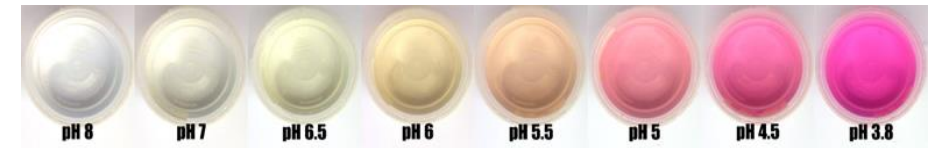
## 4-WAY ACTION:

1. Adjusts the pH of the spray solution.
2. Non-ionic wetting agent - reduces surface tension to optimize the treatment.
3. Contains anti-foam for easy preparation of the mixture.
4. Contains 4% N to help the plant recover from stress during pesticide treatments.

**GO-pH**

## How to use

1. Start adding the product to the alkaline pH water (pH>7).
2. Continue adding the product until the solution reaches approximately pH 6.5.



↑ Optimal pH

3. Stop adding the product when the solution reaches pH 5.5.

You can conduct a test in 1 litre of water in a bottle, carefully measuring the volume of GO-pH added, then scale up by the number of litres per hectare.

# GO-pH cont.

## Products susceptible to hard water (alkaline hydrolysis):

- Salt formulations of 2,4-D and MCPA.
- 'Fops' and 'Dims' e.g. Clethodim, Tepraloxydim, Cycloxydim.
- Phenmedipham, Desmedipham and mixtures.
- Diquat.
- Pyrethroid insecticides.
- Chlorpyrifos and other OP insecticides.
- Mancozeb, Cymoxanil, Iprodione, Tebuconazole, Propiconazole.



# Free pH meters with every pallet



GAC offers free pH Meters with every pallet of product, to ensure accurate measurement of the pH of the spray solution.



pH can have a big impact on pesticide performance!



# Laminex - Features & Benefits

*Reduces pre-harvest losses in oilseed rape, peas, beans and other legumes or crops that suffer from seed losses from the pod. Laminex works by physical means and is a crop-aid not an adjuvant.*

Reduces seed loss

This was caused by the splitting of the pod before and during harvest.

Allows even, natural crop ripening

This helps to maximise yield potential.

Does not...

Slow down crop drying or affect seed maturity and quality.

Helps retain moisture in the pod

Important as seed loss is often high in hot harvest seasons.



Can be used in tank-mix with Diquat or Glyphosate // Use as an 'insurance' product to even ripening and reduce harvest loss //  
Reduces volunteers in the following crop - potential herbicide savings // Widely used in the UK and Poland for several years with  
no Phytotoxicity issues.

# Laminex cont.



Laminex can also be used as a barrier to prevent re-moistening of wheat due to rainfall. This will help prevent sprouting in the ear, development of moulds, and stabilise the Hagberg falling number.

For use on cereals to reduce sprouting due to cereal grain ripening in the field. Apply 1.0 L/Ha in 150 - 250 L/Ha of water. Apply as a medium-fine quality spray, when the grain is at 30% moisture.



# GAC Extra Clean

*“If in doubt, clean it out”*

*Extra Clean is a balanced liquid formulation tank and equipment cleaner containing sequestrants and surfactants. The product has been designed as a general tank cleaner for **BEST PRACTICE** hygiene, and is especially useful for cleaning after spraying highly active sulphonyl urea herbicides.*

## Best Practice

- 1) Start with a clean tank - old residue can react with new pesticides or nutrient sprays leading to crop damage.
- 2) Do not leave a sprayer under pressure - residue can be forced into the spray hoses/lines.
- 3) Keep the outside of the sprayer clean.
- 4) Clean nozzles and filters after every use.



↑  
The inside of a sprayer tank that has not been regularly decontaminated.

**GAC** Extra Clean

# Why choose GAC Extra Clean?

Product Category	Chlorine bleach	Common laundry detergent	Ammonia solution	GAC Extra Clean
Group A herbicides		✓		✓
Sulphonyl urea herbicides	✓			✓
Triazine herbicides				✓
Phenoxy ester herbicides			✓	✓
Phenoxy amine herbicides				✓
Glyphosate				✓
Morpholine fungicides				✓
EC formulations, Oil formulations		✓		✓
Trace element precipitates				✓





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