

**BASF**  
We create chemistry

# Lantern<sup>®</sup>



**MAPP 19085**

**A suspension concentrate containing 50 g/l picolinafen and 240 g/l flufenacet. A herbicide with residual and contact activity for the control of grass and broad leaved weeds in winter crops of wheat, barley, rye and triticale.**

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

## SAFETY PRECAUTIONS

### Operator protection

Engineering control of operator exposure must be used where reasonably practicable in addition to the following personal protective equipment:

**WEAR SUITABLE PROTECTIVE GLOVES** when handling the concentrate.

However, engineering controls may replace personal protective equipment if a COSHH assessment shows that they provide an equal or higher standard of protection.

**WASH ALL PROTECTIVE CLOTHING** thoroughly after use, especially the insides of gloves.

**WHEN USING DO NOT EAT, DRINK OR SMOKE.**

**WASH HANDS** before meals and after work.

**IF YOU FEEL UNWELL**, seek medical advice (show the label if possible).

### Environmental protection

Do not contaminate water with the product or its container.

Do not clean application equipment near surface water.

Avoid contamination via drains from farmyards and roads.

To protect aquatic organisms respect an unsprayed buffer zone of 6m to surface water bodies and use 3 star drift reduction technology.

**HORIZONTAL BOOM SPRAYERS MUST BE FITTED WITH THREE STAR DRIFT REDUCTION TECHNOLOGY.**

Low drift spraying equipment must be operated according to the specific conditions stated in the official three star rating

for that equipment as published on HSE Chemicals Regulation Directorate's website.

Maintain three star operating conditions until 30 m from the top of the bank of any surface water bodies.

**DO NOT ALLOW DIRECT SPRAY** from horizontal boom sprayers to fall within 6 metres of the top of the bank of a static or flowing water body, or within 1 meter of the top of a ditch which is dry at the time of application.

Aim spray away from water.

**THESE GROUPS ARE NOT ELIGIBLE FOR BUFFER ZONE REDUCTION UNDER THE LERAP HORIZONTAL BOOM SPRAYERS SCHEME.**

The buffer zone must be maintained and the distance recorded. Records must be kept available for three years.

### 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.

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.

**DO NOT RE-USE CONTAINER** for any other purpose.

**PROTECT FROM FROST**

**This label is compliant with the CPA Voluntary Initiative Guidance**

**5 L**

Supplied by: BASF plc, Agricultural Solutions  
PO Box 4, Earl Road, Cheadle Hulme, CHEADLE,  
Cheshire SK8 6QG, Tel: 0161 485 6222

Emergency Information: (24 hours freephone): 0049 180 2273112,  
Technical Enquiries: 0845 602 2553 (office hours)

® = Registered trademark of BASF

81134724 CB 1059



## Lantern®

A suspension concentrate containing 50 g/l picolinafen and 240 g/l flufenacet.

### Warning

**May cause damage to organs through prolonged or repeated exposure.**

**Very toxic to aquatic life with long lasting effects.**

Keep out of reach of children.

Do not breathe spray.

Get medical advice/attention if you feel unwell.

Collect spillage.

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-2(2H)-one, 2-methylisothiazol-3(2H)-one and flufenacet. May produce allergic reaction.

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



### IMPORTANT INFORMATION

#### FOR USE ONLY AS AN AGRICULTURAL HERBICIDE

Crops	Maximum individual dose	Maximum number of treatments	Latest time of application	Aquatic buffer zone distance:
Winter wheat, Winter barley, Rye, Triticale	1 litre product/hectare	1 per crop	Before crop growth stage 30	6 meters

This product must not be applied via hand-held equipment

**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.**

## **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/Warnings**

### **Efficacy**

Effectiveness using three star drift reduction technology may be reduced.

Some soil moisture is required for residual activity. Best results will be obtained if rain falls within 7 days of application.

Residual control may be reduced under prolonged dry conditions, on soils containing more than 6% organic matter, on soils with a high Kd factor or on soils with a high ash content.

Loose or cloddy seedbeds should be consolidated before treatment otherwise reduced weed control or crop damage may occur. With direct drilled crops, harrow across slits to cover the seed before spraying.

For effective weed control, seedbed preparations should include the even incorporation of any trash or straw to a depth of 15 cm.

Where cultural techniques which encourage the build-up of organic residues in the soil surface are practised for a number of seasons, the effectiveness of residual herbicides may be reduced. In such circumstances periodic ploughing is recommended to disperse the residues into a greater volume of soil.

Do not disturb the soil after application.

Do not roll autumn treated crops until the spring.

### **Soil types**

Lantern is suitable for use on all soil types as defined by Soil Texture (85) System, except sands and very light soils and very stony or gravelly soils as there is a risk of crop damage.

### **Seedbed preparation**

For pre-emergence treatments, seed should be sown into a fine, firm seedbed so that seed is adequately covered with a minimum of 2.5 cm of settled soil.

### **Crop safety**

Do not apply Lantern, either alone or in tank mixture, when heavy rain is forecast and do not use on waterlogged soil or soils prone to waterlogging. Crop thinning or reductions in crop vigour, which may result in yield reductions, can occur if there is very wet weather after application. When a crop check has occurred, this normally grows out after a few weeks and yields are normally unaffected.

Some transient bleaching may be seen after application to some crops. This does not lead to yield loss.

Do not overlap spray swaths, particularly on the headlands.

Avoid spraying during periods of prolonged or severe frosts as sharp or severe frosts following application may cause transitory discolouration or scorch from which the crop will normally recover.

Do not apply Lantern, either alone or in tank mixture, to crops suffering from stress, which may be caused, for example, by pests, disease, waterlogging, poor seedbed conditions, wind abrasion, nutrient deficiencies or previous chemical treatment.

Do not incorporate Lantern into the soil.

Do not spray undersown crops or those to be undersown.

Do not roll emerged crops prior to application.

Shallow drilled crops should only be treated post-emergence.

### Spray drift

Extreme care is required to avoid spray drift on to neighbouring crops and plants outside the target area.

### Weed control

#### Susceptibility of weeds to single applications of Lantern.

Best results will be achieved by application either pre- or early post-emergence on to small actively growing weeds.

Weed	Lantern	
	1.0 l/ha	
	pre	post
Annual meadowgrass	S	S to 3lvs
Loose silky bent	S	-
Italian ryegrass	-	MS to 1 leaf
Charlock	S	S to 2 lvs
Cleavers	MS	S to 2 whls
Common chickweed	S	S to 4 lvs
Common field speedwell	S	S to 2 lvs
Common poppy	S	S to 2 lvs
Field pansy	S	S to 4 lvs
Ivy leaved speedwell	MS	S to 2 lvs
Mayweed sp.	S	S to 2 lvs
Shepherd's purse	S	S to 4 lvs
non-Clearfield vol Oilseed rape	S	S to 2 lvs
Clearfield vol Oilseed rape	S	S to 2 lvs

S = Susceptible

MS = Moderately Susceptible

Lantern can provide up to 73-76% control of black-grass when used alone at 1.0 l/ha. Improved control of black-grass can be achieved by the use of Lantern in an appropriate management strategy that includes mixtures or sequences with different herbicides with an alternative mode of action.

### Resistance Management

Strains of some annual grasses (e.g. Black-grass, Wild-Oats, and Italian Ryegrass) have developed resistance to herbicides, which may lead to poor control. A strategy for preventing and managing such resistance should be adopted. Do not use more than one application of Lantern in one growing season. Lantern contains picolinafen which is an inhibitor of carotenoid biosynthesis at the PDS step (a group that includes picolinafen and diflufenican). To prevent the development of resistant weeds herbicides with different modes of action must be used when applying in sequence.

Repeated use of herbicides with the same mode of action can increase the risk of strains of weeds developing resistance to these compounds, leading to poor control. In order to minimise the risk, a strategy for preventing and managing such resistance should be adopted. Use products with different modes of action and from different chemical groups in sequence or tank-mix, in conjunction with effective cropping rotation and cultivation techniques. In all cases the recommended rate of use should be adhered to. Further guidance on weed resistance management is available from the Herbicide Resistance Action Committee (HRAC) and Weed Resistance Action Group (WRAG). Guidelines have been produced by the Weed Resistance Action Group and copies are available from HGCA, CPA, your distributor, crop adviser or product manufacturer.

Key elements of the weed resistance management strategy for Lantern:

- Always follow WRAG guidelines for preventing and managing herbicide resistant weeds.
- Maximise the use of cultural control measures wherever possible (e.g. crop rotation, ploughing, stale seedbeds, etc).
- Adopt as diverse a rotation as possible using autumn and spring sown crops.
- Do not rely on one herbicide mode of action for the control of grass or broad-leaved weeds in the same field over several years.
- Use tank mixes or sequences of effective herbicides with different modes of action within individual crops, or successive crops.
- Apply post-emergence products/mixtures to small, actively growing weeds to maximise the level of control.
- Monitor fields regularly and investigate the reasons for any poor control.

### **Crop Specific Information**

Lantern can be used on all varieties of winter crops of wheat, barley, rye and triticale.

#### **Time of application**

Lantern may be applied either pre or post emergence of the crop up to and including the end of tillering (BBCH 29).

#### **Rate of application**

Apply Lantern at 1.0 litre per hectare in 100–400 l/ha water.

### **Following Crops**

#### **Following crops after normal harvest**

There are no restrictions on following crops after the normal harvest of crops treated with Lantern alone.

#### **Re-drilling due to crop failure**

In the event of crop failure, winter wheat can be re-sown in the same autumn provided soil is cultivated to a minimum depth of 15 cm. Any of the following crops may be sown provided there has been a minimum of 60 days after the application of Lantern and the soil is cultivated to a minimum depth of 15 cm; legumes, maize, sugar beet and sunflower. Oilseed rape can be re-sown after 90 days following a pre-emergence application of Lantern, or 60 days following a post emergence application of Lantern and the soil is cultivated to a minimum depth of 15 cm. Spring barley can be re-drilled 120 days following application of Lantern and the soil is cultivated to a minimum depth of 15 cm.

### **Mixing and Application**

#### **Application**

Apply Lantern in 100–400 l/ha water volume as a MEDIUM spray as defined by BCPC. Use the higher water volume in more dense crops where weed shading is more likely.

To ensure optimum spray coverage and minimize spray drift, adjust the spray boom to the appropriate height above the crop, according to guidance provided by the sprayer and/or nozzle manufacturer.

#### **Mixing**

Never prepare more spray solution than is required.

Fill the spray tank three quarters full with water and start the agitation.

To ensure thorough mixing of the product, invert the container several times before opening.

Add the required quantity of Lantern to the spray tank while re-circulating. Continue agitation until spraying is completed.

On emptying the product 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.

### **Tank cleaning**

Wash sprayer thoroughly immediately after use, using clean water and following the sprayer cleaning guidance provided by the equipment manufacturer.

### **Compatibility**

For current details of compatible tank-mixes contact the BASF Technical Services Hotline 0845 602 2553, your distributor or local BASF representative.

### **The following does not form part of the authorised label text.**

With many products there is a general risk of resistance developing to the active ingredients. For this reason a change in activity cannot be ruled out. It is generally impossible to predict with certainty how resistance may develop because there are so many crop and use connected ways of influencing this. We therefore have to exclude liability for damage or loss attributable to any such resistance that may develop. To help minimise any loss in activity the BASF recommended rate should in all events be adhered to.

Numerous, particularly regional or regionally attributable, factors can influence the activity of the product. Examples include weather and soil conditions, crop plant varieties, crop rotation, treatment times, application amounts, admixture with other products, appearance of organisms resistant to active ingredients and spraying techniques. Under particular conditions a change in activity or damage to plants cannot be ruled out. The manufacturer or supplier is therefore unable to accept any liability in such circumstances. All goods supplied by us are of high grade and we believe them to be suitable, but as we cannot exercise control over their mixing or use or the weather conditions during and after application, which may affect the performance of the material, 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 for any damage or injury whatsoever arising from their storage, handling, application or use; but nothing should be deemed to exclude or restrict any liability upon us which cannot be excluded or restricted under the provisions of the Unfair Contract Terms Act 1977 or any similar applicable law.

## Section 6 of the Health and Safety at Work Act

### Additional Product Safety Information

The product label provides information on a specific pesticidal use of the product; do not use otherwise, unless you have assessed any potential hazard involved, the safety measures required and that the particular use has "off-label" approval or is otherwise permitted under the Plant Protection Products Regulations.

The information on this label is based on the best available information including data from test results.

### Safety Data Sheet

To access the Safety Data Sheet for this product scan the QR code or use the weblink below:



[bit.ly/Lantern\\_sds](https://bit.ly/Lantern_sds)

Alternatively, contact your supplier.



**BASF**  
We create chemistry

# Lantern<sup>®</sup>



**MAPP 19085**

**A suspension concentrate containing 50 g/l picolinafen and 240 g/l flufenacet. A herbicide with residual and contact activity for the control of grass and broad leaved weeds in winter crops of wheat, barley, rye and triticale.**

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

## SAFETY PRECAUTIONS

### Operator protection

Engineering control of operator exposure must be used where reasonably practicable in addition to the following personal protective equipment:

**WEAR SUITABLE PROTECTIVE GLOVES** when handling the concentrate.

However, engineering controls may replace personal protective equipment if a COSHH assessment shows that they provide an equal or higher standard of protection.

**WASH ALL PROTECTIVE CLOTHING** thoroughly after use, especially the insides of gloves.

**WHEN USING DO NOT EAT, DRINK OR SMOKE.**

**WASH HANDS** before meals and after work.

**IF YOU FEEL UNWELL** seek medical advice (show the label if possible).

### Environmental protection

Do not contaminate water with the product or its container.

Do not clean application equipment near surface water.

Avoid contamination via drains from farmyards and roads.

To protect aquatic organisms respect an unsprayed buffer zone of 6m to surface water bodies and use 3 star drift reduction technology.

**HORIZONTAL BOOM SPRAYERS MUST BE FITTED WITH THREE STAR DRIFT REDUCTION TECHNOLOGY.**

Low drift spraying equipment must be operated according to the specific conditions stated in the official three star rating

for that equipment as published on HSE Chemicals Regulation Directorate's website.

Maintain three star operating conditions until 30 m from the top of the bank of any surface water bodies.

**DO NOT ALLOW DIRECT SPRAY** from horizontal boom sprayers to fall within 6 metres of the top of the bank of a static or flowing water body, or within 1 meter of the top of a ditch which is dry at the time of application.

Aim spray away from water.

**THESE CROPS ARE NOT ELIGIBLE FOR BUFFER ZONE REDUCTION UNDER THE LERAP HORIZONTAL BOOM SPRAYERS SCHEME.**

The buffer zone must be maintained and the distance recorded. Records must be kept available for three years.

### 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.**

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.

**DO NOT RE-USE CONTAINER** for any other purpose.

**PROTECT FROM FROST**

**This label is compliant with the CPA Voluntary Initiative Guidance**

**5 L**

Supplied by: BASF plc, Agricultural Solutions  
PO Box 4, Earl Road, Cheadle Hulme, CHEADLE,  
Cheshire SK8 6QG, Tel: 0161 485 6222

Emergency Information: (24 hours freephone): 0049 180 2273112,  
Technical Enquiries: 0845 602 2553 (office hours)

© Registered trademark of BASF

81134724 CB 1059

