



# DEFIANT<sup>®</sup>

## HERBICIDE

### MAPP 18216

A pre- and post-emergence herbicide for the control of annual broad-leaved weeds and annual meadow grass in sugar beet, fodder beet, red beet and mangels.

Suspension Concentrate containing 700 g/l (58 % w/w) metamitron.



#### Warning

**Harmful if swallowed.**

**Toxic to aquatic life with long lasting effects.**

Avoid release to the environment.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

Collect spillage. Hazardous to aquatic environment.

Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.

Contains 1,2-benzisothiazol-3(2H)-one. May produce an allergic reaction.

**To avoid risks to human health and the environment, comply with the instructions for use.**



## IMPORTANT INFORMATION

FOR USE ONLY AS A PROFESSIONAL HERBICIDE

<b>Crop:</b>	Sugar beet, fodder beet, red beet and mangels.
<b>Maximum Individual Dose:</b>	3.0 litres/ha.
<b>Maximum Total Dose:</b>	10.2 litres/ha/crop.
<b>Latest Timing of Application:</b>	Before the crop foliage meets across the rows.

**READ THE LABEL BEFORE USE. USING THIS PRODUCT IN A MANNER THAT IS INCONSISTENT WITH THE LABEL MAY BE AN OFFENCE. FOLLOW THE CODE OF PRACTICE FOR USING PLANT PROTECTION PRODUCTS.**

## SAFETY PRECAUTIONS

### ENVIRONMENTAL PROTECTION

DO NOT CONTAMINATE SURFACE WATERS OR DITCHES with chemical or used container.

### STORAGE AND DISPOSAL

KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDING STUFFS.

KEEP OUT OF REACH OF CHILDREN.

KEEP IN ORIGINAL CONTAINER, tightly closed, in a safe place.

USE APPROPRIATE CONTAINMENT TO AVOID ENVIRONMENTAL CONTAMINATION.

## DIRECTIONS FOR USE

**IMPORTANT:** This information is approved as part of the product label. All instructions within this section must be read carefully in order to obtain safe and successful use of this product.

### RESTRICTIONS

DEFIANT can be safely applied to all varieties of sugar beet, fodder beet, red beet and mangels, when applied as recommended, to stress free crops.

When crops are under stress such as very wet conditions, intense sunlight, sudden temperature fluctuations, disease and insect attack, nutrient deficiency, wind damage or stress or damage from previous pesticide application, then tolerance may be reduced.

### WEED CONTROL

DEFIANT will give control of a wide range of weeds when actively growing at the cotyledon stage. The following table summarises weed control for a low dose sequence of post-emergence applications of DEFIANT 1.7 litres/ha + Adjuvant oil 1.7 litres/ha, timed to successive emergence of weeds at the early cotyledon stage. Weed control can be enhanced by tank mixing (see section on tank mixing for further information).

### Sequence of post-emergence sprays (DEFIANT 1.7 l/ha + Adjuvant oil 1.7 l/ha) applied at the cotyledon stage of the weeds

WEED		WEED	
Annual meadow-grass	S	Field pansy	S
Black-bindweed	MS*	Field penny-cress	S
Charlock	S*	Groundsel	S
Cleavers	R	Ivy-leaved speedwell	S
Common chickweed	S*	Knotgrass	S
Common field-speedwell	S	Mayweed spp	S
Common fumitory	S	Pale persicaria	S
Common orache	S	Red dead-nettle	S
Common poppy	S	Redshank	S
Creeping buttercup	MS	Shepherd's-purse	S
Corn marigold	S	Small nettle	S
Fat-hen	S	Wild-oat	R

S = complete or near complete kill  
MS = good kill/effective suppression under good conditions

MR = partial kill/temporary suppression

R = no useful effect

\*: A correctly timed series of low dose applications will usually give satisfactory control, but specific measures (tank-mixes) may be required under certain conditions; see the section 'COMPATIBILITY'.

### CROP SPECIFIC INFORMATION

DEFIANT is a suspension concentrate for the control of broad-leaved weeds through contact and residual activity. It can be used on sugar beet, fodder beet, red beet and mangels, as a pre- or post-emergence treatment and may also be used in certain tank mixes (see section 'COMPATIBILITY').

Apply DEFIANT in a spray programme.

One pre-emergence application can be made, which may be incorporated. Follow the pre-emergence application with a post-emergence programme. Please refer to the pre- and post-emergence application sections for specific information.

Application should be made as a repeat overall low dose programme. For residual activity and efficacy to be optimum, a full programme of sprays is recommended.

Cotyledon tip scorch may occasionally result because beet plants are very sensitive to herbicide treatment if under stress.

### PRE-EMERGENCE APPLICATIONS

One application of DEFIANT may be applied pre-drilling, incorporated, or pre-emergence. Satisfactory results depend on the availability of adequate soil moisture. A firm, even seedbed is essential.

Application can be made to all mineral soils and soils with organic matter up to 10%.

Rate of use	3.0 litres/ha.
Water volume	100 - 200 litres/ha.
Forward speed	A forward speed of 8kph (5mph) should not be exceeded for spraying.
Spray quality	Apply as a FINE or MEDIUM spray (as defined by BCPC), using an appropriate pressure (2.5-3 bar).
Sprayer type	DEFIANT can be applied either through a conventional ground crop sprayer or through a band sprayer. In either case follow the sprayer manufacturers recommendations.

Pre-emergence applications should be followed by a post-emergence low dose programme (see section 'POST EMERGENCE APPLICATIONS').

### POST-EMERGENCE APPLICATIONS

Post-emergence treatments should be applied in mixture with an adjuvant oil (or alternative tank-mix partner product) as part of a low dose programme. Recommended adjuvants and partner herbicides are detailed below.

Applications can be made up until the crop foliage meets across the rows. Application timing is critical to the size of the weed. Make the first application when weeds are at the early cotyledon stage, and subsequent applications should be made when new flushes of weeds are also at the early cotyledon stage. Weed populations on organic soils are naturally higher and emerge more quickly than on mineral soils, thus the first DEFIANT treatment should be made at the very early cotyledon stage. All following applications of DEFIANT mixes should be made at the recommended rate and timing when flushes of weeds reappear.

Rate of use	DEFIANT 1.7 litres/ha + Adjuvant oil* 1.7 litres/ha.
Water volume	80 - 100 litres/ha.
Forward speed	A forward speed of 8kph (5mph) should not be exceeded for spraying.
Spray quality	Apply as a FINE spray (as defined by BCPC), using an appropriate pressure (3-5 bar).
Note	Do not use filters finer than 80 mesh, in spray lines or nozzles.

### NUMBER OF APPLICATIONS

DEFIANT may be used in the following programmes:

1. One pre-emergence application of DEFIANT alone plus three post-emergence applications of DEFIANT + adjuvant oil\*.
2. Up to five post-emergence applications of DEFIANT + adjuvant oil\* can be made where no pre-emergence application has been made. This can be extended to six applications on organic soils.

Subsequent applications should be made as new flushes of weeds appear, which is usually around 7-10 days after the last application.

\* see section "COMPATIBILITY".

### SOIL PREPARATION

Prepare a firm fine seedbed for best results. Drill to normal depth to ensure seed is well covered. Do not roll or harrow treated soil as this may lead to germination of another flush of weed from disturbed soil. Best results will be achieved if the soil is moist. Weed control may be reduced under very dry conditions.

### FOLLOWING CROPS

If a treated crop fails for any reason, only sugar beet, fodder beet and mangels should be sown within four months of the last application of DEFIANT.

After harvesting crops treated with DEFIANT, the land should be mould-board ploughed to a depth of 15 cm before planting any crop. Winter cereals may then be sown, providing at least 16 weeks have elapsed from the last application of DEFIANT. In the following spring, any spring crop can be drilled or planted.

### MIXING AND SPRAYING

On emptying the container, RINSE CONTAINER THOROUGHLY by using an integrated pressure rinsing device or manually rinsing three times. Add washings to sprayer at time of filling and dispose of container safely.

Half fill the sprayer tank with clean water. Begin agitation and add the required quantity of DEFIANT to the sprayer tank. Then add the adjuvant oil and/or other herbicide. Fill the spray tank whilst agitating and maintain agitation until spraying is completed. When spraying take care to avoid drift onto neighbouring crops, buildings or non-target plants.

After spraying drain the tank completely and thoroughly clean the inside of the tank. Flush the tank, hoses and boom with clean water for at least 5 minutes.

Partially fill the tank with clean water and add a cleaning agent if necessary. Complete filling the tank with water, then flush the cleaning solution through the hoses, boom and nozzles. Repeat this procedure with clean water.

Remove the nozzles and screens and clean separately in a bucket containing water (and cleaning agent).

#### **COMPATIBILITY**

For improved control of weeds DEFIANT may be used in combination with other specified products (see \* below)

#### **Pre-Emergence of Weeds**

DEFIANT may be used in combination with one of the following:

- ethofumesate for control of cleavers
- chloridazon for control of charlock and black-bindweed

For information on compatibility with other products please consult the UPL website ([www.upleurope.com](http://www.upleurope.com)).

#### **CONDITIONS OF SUPPLY**

All goods supplied by us are of high grade and we believe them to be suitable; however, as we cannot exercise control over their storage, handling, mixing or use, or the weather conditions before, during and after application which may affect the performance of the goods, all conditions and warranties, statutory or otherwise, as to the quality or fitness for any purpose of our goods are excluded, and no responsibility will be accepted by us or re-sellers for any failure in performance, damage or injury whatsoever arising from their storage, handling, application or use. Our staff or agents cannot vary these conditions whether or not they supervise or assist in the use of such goods. DEFIANT is a registered trademark of UPL Europe Ltd. Other brand names used in this guide are trademarks of other manufacturers for which propriety rights may exist.

To access the Safety Data Sheet for DEFIANT  
please use the link below or scan the code.



<http://www.upleurope.com/product-list.html>

Alternatively, contact your local supplier.

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### SHAKE WELL BEFORE USE PROTECT FROM FROST

For Batch Number and  
Manufacturing Date see container

### UPL Europe Ltd

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**For 24 hour emergency information contact:**

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**The (COSHH) Control of Substances Hazardous to Health Regulations may apply to the use of this product at work.**