

## EMERGENCY AUTHORISATION OF A PLANT PROTECTION PRODUCT

### PLANT PROTECTION PRODUCTS REGULATION (EC) No. 1107/2009

Extent of Emergency Authorisation: England

Product name: Asulox

Active ingredient: 400 g/L asulam (a soluble concentrate formulation as detailed in the application form dated 25 July 2005 (HSE Ref.: W001036977))

Product owner: UPL Europe Ltd, The Engine Rooms, 1<sup>st</sup> Floor, Birchwood Park, Warrington, Cheshire, WA3 6YN. (Registered company number: 2844616)

Emergency authorisation holder: The Bracken Control Group, c/o Vallum House, Burgh by Sands, CARLISLE CA5 6AQ

This Emergency Authorisation starts: 1 July 2023

This Emergency Authorisation ends:

(a) for placing on the market and use:  
11 September 2023

(b) for storage and disposal of stocks:  
27 October 2023

This Emergency Authorisation can be withdrawn or amended before its end date if the requirements of authorisation under Regulation 1107/2009 are no longer met. The requirements may no longer be met as a result of, for example, new information brought to the attention of the competent authority on the danger necessitating the use of the product, its effects, or whether use is limited and controlled. These examples are not exhaustive.

HSE Digital Signature

This and the attached Appendices 1 and 2 are signed by the Health and Safety Executive (“HSE”) for and on behalf of the Secretary of State.

Date of issue: 19 June 2023

## EXPLANATORY NOTES

1. This is Emergency Authorisation number 1503 of 2023.
2. This Emergency Authorisation will be published on the website of the Chemicals Regulation Division of HSE.
3. Application reference number: COP 2022/02174.
4. Persons using the product to which this Emergency Authorisation applies should acquaint themselves with and observe all requirements contained in the Regulation (EC) No 1107/2009.
5. Neither the efficacy nor the phytotoxicity of the product for which this Emergency Authorisation has been granted has been assessed and, as such, the user bears the risk in respect of failures concerning its efficacy and phytotoxicity.
6. In this notice Regulation (EC) 1107/2009 means:  
In relation to Great Britain, Regulation (EC) 1107/2009 as it has effect in Great Britain

## ADVISORY INFORMATION

This Emergency Authorisation relates to the aerial and ground-based use of 'Asulox' on rough grazing areas, moorland, amenity grassland and forestry (pre-planting and in first five years after planting) for control of bracken in England only. For ground-based application, use of 'Asulox' is restricted to conservation areas only. The use in conservation areas must be under the direction of the relevant conservation body.

Applications are to be made either aerially by helicopter only in a water volume of 1 part 'Asulox' to 4 parts water per hectare or by vehicle mounted horizontal boom sprayer in a water volume of 400 to 500 litres per hectare or by hand held applicators in a maximum concentration of 1 part 'Asulox' to 4 parts water.

**IMPORTANT:** When applying this product under the terms of this Authorisation of Use Notice, comply with any resistance guidance or restrictions stated on the product label.

Total reliance on one pesticide will hasten the development of resistance. Pesticides of different chemical types or alternative control measures should be included in the planned programme. Alternating with different modes of action is a recognised anti-resistance strategy.

Some forestry trees may be susceptible to damage at high rate of asulam. It is not possible to predict the tolerance of all forestry plants to asulam.

Bracken fronds should not be damaged by livestock, frost (bronzed and stunted fronds) or by cutting before treatment.

Do not apply during or immediately after drought periods or in conditions of high temperature and low humidity.

Do not cut bracken for at least 4 weeks after spraying to permit movement of 'Asulox' to rhizome buds; preferably leave undisturbed until late autumn. No outward signs of the effects of 'Asulox' on bracken will be observed during the current season following application. The effects only become apparent the following spring when normal frond emergence in treated bracken fails to occur.

At least 6 weeks should elapse between applying 'Asulox' and sowing or planting any subsequent crop.

**IMPORTANT:** Note that goods treated under the terms of this GB authorisation can only be legally marketed in Northern Ireland if they are in accordance with the statutory EU Maximum Residue Level (MRL) set under Regulation (EC) [No 396/2005](#). This may also apply to residues in animal products where treated crops are fed to livestock. Growers are advised to draw this to the attention of distributors and retailers so that EU MRL breaches and any associated enforcement against goods marketed in Northern Ireland are avoided.

## APPENDIX 1: CONDITIONS OF EMERGENCY AUTHORISATION

The conditions below are obligatory. They must be complied with when the product is placed on the market and used pursuant to this Emergency authorisation. Failure to comply with the following conditions is likely to result in the withdrawal or amendment of the emergency authorisation under Regulation (EC) No 1107/2009 and may result in other enforcement action, including prosecution.

### Sale and supply:

Packaging: The product may only be placed on the market in the following containers:

- i) 5 to 20 litre high density polyethylene container.
- ii) 1000 litre high density polyethylene container with a top-mounted discharge valve for use with a closed transfer system (the container must not be fitted with any other type of outlet).

Label: The product may only be sold or supplied with the agreed label, which is the label agreed with UPL Ltd on 25 November 2022 (HSE ref.: W002067717 and reproduced in Appendix 4 below).

### Use:

Field of use: **ONLY AS A HERBICIDE**

User: Professional

Situations:	Maximum individual dose (litres product / ha):	Maximum number of treatments (per year):	Latest Time of Application:
Rough Grazing, Moorland, Amenity Grassland (SEE Other Specific Restriction 11)	11	1	11 September in the season of use.
Forest (pre-planting and in first five years after planting)	10	1	11 September in the season of use.

## Operator Protection:

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

Operators must wear suitable protective clothing (coveralls) and suitable protective gloves when handling the concentrate.

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

## Environmental protection:

- (1) To protect non-target terrestrial plants respect an untreated buffer zone of **5m** to non-crop areas when using horizontal boom sprayers. **HORIZONTAL BOOM SPRAYERS MUST BE FITTED WITH AT LEAST 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.
- (2) To protect aquatic organisms, respect an untreated horizontal buffer zone distance to surface water bodies of **90m** when spraying from helicopters using low drift nozzles such as RD1000 Pencil Jets or Delavan RD 'Raindrop' type nozzles.
- (3) To protect non-target terrestrial plants, respect an unsprayed horizontal buffer zone distance to non-target environment of **90m** when spraying from aircraft using low drift nozzles such as RD1000 Pencil Jets or Delavan RD 'Raindrop' type nozzles.
- (4) Extreme care must be taken to avoid spray drift onto non-crop plants outside of the target area.
- (5) To protect mammals, application is not allowed where the hazel dormouse is known to breed.
- (6) To protect birds, application before 1 July and after 12 September in the season of use is not allowed. Where reasonably practical, application should be made after 1 August, or as late in July as possible.

- (7) Operators must take into account ground nesting birds. There is a potentially significant risk to ground nesting birds towards the end of the breeding season.
- (8) Where there is a risk to rare or sensitive species, or where spraying is to take place near a Site of Specific Scientific Interest then advice must be sought from the appropriate conservation agency - Natural England, Scottish Natural Heritage, Natural Resources Wales or the Northern Ireland Environment Agency.
- (9) Since there is a risk to aquatic life from use, users not applying the statutory buffer zone must either themselves carry out or ensure that someone else has carried out a Local Environment Risk Assessment for Pesticides (LERAP) on their behalf before each spraying operation from a horizontal boom sprayer. Users must not allow direct spray from such sprayers to fall within **5m** of the top of the bank of any static or flowing waterbody or within 1m of a ditch which is dry at the time of application (these distances to be measured as set out in the booklet 'Local Environment Risk Assessment for Pesticides - Horizontal Boom Sprayers' and any amendments that are made to it) unless:
  - (a) The LERAP indicates that a narrower buffer zone will be sufficient; and
  - (b) Any measures indicated by the LERAP as justifying the narrower buffer zone are complied with in full and in accordance with any conditions applicable to them.

Spray must be aimed away from water.

Spray from hand-held sprayers must not be allowed to fall within 1m of the top of the bank of a static or flowing waterbody. Spray must be aimed away from water.

- (10) The results of the LERAP must be recorded in written form and must be available for a period of three years for inspection to any person entitled to exercise enforcement powers under or in connection with the Plant Protection Products Regulations 2011 or the Plant Protection Products (Sustainable Use) Regulations 2012. (An electronic record will satisfy the requirement for a written record, providing it is similarly available for inspection and can be copied).
- (11) Detailed guidance on LERAPs and how to conduct a LERAP are contained in the booklet 'Local Environment Risk Assessment for Pesticides - Horizontal Boom Sprayers', available from HSE Chemicals Regulation Division's website. All LERAPs must be carried out in accordance with this Guidance and any amendments that are made to it.

Other specific restrictions:

- (1) This product must only be applied in England in accordance with the terms of this Emergency Authorisation and the product label.
- (2) This product must only be used for the control of bracken (*Pteridium aquilinum*).
- (3) If applied aerially, it must only be by helicopter using low drift nozzles.
- (4) No person may carry out aerial spraying or cause or permit another person to carry out aerial spraying unless such spraying is authorised by an aerial spraying permit issued by the HSE.
- (5) If applied aerially, this product must only be applied to dense bracken in continuous stands covering a minimum of 80% of the area to be treated.
- (6) Livestock must be removed from areas to be treated and must not be allowed to return until at least 1 month after treatment.

- (7) Where ragwort is present users should consult the 'Code of Practice on How to Prevent the Spread of Ragwort.' Ragwort plants sprayed with this herbicide are more palatable and contain higher levels of toxins. Livestock must be excluded from treated areas until any ragwort has completely recovered or died and there is no visible sign of the dead weed. Do not include treated ragwort in hay or silage crops.
- (8) Containers must not be re-used.
- (9) A maximum concentration of 1 part product to 4 parts water must not be exceeded.
- (10) When this product is applied via helicopter with adjuvants, it must only be with adjuvants that have a List Entry that permits aerial application in mixture with asulam and all conditions of the List Entry must be followed.
- (11) Ground-based use is permitted only on areas with a statutory conservation designation (such as Sites of Special Scientific Interest or Areas of Special Scientific Interest) or Agri-Environment scheme agreement land, including:
  - Countryside Stewardship
  - Environmental Stewardship

Where specific agreement for bracken control including the use of 'Asulox' has been made with Natural England.

Records of this agreement must be kept and made available on request.



- (12) This product qualifies for inclusion within 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 'Local Environment Risk Assessment for Pesticides Horizontal Boom Sprayers' booklet available from the HSE Chemicals Regulation Division's website or the statutory buffer zone must be maintained. The results of the LERAP must be recorded and kept available for three years.

## **APPENDIX 2: GENERAL CONDITIONS FOR AN EMERGENCY AUTHORISATION**

Failure to comply with the following conditions is likely to result in the withdrawal or amendment of the Emergency authorisation under Regulation (EC) No 1107/2009 and may result in other enforcement action, including prosecution.

### **Adverse effects:**

The authorisation holder must immediately notify the Secretary of State (care of the Health and Safety Executive), if they have any new information on the potentially adverse effects of the authorised product, or of residues of an active substance in that product when used in accordance with the conditions of this Emergency Authorisation. Failure to comply with this requirement is an offence.

### **Provision of information:**

The authorisation holder must comply with all requests for information required by, or on behalf of, the Secretary of State, in accordance with Regulation (EC) No 1107/2009.

### APPENDIX 3: STEWARDSHIP

This stewardship is prepared in accordance with the specific conditions of this emergency authorisation. It must be followed as a condition of the authorisation.

The terms of the emergency authorisation stewardship are:

- (i) Records must be kept to show ground-based use has occurred only on areas with a statutory conservation designation (such as Sites of Special Scientific Interest or Areas of Special Scientific Interest) or Agri-Environment scheme agreement land, including:

- Countryside Stewardship
- Environmental Stewardship

where specific agreement for bracken control including the use of 'Asulox' has been made with Natural England.

- (ii) Records must be kept that land owners have been informed of and have adhered to the 1-month livestock exclusion restriction after the product has been sprayed, and that they have been advised that this is necessary to avoid potential MRL exceedances when placing produce into the supply chain.
- (iii) Details must be kept of the annual quantity/volume of sales of Asulox from UPL Europe Ltd and their distributors, adjusted for any product that is returned unused. This must be presented for use in SSSIs/Agri-environment areas and forest.
- (iv) Information must be kept on an annual basis on the habitats and environments where 'Asulox' is sprayed, and estimations of the quantity/volume of product applied to each habitat/environment, including details of the conservation area treated and the conservation body which agreed its use.
- (v) Further research must be done on the alternatives to 'Asulox'. In particular, further data on the efficacy of such applications should be generated to support future applications for authorisation for use of alternative plant protection products in conservation areas.
- (vi) Further research must be done on the non-target species sensitive to amidosulfuron to support a permanent solution.

- (vii) Further data confidential to UPL Europe Ltd are required to address the consumer risk assessment and must be submitted to enable the consideration of a further application for this use. The applicant must liaise with UPL to ensure that these data are submitted with the next application for this use.
  
- (viii) Further data to address the endocrine disruption potential of asulam regarding the T-modality are required from UPL Europe Ltd and must be submitted to enable the consideration of a further application for this use. The applicant must liaise with UPL to ensure that these data are submitted with the next application for this use.

## APPENDIX 4: PRODUCT LABEL

# ASULOX

A post-emergence translocated herbicide for the control of bracken under the conditions of the emergency authorisation issued by Chemicals Regulation Division of the Health and Safety Executive.

A soluble concentrate containing 400 g/L (33.6% w/w) of the sodium salt of asulam

ASULOX

A soluble concentrate containing 400 g/L (33.6% w/w) of the sodium salt of asulam



### WARNING

**May cause an allergic skin reaction.**

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

Wear protective gloves/protective clothing.

IF ON SKIN: Wash with plenty of water.

Avoid release into the environment.

Collect spillage.

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

## **SAFETY PRECAUTIONS**

### **Operator Protection**

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

**OPERATORS MUST WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS) AND SUITABLE PROTECTIVE GLOVES WHEN HANDLING THE CONCENTRATE.**

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

**DO NOT BREATHE SPRAY.**

**WASH HANDS AND EXPOSED SKIN** before meals and after work.

**WHEN USING** do not eat drink or smoke

### **Environmental Protection**

**TO PROTECT AQUATIC ORGANISMS**, respect an untreated horizontal buffer zone distance to surface water bodies of 90m when spraying from helicopters using low drift nozzles such RD1000 Pencil Jets or Delavan RD 'Raindrop' type nozzles.

**TO PROTECT NON-TARGET TERRESTRIAL PLANTS**, respect an unsprayed horizontal buffer zone distance to non-target environment of 90m when spraying from aircraft using low drift nozzles such as RD1000 Pencil Jets or Delavan RD 'Raindrop' type nozzles.

**TO PROTECT NON-TARGET TERRESTRIAL PLANTS** respect an untreated buffer zone of 5m to non-crop areas when using horizontal boom sprayers. **HORIZONTAL BOOM SPRAYERS MUST BE FITTED WITH AT LEAST 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.

**SINCE THERE IS A RISK TO AQUATIC LIFE** from use, users not applying the statutory buffer zone must either themselves carry out or ensure that someone else has carried out a Local Environment Risk Assessment for Pesticides (LERAP) on their behalf before each spraying operation from a horizontal boom sprayer.

**USERS MUST NOT ALLOW DIRECT SPRAY** from horizontal boom sprayer to fall within 5m of the top of the bank of any static or flowing waterbody or within 1m of a ditch which is dry at the time of application (these distances to be measured as set out in the booklet 'Local Environment Risk Assessment for Pesticides - Horizontal Boom Sprayers' and any amendments that are made to it) unless:

- (a) The LERAP indicates that a narrower buffer zone will be sufficient; and
- (b) Any measures indicated by the LERAP as justifying the narrower buffer zone are complied with in full and in accordance with any conditions applicable to them.

Spray must be aimed away from water.

Spray from hand-held sprayers must not be allowed to fall within 1m of the top of the bank of a static or flowing waterbody. Spray must be aimed away from water.

The results of the LERAP must be recorded in written form and must be available for a period of three years for inspection to any person entitled to exercise enforcement powers

under or in connection with the Plant Protection Products Regulations 2011 or the Plant Protection Products (Sustainable Use) Regulations 2012. (An electronic record will satisfy the requirement for a written record, providing it is similarly available for inspection and can be copied).

Detailed guidance on LERAPs and how to conduct a LERAP are contained in the booklet 'Local Environment Risk Assessment for Pesticides - Horizontal Boom Sprayers', available from HSE Chemicals Regulation Division's website. All LERAPs must be carried out in accordance with this Guidance and any amendments that are made to it.

**EXTREME CARE MUST BE TAKEN** to avoid spray drift onto non-crop plants outside of the target area.

**TO PROTECT BIRDS**, application before 1 July and after 12 September in the season of use is not allowed. Where at all feasible, application should be made after 1 August, or as late in July as possible.

Operators must take into account ground nesting birds. There is a potentially significant risk to ground nesting birds towards the end of the breeding season.

**WHERE THERE IS A RISK TO RARE OR SENSITIVE SPECIES**, or where spraying is to take place near a Site of Specific Scientific Interest then advice must be sought from the appropriate conservation agency - Natural England, NatureScot, Natural Resources Wales or the Northern Ireland Environment Agency.

### Storage and Disposal

KEEP AWAY from food drink and animal feedingstuffs.

KEEP OUT OF REACH of children.

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

WASH OUT CONTAINER THOROUGHLY and dispose of safely.

CONTAINERS MUST NOT be re-used.

### <Quantity>

For Batch Number and Manufacturing Date see bottle.

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

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<b>IMPORTANT INFORMATION</b> FOR PROFESSIONAL USE ONLY AS A HERBICIDE TO CONTROL BRACKEN			
<b>Crops/Situations</b>	<b>Maximum individual dose (L product/ha)</b>	<b>Maximum number of treatments (per year)</b>	<b>Latest Time of Application</b>
Rough Grazing, Moorland and Amenity Grassland (see Other Specific Restriction 11)	11	1	12 September in the season of use
Forest (pre-planting and in first five years after planting)	10	1	12 September in the season of use

**OTHER SPECIFIC RESTRICTIONS:**

1. This product must only be applied in accordance with the terms of this Emergency Authorisation, the product label and/or associated leaflet.
2. This product must only be used for the control of bracken (*Pteridium aquilinum*).
3. If applied aurally, it must only be by helicopter using low drift nozzles.
4. No person may carry out aerial spraying or cause or permit another person to carry out aerial spraying unless such spraying is authorised by an aerial spraying permit issued by the HSE
5. If applied aurally, this product must only be applied to dense bracken in continuous stands covering a minimum of 80% of the area to be treated
6. Livestock must be removed from areas to be treated and must not be allowed to return until at least 1 month after treatment.
7. Where ragwort is present users should consult the 'Code of Practice on How to Prevent the Spread of Ragwort.' Ragwort plants sprayed with this herbicide are more palatable and contain higher levels of toxins. Livestock must be excluded from treated areas until any ragwort has completely recovered or died and there is no visible sign of the dead weed. Do not include treated ragwort in hay or silage crops.
8. Containers must not be re-used.
9. A maximum concentration of 1 part product to 4 parts water must not be exceeded.
10. When this product is applied via helicopter with adjuvants, it must only be with adjuvants that have a List Entry that permits aerial application in mixture with asulam and all conditions of the List Entry must be followed.
11. Ground-based use is permitted only on areas with a statutory conservation designation (such as Sites of Special Scientific Interest or Areas of Special Scientific Interest) or Agri-Environment scheme agreement land, including:
  - Countryside Stewardship
  - Environmental Stewardship

Where specific agreement for bracken control including the use of 'Asulox' has been made with Natural England.  
Records of this agreement must be kept and made available on request.

## **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.

## **BRACKEN CONTROL**

FRONDS MUST NOT be damaged by stock, frost (bronzed and stunted fronds) or by cutting before treatment.

DO NOT apply during or immediately after drought periods or in conditions of high temperature and low humidity.

DO NOT cut bracken for at least 4 weeks after spraying to permit movement of ASULOX to rhizome buds; preferably leave undisturbed until late autumn.

AT LEAST 6 WEEKS should elapse between applying ASULOX and sowing or planting any subsequent crop.

DO NOT admit livestock for at least 1 month after treatment to avoid trampling of treated fronds.

NOTE: No outward signs of the effects of ASULOX on bracken will be observed during the current season following application. The effects only become apparent the following spring when normal frond emergence in treated bracken fails to occur.

Apply ASULOX on a dry day. Ideally, there should be 24 hours without rain to allow for adequate uptake of ASULOX into the bracken plant. Light rain after 6 hours should not adversely affect activity.

### **Primary clearance treatments and containment**

Bracken should be treated in full frond (all fronds fully expanded) but before yellowing (start of senescence). Normally this will be within the period mid July to late August.

### **Follow up treatments for bracken clearance**

Because of dormant buds on the rhizome system of bracken, complete control will not be achieved by a single application. Re-growth tends to be stunted but should be treated at the same timing as primary applications, irrespective of the state of frond development.

IF NO FOLLOW-UP TREATMENT OR LAND IMPROVEMENT PROGRAMME IS CARRIED OUT, THE LAND IS LIKELY TO BE RE-INFESTED WITH BRACKEN WITHIN 5 YEARS OF A PRIMARY APPLICATION.

### **MIXING**

ASULOX can be applied in a water-based system. If you wish to use it with an adjuvant, see the Chemicals Regulation Division Official List for details of approved adjuvants. Adjuvants must NOT be used in forestry situations when overspraying trees or other situations where selectivity of the applied spray may be critical.

Half fill the spray tank or container with water and then pour in the required amount of ASULOX and top up with water. When ASULOX is used with an adjuvants, all conditions of the List Entry must be followed. Ensure thorough mixing before commencing spraying.

### **CROP SPECIFIC INFORMATION**

Only one application should be made per year.

No bracken spraying should be attempted along stream banks, wet gulleys, screes and other locations where rare or unusual plants are often to be found.

### Grassland species tolerance to ASULOX

Some grasses and herbs may be damaged by ASULOX. In practice, a dense bracken canopy protects the underlying vegetation and any check to these species is usually only temporary. The more sensitive species include Yorkshire-fog, Timothy, Cock's-foot, bents, annual meadow-grass, daisy, docks, plantains, saxifrage and all other ferns.

### Tree species tolerance to ASULOX

Most species are unaffected. However, young specimens of the following may exhibit chlorosis and a slight check in growth if directly sprayed whilst actively growing:

Beech	Grand fir	Scots pine
Birch	Japanese larch	Bilberry
Corsican pine	Norway spruce	Gorse
Douglas fir	Poplar	Heathers
Elm	Sitka spruce	

Mature specimens of the above, as well as hawthorn, holly and rowan will be unharmed. Western hemlock and willows are more susceptible and spraying of these species should be avoided.

Some forestry trees may be susceptible to damage at high rates of asulam. It is not possible to predict the tolerance of all forestry plants to asulam.

## A. BRACKEN CONTROL IN ROUGH GRAZING, MOORLAND AND AMENITY GRASSLAND

<b>AERIAL application by HELICOPTER only</b>	Apply ASULOX at 11 L/ha in a total spray volume, including water, of 44 L/ha.
TRACTOR MOUNTED SPRAYER  (& other vehicle mounted sprayers) <b>- OVERALL treatment</b>	Apply ASULOX at 11 L/ha in 400 - 500 L/ha of water as a MEDIUM or COARSE spray (BCPC category). Adjust boom height to give uniform coverage at the top of the bracken fronds.
<b>KNAPSACK SPRAYER or HAND LANCE</b> (Hand-operated) <b>- SPOT and OVERALL spray treatment</b>	Mix 1 part ASULOX with minimum 4 parts water. Avoid spraying to run-off. The knapsack lance should be fitted with a nozzle to apply a MEDIUM or COARSE spray (BCPC category). A red food-stuffs dye may be mixed with the spray to help identify treated fronds.

## B. BRACKEN CONTROL IN FORESTRY AREAS

<b>AERIAL application by HELICOPTER only</b>	Apply ASULOX at 5-10 L/ha in a total spray volume, including water, of 55 L/ha.
<b>TRACTOR MOUNTED SPRAYER (&amp; other vehicle mounted sprayers) - OVERALL treatment</b>	Apply ASULOX at 10 L/ha in 400 - 500 L/ha of water as a MEDIUM or COARSE spray (BCPC category). Adjust boom height to give uniform coverage at the top of the bracken fronds.
<b>KNAPSACK SPRAYER or HAND LANCE (Hand-operated) - SPOT and OVERALL spray treatment</b>	Mix 1 part ASULOX with minimum 4 parts water. Avoid spraying to run-off. The knapsack lance should be fitted with a nozzle to apply a MEDIUM or COARSE spray (BCPC category). A red food-stuffs dye may be mixed with the spray to help identify treated fronds.

### **Releasing treatments in forestry and habitat management**

Apply ASULOX at 5-10 L/ha as an aerial overspray to saplings for the control of bracken as a releasing treatment. The higher rate (10 L/ha) will provide a longer period of bracken suppression and “release”. Do not use adjuvants with ASULOX in forestry situations when overspraying young trees.

### **Bracken control for tree planting programmes in forestry**

#### **New planting:**

Treat mature bracken only after 1 July and before the end of August pre-planting. Leave bracken undisturbed until it dies back, then plant up in accordance with normal forestry practice. DO NOT re-plant for at least 4 weeks after spraying. Allow at least 4 weeks between application and cutting or clearing bracken from small trees to permit movement of ASULOX to the rhizome.

#### **Re-planting:**

After spring & early summer felling: treat mature bracken re-growth in late summer before the end of August and before re-planting.

Mid-summer felling conflicts with the timing of ASULOX applications as the bracken is immature before felling and bracken re-growth has no time to mature after felling.

Late summer / autumn felling: treat area before felling (treatment after felling may show reduced efficacy where felling has damaged bracken stands). Leave at least 4 weeks between treatment and felling to allow translocation of ASULOX to the rhizomes.

### **RESISTANCE**

Total reliance on one pesticide will hasten the development of resistance. Pesticides of different chemical types or alternative control measures should be included in the planned programme. Alternating with different modes of action is a recognised anti resistance strategy.

### **COMPANY ADVISORY INFORMATION**

### **CONDITIONS OF SUPPLY**

All goods supplied by the company are of good quality and we believe them to be fit for urpose.

However, as we cannot exercise control over their storage, handling, mixing or use or the weather conditions before, during or 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.

These conditions cannot be varied by our staff or agents whether or not they supervise or assist in the use of such goods. Brand names used in this label may be registered trademarks of UPL Europe Ltd, or other manufacturers in which propriety rights may exist.