Envision® Herbicide

A non-residual herbicide for the control of annual and perennial broadleaved and grassy weeds.
A soluble concentrate containing 450 g/l glyphosate present as 607 g/l (50.5% w/w) of the isopropylamine salt.

SAFETY PRECAUTIONS

Safety data sheet available on request.
To avoid risks to human health and the environment, comply with the instructions for use.

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

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).
Keep out of reach of children.
Keep away from food, drink and animal feeding stuffs.
Wear suitable protective clothing and gloves.
This material and its container must be disposed of in a safe way.

CONDITIONS FOR USE
FOR PROFESSIONAL USE ONLY AS AN AGRICULTURAL / HORTICULTURAL / INDUSTRIAL / FORESTRY NON SELECTIVE HERBICIDE

Crops	Maximum dose rate litres per hectare	Maximum number of treatments	Pre-harvest interval or latest time of application
Winter and spring wheat, barley, oats, combining peas, field beans, linseed	3.2	1 per crop	7 days before harvest
Oilseed rape	3.2	1 per crop	14 days before harvest
Stubbles of all crops	3.2	1 per situation	14 days before cultivations, drilling or planting
Grassland	4.8	1 per year	5 days before harvest or grazing
Land not intended to bear vegetation	4.8	1 per year	-
Land prior to cultivation	4.8	1 per year	Before planting/sowing of crops 14 days before cultivations, drilling or planting
Green cover on land temporarily removed from production	3.2	1 per year	5 days before harvest or grazing
Apple and pear orchards	4.0	1 per year	After harvest (post leaf fall) but before green cluster
Cherry, damson and plum orchards	4.0	1 per year	After harvest (post leaf fall) but before white bud
Forestry situations	8.0	1 per year	-

Registration number: PCS 01991

Made in the EU

PROTECT FROM FROST

Headland

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CHEMINOVA
A SUBSIDIARY OF FMC CORPORATION

Manufactured by Cheminova A/S, Denmark

15132105

Net Contents: 15 Litres

This leaflet is an approved label for the product with which it is supplied. The label and leaflet must be read before use and complied with at all times.

GENERAL INFORMATION

Mode of Action

ENVISION is an effective herbicide when used as directed against most annual and perennial grasses and broad-leaved weeds.
ENVISION is translocated from the treated leaves throughout the plant and to underground roots, rhizomes and stolons. Symptoms such as gradual wilting and yellowing of foliage are rapidly visible in grass weeds but are slower to appear in broad-leaved weeds.

Timing treatments
IT IS IMPORTANT WHEN TREATING PERENNIAL WEEDS THAT THERE IS FULL EMERGENCE OF HEALTHY GREEN FOLIAGE AND ACTIVE GROWTH AT THE TIME OF APPLICATION.

The efficacy of this product is increased if the leaf surface for absorption is large. Common couch grass is particularly susceptible at the 4-5 leaf stage, where there is about 10-15 cm of new growth, when tillering and new rhizome growth is starting.

Most perennial weeds broad-leaved weeds are particularly susceptible to treatment when they are actively growing and shortly before flowering.

Annual weeds should be growing actively at the time of treatment. Grasses should have at least 5 cm of growth. Broad-leaved weeds should have at least two sizeable true leaves.

Under conditions of drought, flooding, frost or high temperatures, disease or insect damage or weeds heavily covered with dust, where plant growth is restricted the efficacy of this product will be reduced.

Product Degradation and Following Crops
ENVISION is inactivated on contact with soil, by binding to soil particles. All crops may be planted or sown at specified intervals after treatment with ENVISION. A slight growth retardation following germination may be seen if seeds are sown by direct drilling amongst decaying treated vegetation, roots, rhizomes or stolons.

Associated Farming Practices
Lime, chemical or natural fertilizers or other pesticides should not be applied before treatment or to treated areas for at least 5 days before or after application of ENVISION.

Weather Conditions
For best results a rainfree period of 6 hours and preferably 24 hours is required after application of this product. Treating weeds which are suffering from drought stress may result in reduced efficacy. ENVISION should not be applied under windy conditions because spray drift may cause severe injury or destruction of neighbouring crops. The action of ENVISION will be slower in cooler weather. This product should not be used under frosty conditions while weed growth is reduced by natural senescence.

Tank mixes
ENVISION should only be mixed with products recommended in this leaflet and should be used according to the directions for use.

Do not tank-mix with fertilizers, residual herbicides or other pesticides unless specifically recommended as this may result in reduced weed control.

DIRECTIONS FOR USE
ENVISION MUST ONLY BE USED FOR THE SPECIFIED FIELDS OF USE AND ACCORDING TO INSTRUCTIONS AND RECOMMENDED METHODS OF APPLICATION SPECIFIED ON THIS LABEL.

PLEASE REFER TO THE FOLLOWING TABLES FOR SPECIFIC DETAILS

ENVISION may be applied to all areas which will be planted with food and feed crops, pre-harvest to wheat and oats intended for milling and barley intended for brewing. CONSULT PROCESSOR BEFORE USING ON CROPS INTENDED FOR PROCESSING.

NEVER APPLY PRE-HARVEST TREATMENT TO CROPS GROWN FOR SEED. Barley intended for brewing and contract grown crops should only be treated following prior approval from the grain merchant.

No extra surfactant should be added if the product is to be applied using a rotary atomiser sprayer.

ARABLE APPLICATION, stubbles of all crops and pre-cultivated land

Area of use	Target weeds	Extent of weed infestation	Application rate in l/ha	Water Volume	Application Details
Pre-harvest wheat (including Durum wheat) barley and oats	Common Couch	< 25 shoots/m²	1.6	Hydraulic sprayers 80-250 l/ha or rotary atomisers at 40 l/ha*	Apply when the moisture content of the crop grains is less than 30% and at least 7 days before harvest. Use high clearance tractors with narrow wheels and crop dividers. NEVER TREAT CROPS WHICH ARE GROWN FOR SEED. Treated straw should not be used for horticultural mulch but may be used for all other applications. Following harvest, incorporate or remove straw as required. Treated area may be used for further cultivation after straw clearance.
		26 to 75 shoots/m²	2.4		
		>75 shoots/m² in direct drilled crops	3.2		
	Perennial broad-leaved weeds and other perennial grasses	All species at all levels of infestation	4.0		
	Annual grasses Annual broad-leaved weeds	All species at all levels.**	1.2		
Pre-harvest of oilseed rape	Crop desiccation prior to combine harvesting	-	2.4	Use only hydraulic sprayers at 200-250 l/ha	Apply when seeds contain less than 30% moisture. Apply to standing crop 14-21 days before harvest. Use high clearance tractors with narrow wheels and crop dividers. DO NOT TREAT CROPS WHICH ARE GROWN FOR SEED. For effective combining do not treat crops with a significant amount of secondary growth nor treat areas of crop with delayed maturing caused from damage by poor drainage or birds. Extreme heat, drought or disease may cause crops to mature unevenly after treatment. After treatment straw should be incorporated or removed. Following this process normal cultivation may resume.
	Common couch Annual weeds	<75 shoots/m² all species at all levels	2.4		
	Common couch Perennial broad-leaved weeds	>75 shoots/m² all species at all levels	3.2		
	Other perennial grasses				
Pre-harvest use on combining peas and field beans	Common couch	<75 shoots/m²	2.4	Hydraulic sprayers 80-250 l/ha or rotary atomisers at 40 l/ha*	Apply at least 7 days before harvest to crop seeds containing less than 30% moisture. DO NOT TREAT CROPS WHICH ARE GROWN FOR SEED. This treatment must not be used for crop desiccation. Use high clearance tractors with narrow wheels and crop dividers.
	Common couch	>75 shoots/m²	3.2		
	Perennial broad-leaved weeds Other perennial grasses	All species at all levels	3.2		
Pre-harvest use on linseed	Common couch	<75 shoots/m²	2.4	Use only hydraulic sprayers 80-250 l/ha	Apply at least 7 days before harvest to crop seeds containing less than 30% moisture. A period of 28 days may be necessary before combine harvesting. NEVER TREAT CROPS WHICH ARE GROWN FOR SEED.
	Common couch	<75 shoots/m²	3.2		
	Perennial broad-leaved weeds Other perennial grasses	All species at all levels	3.2		
Autumn and spring application to stubbles of all crops	Common couch	<75 shoots/m²	2.4	Hydraulic sprayers 80-250 l/ha or rotary atomisers at 40 l/ha*	Drilling, direct drilling or cultivation may take place 14 days after spraying. For best results allow sufficient weed growth before spraying. In spring a period of at least 21 days of weed growth should be allowed prior to treatment. NEVER CULTIVATE BEFORE SPRAYING.
	Common couch Other perennial grasses Autumn volunteer potatoes	<75 shoots/m² All species at all levels	3.2		
Stubbles of all crops and land prior to cultivation	Volunteer cereals Other annual grasses Annual broad-leaved weeds	All species at all levels	1.2	Hydraulic sprayers 80-250 l/ha or rotary atomisers at 40 l/ha*	Direct drilling or cultivation may take place 14 days after spraying. NEVER CULTIVATE BEFORE SPRAYING.

* Droplet size should be within 200-300 µm.
** Some weeds such as annual nettle, volunteer potato, polygonum and rosebay willow herb may not be controlled when using low harvest management rates.

A pre-harvest interval of 14 days should be observed during dull weather conditions.

GRASSLAND

ENVISION should be applied at a maximum rate of 4.8 l/ha once per year at least 5 days before harvest, grazing or drilling.

Area of use	Target weeds	Extent of weed infestation	Application rate in l/ha	Water Volume	Application Details
Grassland destruction and control of associated weeds	Short rotation rye grass with annual weeds	Application rates should be adapted to control the least susceptible weeds present. See following tables for dose rates	2.4	Hydraulic sprayers 150-250 l/ha	DO NOT apply lime, chemical or natural fertilisers, or other pesticides before treatment or to treated areas within 5 days of ENVISION application. Treat following regrowth after grazing or mowing, Clear treated grass crop before planting or drilling next crop. Grass and clover may be direct drilled after treatment on: - 1-2 year leys without mat, with all surface vegetation removed before drilling, 14 days after spraying. - Long leys with some mat should be sprayed in autumn and not direct drilled until the following spring.
	Perennial grasses in leys of 2-4 years		3.2		
	Perennial broad-leaved weeds in long leys of 4-7 years		4.0		
	Permanent pasture		4.8		

DOSE RATES FOR CONTROLLING WEED SPECIES IN GRASSLAND

Strains of black-grass have developed resistance to many black-grass herbicides, this may lead to poor control.

Application Rate - 2.4 l/ha		
Annual meadow grass	Creeping bent grass	Italian rye grass
Smooth meadow grass	Yorkshire fog	Perennial rye grass
Application Rate - 3.2 l/ha		
Red fescue	Bracken	Broad-leaved dock
Creeping soft-grass	Plantains	Common couch
Creeping buttercup	Common ragwort	Cock's foot
Application Rate - 4.8 l/ha		
Yarrow	Creeping thistle	Perennial sow-thistle
Common nettle		

LAND NOT INTENDED TO BEAR VEGETATION AND LAND PRIOR TO CULTIVATION

ENVISION should be applied at a maximum rate of 4.8 l/ha on land not intended for cropping.

Area of use	Target weeds	Extent of weed infestation	Application rate in l/ha	Water Volume	Application Details
Land not intended to bear vegetation and prior to cultivation	Annual weeds	All species at all levels	1.2	Hydraulic sprayers 80-250 l/ha, rotary atomisers at 40 l/ha*, or knapsack sprayer (see "Spray application techniques and equipment").	DO NOT USE IN OR ALONG HEDGEROWS. DO NOT USE UNDER GLASS OR POLYTHENE. For use for weed control: - in fence lines, around buildings and storage areas, along roads, paths and ditch edges. - For clearance of land prior to sowing. Allow 7 days before planting trees and shrubs. Allow 14 days before sowing other crops
	Perennial grasses	All species at all levels	3.2		
	Perennial broad-leaved weeds	All species at all levels	4.8		

* Droplet size should be within 200-300 µm.

GREEN COVER ON LAND TEMPORARILY REMOVED FROM PRODUCTION

Area of use	Target weeds	Extent of weed infestation	Application rate in l/ha	Water Volume	Application Details
Green cover on land temporarily removed from production e.g. set-aside	Annual weeds including volunteer and wild oats, blackgrass, brome	Germinating seedlings	1.2	Hydraulic sprayers 80-250 l/ha, rotary atomisers 40 l/ha* or knapsack sprayer (see "Spray application techniques and equipment").	When green cover crop is predominantly grass, refer to the recommendations and application details in section 'Grassland'.
	Various perennial couch grasses.	<75 shoots/m2	2.4		
		>75 shoots/m2	3.2		
	Annual and perennial broad-leaved weeds	All species at all levels	3.2		

* Droplet size should be within 200-300 µm.

ORCHARDS

ENVISION should be applied at a maximum rate of 4.0 l/ha once per year.

Area of use	Target weeds	Extent of weed infestation	Application rate in l/ha	Water Volume	Application Details
Apple, pear, plum, cherry and damson orchards preplanting	Perennial grasses and broad-leaved weeds in: - arable stubbles - pastures	All species at all levels	 3.2 4.0	Hydraulic sprayers 200-250 l/ha or rotary atomisers 40 l/ha*.	Refer back to the "Timing of Treatments" section. Allow 7 days after spraying before planting top fruit crops.
Within orchards containing apples, pears, plum, cherry and damson	Perennial grasses and broad-leaved weeds	All species at all levels	4.0	Hydraulic sprayers 200-400 l/ha (optimum 250 l/ha) or knapsack sprayer (see "Spray application techniques and equipment").	Fruit trees should be established for at least two years before treatment. AVOID CONTACT WITH BRANCHES AND TRUNKS 30 CM ABOVE GROUND LEVEL. Treatment should be timed after trees have lost their leaves in autumn or for apples and pears in spring before green cluster and before white bud stage for stone fruit.

* Droplet size should be within 200-300 µm.

FORESTRY

When conventional hydraulic sprayers are being used the performance of ENVISION can be improved by the addition of Mixture B® to the spray tank at a rate of 2% of the final water volume, for all pre-plant and post-plant uses in forestry only.
Mixture B® should not be added when using rotary atomiser sprayers.
ENVISION should be applied post-planting in forestry at a maximum rate of 8 l/ha.
Envision will give moderate control of woody weeds in forestry.

Area of use	Target weeds	Extent of weed infestation	Application rate in l/ha	Water Volume	Application Details
Forestry				Hydraulic sprayers 200-400 l/ha (optimum 250 l/ha) or Rotary atomisers 40 l/ha.	All tree species may be planted 7 days after treatment.
Pre-planting on arable land and grassland areas	Arable weeds	All species at all levels	3.2		
	Grassland weeds	All species at all levels	4.0		
Post-planting for clean-up around trees with knapsack applicators	Perennial and annual grasses	All species at all levels	3.2	Hydraulic knapsack sprayers, (see "Spray application techniques and equipment").	Always use TREE GUARD when treating during the growing season.
	Bracken, beech brush, brambles, ash, oak, willow, sycamore, hazel		2.4		Bracken should be treated after frond tips are uncurled but pre-senescence. Apply to heather late August to end of September. Apply to all other woody weeds from June to August before leaf senescence (but after new crop growth has hardened).
	Heather - peat soil - mineral soil		 3.2 4.8		
	Rhododendron		8.0 or 6.4 (+)		(+) Rhododenrons may be controlled at 6.4 l/ha if a proper surfactant/ adjuvant is added at 2% spray volume.

SPRAY APPLICATION TECHNIQUES AND EQUIPMENT

Hydraulic sprayers mounted on tractors

Use any equipment which can apply at 80-250 l/ha as a MEDIUM or COARSE quality spray with a pressure ranging from 1.5 to 2.5 bars with 80° or 110° nozzles.
Pre-harvest applications should be made using high clearance tractors with narrow wheels and crop dividers, where spray boom can be raised to the height just above the top of the crop.
For most applications 200-250 l/ha water volume should be used. Spray pressure (typically 1.5-2.5 bars) must be adjusted and related to tractor speed, water volume and nozzle type. However, specific low volume nozzles may be used with a reduced water volume ranging from 80-120 l/ha. When using low volume nozzles, spray pressure and tractor speed should be adjusted.
A typical speed range would be 4-9 km/h.When applying pre-harvest to crops use a low speed to avoid excessive boom bounce.

All spray equipment should be calibrated before use particularly if nozzles have been changed. Check at least one nozzle from each side of the boom.
Before starting spray application be sure to check that:
- the boom is level
- the boom height is correct for the particular application
- all nozzles along the boom are aligned at the correct angle to forward direction of the tractor.

Rotary Atomisers

Select one of the following applicators;
CDA Boom™ and CDA Lightweight™
Microdrop®,
Girojet®,
Dual-Option Sprayer®,
Hydraspin™

Applications should be made using a water volume of 40 l/ha (20 l/ha for aquatic uses), at a speed of 4-9 km/h with a droplet diameter set at 200-300 mm, equivalent to the 'Medium' or 'Coarse'. The spray equipment should be correctly calibrated according to the manufacturers instructions.

Directed application/Knapsack

Knapsack sprayers may be used in forestry, orchards, setaside land and land not intended to bear vegetation and pre-cultivation. Spray volumes normally range from 200-300 l/ha, but may be reduced to 100-150 l/ha if low volume nozzles have been fitted to swath. Spray quality should be 'medium' or 'coarse'.

Applying 4.0 l/ha with a spray volume of 200 l/ha gives a concentration of 2%. In a 10-litre knapsack sprayer, this requires 0.2 litres of ENVISION in 9.8 litres of water. A 10 litre sprayer will cover 500 sq. metres using a 1m wide swath and a 1m/sec walking speed.

Weedwiper Applicator (e.g. Weedwiper Mini)

Weedwiper Applicator may be used in Orchards, Non-Crop areas.
Apply a solution of 0.8 part ENVISION with 2 parts water.

Non-selective applications/Mist Blower and Drift Applications

Overall Mistblower and ULVA applicators may only be used in forestry. When using ULVA the total spray volume should range from 10-20 l/ha and with a Mistblower between 90-175 l/ha. Use the correct ENVISION rate for control of the particular target weeds.

Filling spray tank

Half fill clean spray tank with clean water, add required quantity of product and mix well; add remaining water. DO NOT use mechanical agitators. Place the filling hose below water level to prevent excessive foaming and remove immediately after filling to prevent backsiphoning. When tankmixing with other products recommended on the label add the other product before adding ENVISION, then add the remaining water.

Warning: DO NOT STORE, MIX OR APPLY FROM AN UNLINED OR GALVANISED STEEL TANK.

DO NOT leave mixture in spray tanks over long periods and be sure that tanks are adequately ventilated.

Compatibility

Do NOT add wetting agents, oils or other pesticides unless recommended on this label.

Sprayer maintenance

Be sure that all spraying equipment is functioning correctly and that equipment is maintained in accordance with manufacturers instructions.

Cleaning spray equipment

Always clean spray tanks and all parts of the equipment adequately after use, using the recommended detergents to be sure to avoid contamination with residues. Contamination with product residues could damage crops when the sprayer is next used for another pesticide.

Trade Mark References

All trademarks are acknowledged.

Envision is a registered trade mark and product of Cheminova A/S, Lemvig, Denmark