

## Product profile

Betanal Turbo is an Advanced Micro Droplet (AMD) formulation with a high desmedipham content co-formulated with phenmedipham in a 1:1 ratio for optimum weed control, particularly where more difficult weeds are present.

Desmedipham is more active against; cleavers, volunteer oilseed rape, amaranth, annual mercury, volunteer potatoes, black nightshade and annual grass weeds when compared to phenmedipham. Under cool conditions desmedipham remains more active than phenmedipham and together in Betanal Turbo they produce a very robust weed control solution.

Formulation	Emulsifiable concentrate
Active substances	160 g/L phenmedipham 160 g/L desmedipham
Maximum individual dose	1 L/ha
Maximum total dose	3 L/ha
Latest time of application	Before crop leaves meet between the rows
Water volume	80 - 100 L/ha
LERAP	B
Pack size	10 litres
MAPP	15505

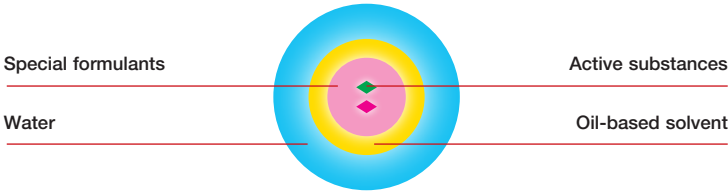
## Key features

- ▶ Robust, reliable weed control, with wide window of application
- ▶ High desmedipham content gives better control of difficult weeds
- ▶ Excellent crop safety
- ▶ Full range of doses and mixtures for all beet growth stages and soil types
- ▶ Low dose rate - more concentrated for less packaging
- ▶ Outstanding return on investment

## Advanced formulation technology

Advanced Micro Droplet (AMD) formulation technology is a unique approach to herbicide formulation developed and patented by Bayer CropScience. Betanal Turbo is formulated with AMD to deliver significant performance advantages over standard phenmedipham SC formulations.

With AMD the active substances and special formulants are coated in oil-based solvent to create highly active micro droplets. This produces an advanced formulation system that is highly stable and brings fast acting weed control.



Easy to apply, Betanal Turbo's AMD formulation drives the high weed control performance and crop safety needed to maximise sugar beet yields and profit.

## Best use

**Sequences:** Betanal Turbo and mixtures with other herbicides may be used following standard pre-emergence treatments of Goltix WG, Pyramin DF, Venzar Flowable or Fiesta T.

Used in a low volume overall spray programme, well-timed applications of Betanal Turbo will control annual broad-leaved weeds up to and including the expanded cotyledon stage.

**Always:** Apply as a FINE quality spray in a water volume of 80 – 100 L/ha

**Avoid:** Spray drift to areas outside those being sprayed. The risk of drift is greater when a FINE quality spray is used.

**Crop health:** Crop safety of herbicides varies according to conditions at and around the time of application. As the beet plants are small and growing rapidly they can be affected by almost any change in conditions and become stressed. This may not always be visible until affected by other factors such as a herbicide spray. Application to crops suffering from stress may lead to a check to growth from which the crop may not recover and in extreme cases may lead to crop loss.

The most important causes of crop stress are:

- ▶ Periods of low temperatures or frost
- ▶ Substantial day to night temperature fluctuations
- ▶ Temperatures above 21°C on the day of spraying
- ▶ Nutrient deficiency, such as manganese
- ▶ Soil acidity
- ▶ Wind or hail damage
- ▶ Use after other herbicides
- ▶ High light intensity (i.e. full sunlight – May to June)
- ▶ Pest or fungal attack



**Betanal<sup>®</sup>**  
**Turbo**



## Summary of recommendations

**2016**  
**UPDATE**

BackingBritishBeet

**Mixtures with adjuvant oil:** For improved weed control in difficult circumstances (e.g. larger weeds, low soil moisture, cool dull conditions) Betanal Turbo can be tank-mixed with approved adjuvants containing mineral oil (i.e. 90% highly refined mineral oil) or esterified rapeseed oil.

DO NOT use adjuvant oil during periods of rapid growth or when crops are under stress. Where weeds are actively growing (particularly in moist soils and warm conditions) the addition of oil is seldom beneficial. The dose of oil in the tank-mixture should be adjusted to the maximum temperature on the day of spraying, according to the following guidelines:

Maximum temperature on day of spraying	Dose of adjuvant oil (L/ha)
up to 14°C	1.00
14 – 18°C	0.75
18 – 21°C	0.50
above 21°C	NOT recommended

See adjacent table for specific recommendations.

**General mixing procedures:** Always fully disperse WG or WP products in the tank before adding Betanal Turbo. Fill to one third with clean water, agitate and fully disperse before adding the required quantity of Betanal Turbo. Complete filling and maintain agitation throughout mixing and spraying.

**Sprayer cleaning:** Wash out the sprayer, spray bars and nozzles before spraying to ensure that there are no traces of previous chemicals. This is most important for hormone and sulfonylurea herbicides. Replace any contaminated hoses. After each day’s work, drain the sprayer, wash thoroughly with water and appropriate cleaner and spray out completely. Ensure all liquid is removed from tank, pump and hoses. Remove nozzles, open tank and drain pump to allow free access of air to the system.

## Betanal Turbo: post-emergence weed control options in sugar beet

Treatment	Minimum crop stage / Recommended dose rate (L/kg/ha)			Trigger weed species for partner product
	Crop emergence	From fully-expanded cotyledon	From 2 true leaves expanded	
Betanal Turbo alone	0.75	1.0	1.0	Broad-spectrum + desmedipham benefits (see over)
Betanal Turbo + adjuvant oil ▼		0.5 + (0.5 – 1.0)	0.75 / 1.0 + (0.5 – 1.0)	See above and refer to mixtures with adjuvant oil section
Betanal Turbo + Debut	0.5 + 0.03	0.75 + 0.03	1.0 + 0.03	Fool's parsley, mayweeds, <i>Brassica</i> spp., small nettle, cleavers
Betanal Turbo + Debut + adjuvant oil ▼		0.75 + 0.01 + (0.5 – 1.0)	1.0 + 0.01 + (0.5 – 1.0)	<i>Brassica</i> spp.
Betanal Turbo + Debut +/- adjuvant oil ▼			1.0 + 0.03 + (0.5 – 1.0)	Fool's parsley, mayweeds, <i>Brassica</i> spp., small nettle, cleavers
Betanal Turbo + Debut + Goltix 70 SC			1.0 + 0.03 + 0.5	Fool's parsley, mayweeds, volunteer oilseed rape, knotgrass and small nettle
Betanal Turbo + Debut + Venzar Flowable	0.5 + 0.01 + 0.2	0.75 + 0.01 + 0.2	1.0 + 0.01 + 0.2	<i>Brassica</i> spp.
Betanal Turbo + Dow Shield 400		0.75 / 1.0 + 0.25	0.75 / 1.0 + 0.25	Mayweeds, thistles, volunteer potatoes
Betanal Turbo + Dow Shield 400 + ethofumesate (approved SC formulations)			0.75 + 0.25 + 0.6	Mayweeds, thistles, volunteer potatoes, fool's parsley, grassweeds
Betanal Turbo + ethofumesate (approved SC formulations)		0.75 + 0.4	0.75 + 0.6	For improved control of larger weeds and annual meadow-grass. Apply no more than twice to a crop.
Betanal Turbo + Fiesta T	0.5 + 1.0	0.75 + 1.0	1.0 + 1.0	Fool's parsley, cleavers
Betanal Turbo + Goltix 70 SC +/- adjuvant oil ▼	0.5 + 1.0	0.5 + 1.0 + (0.5 – 1.0)	0.75 / 1.0 + 1.0 / 1.5 + (0.5 – 1.0)	Mayweeds, annual meadow-grass, knotgrass, fat-hen, field pansy, small nettle, volunteer oilseed rape
Betanal Turbo + Safari Lite WSB	0.5 + 0.14	0.75 + 0.14	1.0 + 0.28	Fool's parsley, mayweeds, <i>Brassica</i> spp., small nettle, cleavers, <i>Polygonum</i> spp.
Betanal Turbo + Safari Lite WSB + Dow Shield 400			1.0 + 0.28 + 0.25	Fool's parsley, <i>Brassica</i> spp., mayweeds, thistles, volunteer potatoes
Betanal Turbo + Torero	0.5 + 1.25	0.75 + 1.75	1.0 + 1.75	Mayweeds, annual meadow-grass, <i>Polygonum</i> spp. (esp. knotgrass), fat-hen
Betanal Turbo + Torero + adjuvant oil ▼			0.75 / 1.0 + 1.75 + (0.5 – 1.0)	For control of larger weeds to include: mayweeds, annual meadow-grass, <i>Polygonum</i> spp. (esp. knotgrass), fat-hen
Betanal Turbo + Torero + Dow Shield 400			1.0 + 1.5 + 0.25	Annual meadow-grass, <i>Polygonum</i> spp. (esp. knotgrass), fat-hen Mayweeds/thistles/volunteer potatoes, fool's parsley
Betanal Turbo + Torero + Venzar Flowable			1.0 + 1.5 + 0.2	<i>Polygonum</i> spp. (esp. knotgrass), fat-hen, <i>Brassica</i> spp.
Betanal Turbo + Venzar Flowable	0.5 + 0.4	0.75 + 0.4	0.75 / 1.0 + 0.4	<i>Polygonum</i> spp., <i>Brassica</i> spp.

This chart is intended as a guide to applications at each crop growth stage. Always consult the labels of partner products prior to use.  
▼ Apply adjuvant oil at 0.5 to 1.0 L/ha according to maximum temperature on day of spraying (see Mixtures with adjuvant oil section).  
Use higher dose rate of Betanal Turbo if application has been delayed or under cool dull conditions.

For more information visit the sugar beet section at [www.bayercropscience.co.uk](http://www.bayercropscience.co.uk)

Betanal Turbo contains phenmedipham and desmedipham.  
Betanal is a registered trademark of Bayer.

Debut contains triflusalufuron-methyl. Dow Shield 400 contains clopyralid. Fiesta T contains chloridazon and quinmerac. Goltix 70 SC contains metamitron. Safari Lite WSB contains lenacil and triflusalufuron-methyl. Torero contains ethofumesate and metamitron.  
Venzar Flowable contains lenacil.

Debut, Safari Lite and Venzar Flowable are registered trademarks of E. I. du Pont de Nemours and Company. Dow Shield 400 is a registered trademark of The Dow Chemical Company. Fiesta is a registered trademark of BASF. Goltix and Torero are registered trademarks of Adama Agricultural Solutions Ltd.

Use plant protection products safely. Always read the label and product information before use. Pay attention to the risk indications and follow the safety precautions on the label. For further information, please visit [www.bayercropscience.co.uk](http://www.bayercropscience.co.uk) or call Bayer Assist on 0845 6092266 / 01223 226644.

February 2016



## Science For A Better Life

Bayer CropScience Ltd  
230 Cambridge Science Park  
Milton Road  
Cambridge  
CB4 0WB

**Bayer Assist: 0845 6092266**  
Calls cost 5p per minute plus your company's network access charge  
Alternatively, call us on: 01223 226644 (0900-1715 weekdays)  
[www.bayercropscience.co.uk](http://www.bayercropscience.co.uk)

© Bayer CropScience 2016