



# Adsee™ AMP40



All-in-one adjuvant

**Nouryon**

# Adsee AMP40

Adsee AMP40 is an all-in-one biodegradable adjuvant for crop protection formulations. It is an amphoteric surfactant, designed for both in-can and tank-mix applications.

## Key benefits

- Versatile - improves efficacy when used with fungicides and herbicides
- Compatibilizer, hydrotrope
- Adds humectancy to formulations and softens/hydrates wax layer
- Readily biodegradable and not persistent, addresses concerns over bio accumulative formulation aids
- Considered "clean label" - no eye or skin irritation, no classified ingredients
- Low foaming
- Soluble in strong caustic or acid solutions



## Typical properties

Appearance	clear liquid
CMC	13 g/l
Color (20% in water)	max 500 Hazen
Density at 20°C	1.08 g/l
Foaming	0 ml after 5 mins
pH (20% in water)	8.5-9.5
Pour point	8°C
Solid content	40%
Surface tension at 0.1 wt%	64 mN/m
Water uptake	22% after 48 hrs
Viscosity* at 20°C	700 cps

\*Brookfield DV-III Plus Rheometer; SC-18 spindle @ 25 rpm

## Regulatory

- TSCA complaint
- REACH registered
- Listed in NZIoC / IECSC / ISHL / ENCS / KECI Chemical Inventory

## Tank-mix compatibility

2-Way compatibility challenge

WDG sample

- Farnozine 900 WDG (Atrazine)

Gly-IPA 480 samples

- TAE blend, 15%
- Adsee AMP40, 15%

Dilution test set

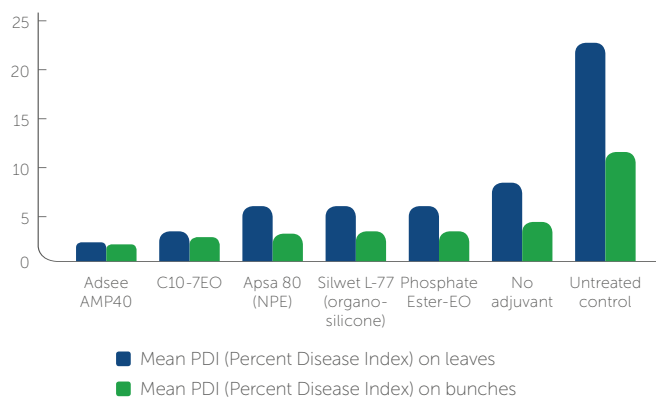
- Each cylinder is filled with Farnozine WDG and inverted 10x
- Addition of each Gly-IPA sample in to each cylinder
- Inverted 10x and left to stand at RT

Adsee AMP40 is suitable compatibilizer for Atrazine and Glyphosate combos.



Left: Gly-IPA 480 SL 15% of Adsee AMP40 + Farnozine 900 WG  
Right: Gly-IPA 480 SL 15% of TAE + Farnozine 900 WG

## Bio-efficacy against powdery mildew on grapes



Target pest: Powdery mildew (*Erysiphe necator*)  
 Fungicide: Azoxystrobin 250 g/L SC  
 Doses: 0.02 % (v/v) Azoxystrobin along with 0.03 % (v/v) adjuvant in 15 L water

In addition to Azoxystrobin 250 g/L SC, trials with Fluopyram + Tebuconazole (200+200) g/L SC, Metrafenone 50 g/L SC, Dimethomorph 50 g/kg WP, Thiophanate-methyl 700 WP have shown that Adsee AMP 40, when used as a tank-mix adjuvant, shows superior control over early and late blight as well as powdery mildew.

When Adsee AMP40 used, nearly 20% increase in harvestable yield can be achieved. No phytotoxicity (no chlorosis, burning, necrosis, epinasty or russetting) is caused by any of the adjuvants tested.

Adsee AMP40 can be readily formulated in-can.

## Glyphosate trials

Adsee AMP40 is a sustainable alternative to current adjuvants for glyphosate.

Ingredient	Overall efficiency			
	3 days	5 days	7 days	10 days
RoundUp	3.7	6.6	7.3	7.7
Face 48	4.2	6.5	7.1	7.6
Adsee 1629 (8%)	4.7	7.5	7.6	8.3
Adsee 1629 (15%)	6.8	9.1	9.2	9.2
Witcamine 4130A (5%)	3.0	7.6	8.0	8.1
Witcamine 4130A (10%)	5.3	8.7	8.8	9.2
Adsee C-70A (10%)	7.1	9.1	9.2	9.3
Adsee AMP40 (10%)	6.5	8.6	8.6	8.8
Control	0	0	0	0

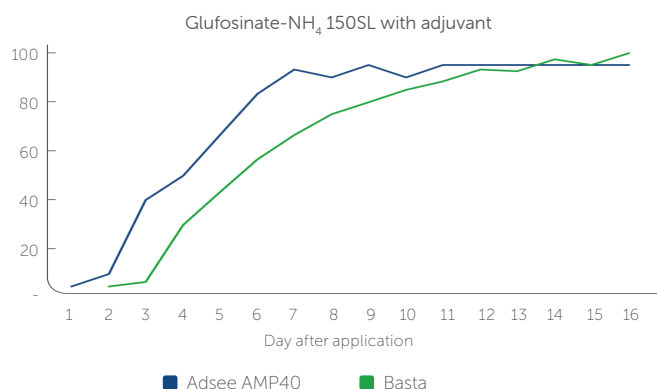
0 = unable to control the weeds, 10 = completely controls the weeds

Adsee 1629: C-16 trimethyl ammonium chloride  
 Witcamine 4130A: TAE  
 Adsee C-70A: coco amidopropylamine

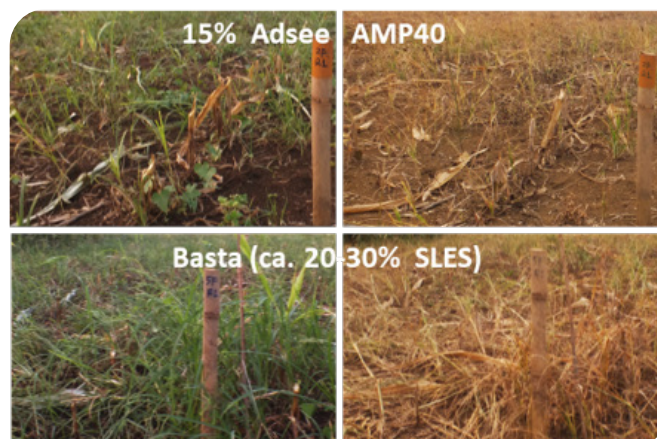
Place: KAWA – International Chemie, Thailand  
 Design: Randomized Block Design  
 Replications: 4  
 Water volume: 500 l/ha

## Glufosinate NH<sub>4</sub> trials

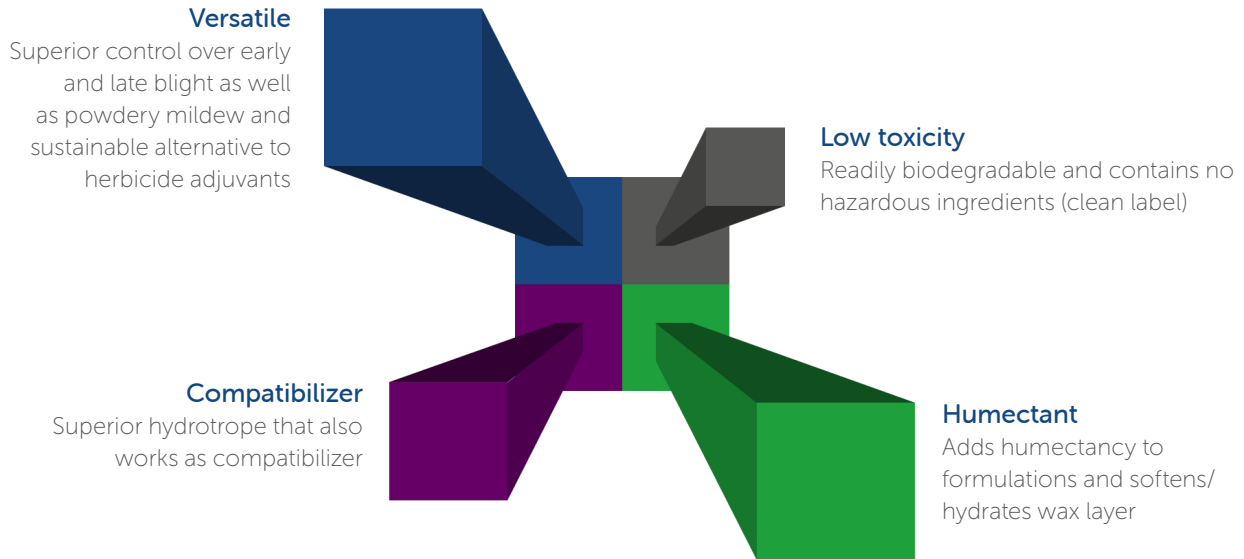
Efficacy comparison of Adsee AMP40 in-can adjuvant vs benchmark.



Field trials show that Glufosinate-NH<sub>4</sub> 150 SL formulated with 15% Adsee AMP40 has fast knockdown effect at lower dosage of adjuvant compared to benchmark.



Trial location: Medan, Indonesia  
 Plot size: 7.56 m x 10 m  
 Assessment period: up to 20 days  
 Replicates: 3  
 Crop land: corn  
 Applications rate: 2 L/ha  
 Water use: 400 L/ha  
 Weed type: Amaranthus spp, Althemanthera spp, Borreria sp, Calopogonium spp, Cleome rutidospermae, Commelina benghalensis, Cynodon dactylon, Digitaria ciliaris, Galinsaga parviflora, Rodbulia



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