



HOPPER®

With TransCel™ technology

5L e
Packed in Cartons
of 4 x 5 Litre

A suspension concentrate containing 400 g/litre flufenacet and 100 g/litre diflufenican.
Hopper is a herbicide mixture for control of annual grass and broad-leaved weeds pre and post-emergence in winter wheat and winter barley
Product Registration No. MAPP 19579

PEEL BACK FOR DIRECTIONS FOR USE LEAFLET

Hopper – a suspension concentrate formulation containing 400 g/l flufenacet + 100 g/l diflufenican.

WARNING:
HARMFUL IF SWALLOWED
MAY CAUSE DAMAGE TO ORGANS (NERVOUS SYSTEM) THROUGH PROLONGED OR REPEATED EXPOSURE IF SWALLOWED
VERY TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS

Wear protective gloves/protective clothing/eye protection/face protection.

If exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.

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 flufenacet. May produce an allergic reaction

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



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

IMPORTANT INFORMATION: FOR USE ONLY AS AN AGRICULTURAL HERBICIDE

Crops	Maximum Individual Dose	Maximum Number of Treatments	Latest Time of Application
Winter wheat	0.6 l product/ha	One per crop	Before 31st December in the year of planting and before third tiller stage (GS 23)
Winter barley	0.6 l product/ha	One per crop	Before 31st December in the year of planting and before fourth tiller stage (GS 24)

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

Operator protection

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

WEAR SUITABLE PROTECTIVE GLOVES when handling the concentrate or handling contaminated surfaces.

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

WHEN USING DO NOT EAT, DRINK OR SMOKE.

IF YOU FEEL UNWELL, seek medical advice immediately and show this container or label where possible.

Environmental Protection

DO NOT CONTAMINATE SURFACE WATER OR DITCHES with 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 to surface water bodies in line with LERAP requirements.

Extreme care must be taken to avoid spray drift on to non-crop plants outside the target area.

DO NOT ALLOW DIRECT SPRAY from horizontal boom sprayers to fall within 5m of the top of the bank of a static or flowing waterbody, unless a Local Environment Risk Assessment for Pesticides (LERAP) permits a narrower buffer zone, or within 1m of the top of a ditch which is dry at the time of application. Aim spray away from water.

This product qualifies for inclusion in the Local Environment Risk Assessment for Pesticides (LERAP) scheme. Before each spraying

operation from a horizontal boom sprayer, either a LERAP must be carried out in accordance with the CRD's published guidance or the statutory buffer zone must be maintained. The results of the LERAP must be recorded and kept available for inspection for three years.

Storage and disposal

KEEP OUT OF REACH OF CHILDREN
KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDING STUFFS
KEEP IN ORIGINAL CONTAINER tightly closed in a safe place
WASH OUT CONTAINER THOROUGHLY, empty washings into spray tank and dispose of safely
DO NOT RE-USE CONTAINER for any purpose



SPECIMEN

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 OR WARNINGS

Hopper is a contact and residual herbicide mixture for broad-leaved and annual grass weed control in winter wheat and winter barley. It may be used on all varieties of winter wheat and winter barley and can be applied pre or post-emergence of weeds and crop. Effective weed control requires that all surface trash and straw is buried during seedbed preparation and when applied pre-emergence of the crop the seed must be covered by at least 32mm of settled soil. After application the soil surface should remain undisturbed so do not harrow or roll and do not incorporate the herbicide. Loose or cloddy seedbeds must be consolidated otherwise crop damage may result due to inadequate seed cover. Other points to consider for safe and effective use include:

- Avoid treatment of crops suffering from stress caused by pest or disease attack, drought or water-logging, grazing, nutrient deficiency, compacted soils or any other factor that reduces crop growth.
- Do not treat crops grown on waterlogged soils or on soil prone to waterlogging.
- Do not treat undersown crops or those that will be undersown.
- Do not use on sands, very light soils (ADAS 85 classification) or on very stony or gravelly soils due to the risk of crop injury.
- Do not use on soils with more than 10% organic matter content.
- Do not treat broadcast seed or shallow drilled crops since the seed may be damaged.

If very wet weather or sharp frosts occur before or after application, some crops may suffer from a loss of vigour or colour, particularly on light free draining soils or where soils become waterlogged. These effects are usually transitory in nature and the final yield of the crop is not normally affected.

WEEDS CONTROLLED

The speed of activity is dependent upon the prevailing conditions in the treated field. Some soil moisture is required to activate the herbicide and light rain within 7 days of application gives the best control. If the soil is dry then the residual activity will be limited and cold weather will delay the appearance of herbicide effects. In the presence of adequate soil moisture Hopper will control the following weeds:

Weed species	Pre-emergence activity	Post-emergence activity
Annual meadow-grass	S	S up to 3 leaves & 1 tiller (GS13, 21)
Black-grass	MS	MS up to 3 leaves (GS13) but before tillering has commenced (GS21)
Common chickweed	S	S up to early branching (5cm) stage
Common field speedwell	S	S up to 4 leaf stage (GS14)
Field pansy	S	S up to 4 leaf stage (GS14)
Field forget-me-not	S	-
Groundsel	S	-
Ivy-leaved speedwell	MR	S up to 2 leaf stage (GS12)
Mayweeds	S	S up to 2 leaf stage (GS12)
Cleavers	MR	MR up to 1 whorl stage (GS11) 1

¹ Useful suppression may be achieved but where cleaver populations are significant a cleaver-specific follow-up treatment is likely to be necessary.

S = Susceptible; MS = Moderately Susceptible; MR = Moderately Resistant; R = Resistant; - = no information.

Note: broad-leaved weeds growing from rootstocks and perennial grasses will not be controlled.

RESISTANCE MANAGEMENT

Hopper is classified as having the HRAC mode of action code 'F1 + K3'. Weeds which are subject to repeated exposure to the same modes of action are at risk of developing resistance to these herbicides. When devising an herbicide programme, incorporate herbicides with different modes of action within crop programmes and throughout crop rotations and, where possible, include physical methods of weed control. Strains of annual grasses (e.g. black-grass, wild oats and Italian rye-grass) have developed resistance to herbicides which may lead to poor control. A strategy for preventing and managing such resistance should be adopted. Guidelines have been produced by the Weed Resistance Action Group and copies are available from the HGCA, CPA, your distributor, crop adviser or product manufacturer. To reduce the risk of the development of resistance:

- Do not use as a stand-alone treatment for black-grass control but use in sequence or tank-mix with other herbicides that are effective against black-grass and which work by a different mode of action.
- Consider your strategy across the whole rotation in treated fields and do not rely on Hopper for grass or broad-leaved weed control in successive crops. Use effective herbicides with an alternative mode of action.

- Investigate any patches of poor control and if no obvious cause is apparent, consider appropriate resistance testing on surviving plants.

CROP SPECIFIC INFORMATION**Winter wheat and winter barley**

Timing: One application of Hopper should be applied to winter wheat or winter barley before 31st December in the year of drilling and wheat should be treated before the 3rd tiller stage (GS23) while winter barley should be treated before the 4th tiller stage (GS24).

Application: A dose of 0.6 l/ha Hopper should be applied as a MEDIUM spray as defined by ECPC in a water volume of 200 – 400 l/ha. Avoid overlapping spray swaths. To prevent damage, care must be taken to avoid drift onto neighbouring crops.

FOLLOWING CROPS after normal harvest or crop failure

Following a cereal crop treated with Hopper the soil should be ploughed or cultivated to at least 15 cm before planting oilseed rape, field beans, carrots, onions, sugar beet, peas or edible Brassicaceae to disperse any residues throughout the soil. Wheat, barley and potatoes can be planted with no special cultivations.

In the event of crop failure, the soil should be ploughed or cultivated to at least 15cm and only wheat, barley and potatoes can be sown. A period of at least 12 weeks should elapse after application before wheat or barley are sown.

Where products containing diflufenican are applied to successive cereal crops, the level of diflufenican can build up in the soil. Ploughing with complete inversion in the furrow is essential before any non-cereal crop other than potatoes is planted. Particularly sensitive crops such as onions, leeks, other alliums and clover may still suffer some damage from diflufenican residues. Where the land is to be rented out to growers of these crops it is advisable to avoid use of diflufenican for a few years before the field is hired out.

MIXING AND SPRAYING

Shake the container well before use. Before spraying it is important to check all hoses, filters and nozzles, and to ensure that the sprayer is clean and correctly set to give an even application at the correct volume. Half fill the spray tank with clean water. Begin agitation and add the required quantity of Hopper. Add the remainder of the water and agitate the mixture thoroughly before and during spraying. A water volume of 200-400 l/ha is recommended with the higher volumes within this range used where weed and crop cover is dense to ensure good coverage of the target weeds. Do not overlap spray swaths. Do not leave the sprayer standing for

long periods when filled with the spray solution. After use, wash out the sprayer thoroughly with a minimum of two rinses using a wetting agent or a proprietary tank cleaner.

COMPANY ADVISORY INFORMATION

This section is not part of the Product Label under the Plant Protection Products Regulations. It provides additional advice on product use at the discretion of the applicant.

TERMS AND CONDITIONS OF SUPPLY, SALE OR USE

Many factors can affect or influence the activity of this product, including, but not limited to: weather and soil conditions, crop variety, treatment timing, water volume, application rates, spraying techniques, crop rotation, regional factors, and the occurrence and development of strains resistant to the active ingredient. Under certain circumstances, changes in activity or crop damage can occur. The manufacturer or supplier is unable to accept any liability in these circumstances. All goods supplied by us are of a high grade and we believe them to be suitable for the purpose for which we expressly supply them: but as we cannot exercise any control over their mixing, use or 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 for any damage or injury whatsoever arising from their storage, handling, application or use. These conditions cannot be varied by our staff, our agents or the re-sellers of the product whether or not they supervise or assist in the use of such goods.