

Laser[®]



MAPP 17339

An emulsifiable concentrate containing 200 g/litre (21% w/w) cycloxydim for post emergence control of annual and perennial grass weeds in winter and spring oilseed rape, sugar beet, fodder beet, mangel, potato, combining and vining peas, winter and spring field bean, dwarf French beans, swede, cabbage, cauliflower, Brussels sprouts, linseed, carrot, parsnip, salad onion, leek, strawberry, ornamental plant production (bulbs (propagating material) and Christmas trees only), commercial, farm and nursery forestry and green cover on land temporarily removed from production e.g. set aside.

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 CLOTHING (COVERALLS), SUITABLE PROTECTIVE GLOVES AND FACE PROTECTION (FACESHIELD) when handling the concentrate.

WEAR SUITABLE PROTECTIVE GLOVES when handling contaminated surfaces.

WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS) AND SUITABLE PROTECTIVE GLOVES when applying by hand-held equipment.

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

WASH CONCENTRATE from skin or eyes immediately.

WASH HANDS AND EXPOSED SKIN before meals and after work.

WHEN USING DO NOT EAT, DRINK OR SMOKE.

Environmental protection

Do not contaminate surface waters or ditches with chemical or used container. Do not clean application equipment near surface water. Avoid contamination via drains from farmyards and roads.

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. 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 safely. Keep dry and frostproof in a suitable pesticide store.

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UN 3082

Environmentally hazardous substance, liquid, N.O.S., (contains solvent naphtha) Marine Pollutant

This label is compliant with the CPA Voluntary Initiative Guidance



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Laser®

An emulsifiable concentrate containing 200 g/litre (21% w/w) cycloxydim.

Danger:

Causes serious eye damage.

Causes skin irritation.

May be fatal if swallowed

and enters airways.

May cause drowsiness or dizziness.

Suspected of damaging the

unborn child.

Toxic to aquatic life with long lasting effects.

Avoid breathing vapours.

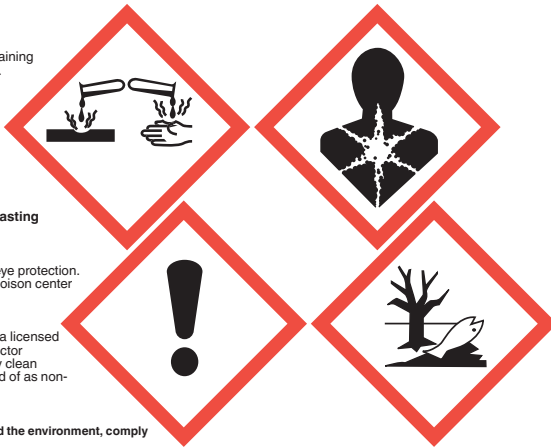
Wear protective gloves/clothing/eye protection.

If swallowed: immediately call a poison center or doctor/physician.

Do not induce vomiting.

Store locked up.

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.



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

This product is approved under Plant Protection Products Regulations (EC) 1107/2009.

IMPORTANT INFORMATION

FOR USE ONLY AS AN AGRICULTURAL/HORTICULTURAL/FORESTRY HERBICIDE, as directed below:

Crops	Maximum Individual dose	Maximum Number of Treatments	Latest Time of Application
Winter and Spring Oilseed Rape#, Linseed.	2.25 litres product/ha	One per crop	12 weeks before harvest
Sugar Beet, Fodder Beet and Mangel##, Potato (maincrop and early), winter and spring Field Bean, Swede, Brussels sprouts, Leek.	2.25 litres product/ha	One per crop	8 weeks before harvest
Carrot, Parsnip, Strawberry.	2.25 litres product/ha	One per crop	6 weeks before harvest
Combining and vining Pea, Dwarf French Bean.	2.25 litres product/ha	One per crop	5 weeks before harvest
Cabbage, Cauliflower, Salad Onion.	2.25 litres product/ha	One per crop	4 weeks before harvest
Forest and nursery forestry*	2.25 litres product/ha	One per year	-
Ornamental plant production**, Green cover on land temporarily removed from production eg set-aside***	2.25 litres product/ha	One per year	-

Other specific restrictions:

For oilseed rape Laser must not be applied to the same soil in two consecutive years.

Fodder beet and mangels must not be grazed by livestock or harvested for animal consumption until at least 56 days following the last application of Laser.

* For forest nursery/forestry application must not be made between 1 July and 31 March.

** Use in ornamental plant production is restricted to bulbs (propagating material) and Christmas trees.

*** When applying to green cover on land temporarily removed from production e.g. set aside:

1. Application must not be made between 1 September and 1 January
2. Treated plants must not be grazed by livestock or harvested for human or animal consumption.
3. Full green cover must be established.

To avoid the build up of resistance do not apply products containing an ACCase inhibitor herbicide more than twice to any crop. In addition, do not use this product in mixture or sequence with any other product containing cycloxydim.

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.

Laser is a systemic herbicide for the post emergence control of a range of grass weeds and cereal volunteers in the listed crops. Only weeds which have emerged at the time of application will be controlled. Optimum timing is when weeds are still small and have not begun to compete with the crop.

Laser is rapidly absorbed mainly through the leaves and is translocated through the plant to the growing points, culminating in the rapid decay of stem and root tissues. Foliage death is usually complete within 3 to 4 weeks under optimum conditions, warm and moist so that weeds are actively growing. Under cool conditions activity will be slower, particularly for late applications to winter oilseed rape.

Laser can be used on all soil types and is rainfast within 2 hours of drying on the foliage.

1. Restrictions/Warnings

Populations of black-grass and other grass weeds with high levels of resistance will not be fully controlled.

Consult processor or contract agent before using on crops grown for processing or for seed.

Extreme care should be taken to avoid damage by drift onto plants outside the target area.

For best results, apply within the recommended growth stages when weeds are actively growing. Drought, cool conditions, stress or other negative factors can reduce effectiveness by interfering with the uptake and translocation of Laser.

Weeds emerging after application will not be controlled.

Do not apply to crops which are damaged or stressed from factors such as previous herbicide use, adverse weather conditions (e.g. drought or waterlogging) or pest or disease attacks.

Apply to dry foliage when rain is not expected for at least 2 hours.

Ensure sprayer is free from previous chemical residues which may harm the crop. Rinse the sprayer tank with water twice, using at least 5% of the sprayer volume. Use of a detergent cleaner is advised before and after use.

This product must not be applied to land managed under the Habitat Scheme.

Before using on land taken out of production as part of a grant aided scheme, ensure compliance with the management rules of that scheme.

Laser **MUST** be used with an approved adjuvant at the rates indicated in Mixing and Spraying (Section 5).

When a choice of rates is given the higher rate should be used if weeds are beyond the optimum timing or any of the following applies:

- poor growing conditions exist, e.g. dry soils or cool temperatures
- weeds are overwintered
- weed infestations are high, especially in non competitive crops such as sugar beet or thin rape crops
- target weed has been grown as a cover crop.

When using for control of common couch and other perennials do not cultivate for at least 14 days after spraying to allow Laser to translocate to the underground rhizomes. Leave a longer interval (up to 21 days) if growing conditions are poor.

If applying in sequence with Basagran SG in field beans, a minimum of 14 days between applications must occur to allow recovery of the wax layer.

In peas, a satisfactory crystal violet wax test (see PGRO information sheet 143) should be carried out before application to check if leaf wax may have been affected by unfavourable growing or weather conditions. Other post emergence crop protection products will also affect wax levels and a wax test may be necessary.

Before using on conifers in a nursery situation or at an early stage of establishment, treat a small number of plants of any one species first to observe if any adverse effects occur before making wider scale treatments.





2. Weed control

2.1 Susceptibility of Grass Weeds to Single Applications of Laser

Laser **MUST** be used with an approved adjuvant at the rates indicated in Mixing and Spraying (Section 5). Grass weeds vary in their susceptibility to Laser. Identify the species to be controlled and then consult the table below to select the appropriate rate of use.

WEED	RATES OF APPLICATION*	TIME OF APPLICATION
Cultivated Oats † Wild-oat	0.5 or 0.75 L/ha	Optimum: 2 fully expanded leaves to 2-3 tillers. Max. GS: Before first node detectable stage.
Barley (Volunteer) † Black-grass †† Canary Grass Italian Ryegrass Loose-silky Bent Perennial Ryegrass Sterile Brome Soft Brome	0.75 or 1.0 L/ha	Optimum: 2 fully expanded leaves to before 3 tillers. Max. GS: Before first node detectable stage.
Wheat (Volunteer)	1.0 or 1.25 L/ha	Optimum: 2 fully expanded leaves to before 3 tillers. Max. GS: Before first node detectable stage.
Black Bent (Red Top)	1.5 or 2.0 L/ha	Optimum: 4 fully expanded leaves to before 3 tillers. Max. GS: Before first node detectable stage.
Onion Couch (false oat grass)	1.5 or 2.25 l/ha**	Optimum: 4 fully expanded leaves to before 3 tillers. Max GS: Before first node detectable stage.
Creeping Bent Common Couch	2.25 L/ha**	When majority of shoots have emerged and are approx. 15 cm tall. Usually corresponding to the 4-9 fully expanded leaves up to before first node detectable stage.
Red Fescue Annual Meadow-grass Rough Meadow-grass Black-grass ††	- Resistant - Resistant - Moderately resistant - Moderately resistant	

† Includes cover crops.

†† Laser can contribute to the control of black-grass as part of a herbicide resistance management strategy, involving mixtures and sequences with herbicides of alternative modes of action as well as cultural methods of control. Where resistant biotypes are present control from Laser will be unacceptable.

* When a choice of rates is given the higher rate should be used if weeds are beyond the optimum timing or any of the following applies:

- poor growing conditions exist, e.g. dry soils or cool temperatures
- weeds are overwintered
- weed infestations are high, especially in non-competitive crops such as sugar beet or thin rape crops
- target weed has been grown as a cover crop

** see Common Couch and Other Perennials below.

Applications made after the optimum timing may give reduced levels of control.

Common Couch and Other Perennials – Sufficient foliage should have emerged to absorb the spray. Shoots not emerged or just emerging at application will not be controlled.

Do not cultivate for at least 14 days after spraying to allow Laser to translocate to the underground rhizomes. Leave a longer interval (up to 21 days) if growing conditions are poor.

The effects on the long term control of couch and creeping bent, i.e. in succeeding crops, has not been investigated.

Established Common Couch – To improve control a thorough pre planting cultivation to a depth of 10 cm is recommended to fragment the rhizomes and encourage uniform emergence.





Onion Couch – Control of top growth can be expected in the season of application but the effects of long term control, i.e. succeeding crops, has not been fully established.

2.1 Resistance

Strains of some 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.

This product contains cycloxydim which is an ACCase inhibitor, also classified by the Herbicide Resistance Action Committee as 'Group A'.

Use only as part of a resistance management strategy that includes cultural methods of control and does not use ACCase inhibitors as the sole method of grass-weed control.

Applying a second product containing an ACCase inhibitor to a crop will increase the risk of resistance development; only use a second ACCase inhibitor to control different weeds at a different timing.

Do not use reduced doses of Laser on resistant grass weed populations.

Populations of black-grass and other grass weeds with high levels of resistance will not be fully controlled. Adopt a long-term strategy integrating cultural and chemical measures. Achieving maximum benefits from cultural and chemical control depends on attention to detail. This is the most important factor determining the success of any anti-resistance strategy.

Key elements of the resistance management strategy for Laser:

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, delayed drilling, etc).

Use tank mixes or sequences of effective herbicides with different modes of action within individual crops, or successive crops.

For the control of herbicide resistant grass weeds, always use Laser in sequence with other effective graminicides with different modes of action.

Apply post-emergence to small, actively growing weeds, especially where high levels of resistance are suspected and to reduce the risk of resistance development.

Identify the herbicides to which your grass weeds are resistant. This can help determine the most appropriate herbicides to include in your management strategy.

Monitor fields regularly and investigate the reasons for any poor control.

3. Crops

3.1 Winter and Spring Oilseed Rape:

Laser may be applied from when the crop has fully expanded cotyledons until before the crop canopy prevents adequate spray penetration.

3.2 Sugar Beet, Fodder Beet and Mangels:

Laser can be applied from the two true leaf stage of the crop until before the crop canopy prevents adequate spray penetration.

3.3 Early and Maincrop potatoes:

Laser may be applied at any crop stage before the crop canopy prevents adequate spray penetration.





3.4 Peas:

Laser may be applied to all varieties of combine and vining peas. Apply from the third node stage of the crop until before the crop canopy prevents adequate spray penetration.

A satisfactory crystal violet wax test (see PGRO information sheet 143) should be carried out if leaf wax may have been affected by unfavourable growing or weather conditions. Other post emergence crop protection products will also affect wax levels and a wax test may be necessary. Ideally, Laser should follow applications of broad leaf herbicides, but where Laser is applied before other products (i.e. because grass weeds are the major problem) it is essential to conduct a satisfactory crystal violet wax test before applying the next treatment.

3.5 Winter and Spring Field Beans:

Laser may be applied from the two leaf pairs stage of field beans until before the crop canopy prevents adequate spray penetration.

If applied in sequence with Basagran SG, a minimum of 14 days between applications must occur to allow recovery of the wax layer.

3.6 Dwarf French Beans:

Laser may be applied from when the crop has 1½ trifoliate leaves until before the crop canopy prevents adequate spray penetration.

3.7 Swede, Cabbage, Brussels sprouts and Cauliflower:

Laser may be applied from the two expanded leaf stage until before the crop canopy prevents adequate spray penetration.

3.8 Linseed:

Laser may be applied from when the crop is 2.5 cm tall until before the crop canopy prevents adequate spray penetration.

3.9 Carrots and Parsnips:

Laser may be applied from the two leaf stage of the crop until before the crop canopy prevents adequate spray penetration.

3.10 Salad Onions and Leeks:

Laser may be applied from when the crop has two true leaves until before the crop canopy prevents adequate spray penetration.

Before use on these crops, either alone or in sequence with post emergence products, ensure that leaf wax levels are adequate to afford protection from crop damage.

3.11 Strawberries:

Laser may be applied from when the crop has four true leaves until before the crop canopy prevents adequate spray penetration.

If temperatures are likely to exceed 20°C at or after spraying, delay application until the cool of the evening.

3.12 Ornamental plant production:

a) Bulbs (propagating material)

Laser may be applied when the crop is 5-10 cm tall. It has been used on tulips, narcissi, hyacinths and irises. However, certain species and varieties may be more sensitive to chemical treatment than others and growers are therefore advised to first spray a small proportion of the plants to check their tolerance before treating the rest of the crop.

b) Christmas trees

Laser may be applied to Christmas trees at any time after transplanting once plants are established.





3.13 Commercial, Farm and Nursery Forestry

Laser may be applied to the following tree species after transplanting once plants are established:

Deciduous

Ash
 Beech
 Oak
 Poplar
 Spanish (Sweet) Chestnut
 Sycamore
 Wild Cherry
 Willow

Coniferous

Corsican Pine
 Douglas Fir
 Japanese Larch
 Lodgepole Pine
 Noble Fir
 Scots Pine
 Sitka Spruce
 Western Red Cedar

This recommendation includes trees grown in nursery beds and in their final planting position.

Before using on conifers in a nursery situation or at an early stage of establishment, treat a small number of plants of any one species first to observe if any adverse effects occur before making wider scale treatments.

3.14 Green cover on land temporarily removed from production (set-aside) and industrial crops of oilseed rape and linseed:

Laser may be applied to areas temporarily removed from production where the green cover is made up predominantly (ie sufficient to maintain reasonable cover) of tolerant crops that are present on the label, for the control of grass weeds and volunteer cereals. Use on industrial crops of linseed and oilseed rape is also permitted. When applying Laser to industrial crops of linseed and oilseed rape, the user must refer to the statutory conditions and directions for use relating to linseed and winter and spring oilseed rape respectively.

4. Following Crops

If a crop treated with Laser should fail for any reason, then as a guide, the following intervals should elapse between using Laser and redrilling subsequent crops following normal seedbed cultivations:

After one week: Field bean, pea, sugar beet, rape, kale, swede, radish, white clover, lucerne.
 After four weeks: Dwarf French bean
 After eight weeks: Wheat, barley, maize

Oats should not be sown as the subsequent crop after failure of a crop treated with Laser.

5. Mixing and Spraying

Never prepare more spray solution than is required.

Half fill the spray tank with clean water and start the agitation. Pour in the required amount of Laser and then adjuvant. Add the remainder of the water and continue agitation until spraying is completed. Rinse empty containers and empty into the tank.

When tank mixes are to be used, each product should be added separately to the spray tank, taking due note of any instructions given as to the order of mixing.

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.

The standard water volume is 200 litres/hectare but 100 litres/hectare may be used in open crops for control of annual weeds which are easily accessible to the spray (i.e. at rates of Laser up to 1.25 litres/ hectare only).DO NOT use the 100 litre spray volume for control of perennial grasses or when applying tank mixtures. Use 330





litres/hectare if either of the following conditions apply:
: dense weed growth or crop cover
: when spraying ridged crops with a prevailing side drift

All applications should be made as a FINE spray, as defined by BCPC, unless the highest water volumes are used when FINE or MEDIUM sprays are permissible.

When using a knapsack sprayer for directed applications or spot treatment, mix as above. A sprayer containing 20 litres of spray solution will require 36 mls Laser + 100 mls adjuvant to apply 1.0 l/ha Laser over 360m².

Laser **MUST** be used with an approved adjuvant at the rates indicated in the table below.

ADJUVANT	CONCENTRATION (AS % OF SPRAY VOLUME)	EXAMPLES OF ADJUVANT RATES/HA		
		100 l/ha water	200 l/ha water	250 l/ha water
Toil (or alternative ≥95% methyl esters of rapeseed fatty acids adjuvant)	0.5%	0.5 l	1.0 l	1.25 l

6. Compatibility

For details of compatibilities contact your distributor, local BASF representative, the BASF Technical Services Hotline: 0845 602 2553 or visit our website on: www.agriCentre.basf.co.uk

The following does not form part of the product label under the Plant Protection Products Regulations (EC) 1107/2009.

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 Control of Pesticides 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:



http://www.agricentre.basf.co.uk/go/laser_sds

Alternatively, contact your supplier.

