

WARNING

**Keep out of reach of children
Read label before use**



Nufarm
LION[®]
HERBICIDE

SCAN ME



AGRECOVERY

www.agrecovery.co.nz

**Active Ingredient: 360g/litre glyphosate
as the isopropylamine salt in the form of a soluble concentrate.**

**For weed control in agriculture, horticulture,
drains, aquatic areas, forestry and other
uses including general weed control.
Recommended prior to sowing pasture,
crops and for the control of a wide range
of brushweeds.**

 **Nufarm**
Grow a better tomorrow

GHS CLASSIFICATION:

Acute inhalation toxicity Category 4, Eye irritation Category 2, Hazardous to the aquatic environment chronic Category 2.

This product must not be used for any purpose, or in any manner, contrary to this label unless authorised under appropriate legislation.

WARNING

- Harmful if swallowed, inhaled or in contact with skin.
- Causes serious eye irritation.
- Toxic to aquatic life with long-lasting effects. Avoid contamination of any water supply with product or empty container.
- Non-selective herbicide – very toxic to some plant species.
Beware: Spray drift hazard. Apply this product carefully. Spray drift may cause serious damage to other desirable plants. Take all reasonable steps to ensure that the substance does not cause any significant adverse effects to the environment beyond the application area.

HANDLING PRECAUTIONS

Any application of Lion Herbicide when used as an aquatic herbicide, must be under the personal control of a “Qualified Loader”, “Qualified Contractor” or a “Qualified Person”.

STORAGE

- Store in original container tightly closed and in a locked, dry, cool area away from foodstuffs, seeds, pesticides, and fertilizers. Store in accordance with NZS 8409 Management of Agrichemicals.
- Spray solutions of Lion Herbicide should be mixed, stored, and applied only in stainless steel, aluminium, brass, copper, fibreglass, plastic, or plastic lined containers. Do not mix or store this product in galvanised or unlined steel (except stainless steel) containers or spray tanks. Lion Herbicide or spray solutions of Lion Herbicide react with such containers to produce hydrogen gas which may form a highly combustible gas mixture which can flash or explode if ignited.
- Stores containing 1000 litres of Lion Herbicide require secondary containment and signage, and more than 1000 litres require emergency response plans.

PERSONAL PROTECTION

- Avoid contact with skin and eyes and avoid breathing spray mist. Do not eat, drink or smoke while using.
- When handling wear eye protection, waterproof gloves, boots and overalls. Do not eat, drink or smoke while using. Use only outdoors or in well-ventilated area. Wash hands and face thoroughly after handling. Wash contaminated clothing before reuse.

EQUIPMENT

- Apply using well maintained and accurately calibrated spray equipment.
- Flush equipment thoroughly with clean water after use.

DISPOSAL

- Triple rinse container and add rinsate to spray tank. Recycle empty container. Otherwise crush and bury in an approved landfill.
- Dispose of product only by using according to the label or at an approved landfill.

Spillage: Wear appropriate protective clothing and prevent material from entering waterways. Absorb spills with inert material and place in waste containers. Wash area with water and absorb with further inert material. Dispose of waste safely in an approved landfill.

First Aid: If medical advice is needed, have the product container or label at hand. IF SWALLOWED: DO NOT induce vomiting. Rinse mouth. For advice, contact the National Poisons Centre 0800 POISON (0800 764 766) or a doctor immediately. IF ON SKIN: Wash with plenty of soap and water. DO NOT SCRUB THE SKIN. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Call doctor if you feel unwell

GENERAL INFORMATION

Glyphosate is classified as non-carcinogenic by many international regulatory agencies. In 2015, the International Agency for Research on Cancer (IARC) classified glyphosate as “probably carcinogenic to humans” (Group 2A). In maintaining their position that glyphosate is non-carcinogenic, the regulatory agency responsible for this hazard classification has taken the IARC report into account.

Lion Herbicide is a broad spectrum, non-selective, non-residual herbicide that is not volatile and may be used in agriculture, horticulture, drains, aquatic areas, forestry and for other uses including general weed control. Lion Herbicide is recommended prior to sowing pasture, crops and for the control of a wide range of brushweeds.

Lion Herbicide is absorbed by plant foliage and green stems. It is inactivated immediately upon contact with the soil and does not provide residual weed control. Lion Herbicide moves from the point of foliage or stem contact into the root system controlling the plant above and below the ground. Visible effects may take up to 14 days or even longer depending on growing conditions. These effects are a gradual wilting and yellowing of the foliage which advances to deterioration of above and below ground parts.

Avoid contact with foliage or green stems of desirable plants and trees since severe injury or destruction may result. Avoid application in winds which allow drift onto desirable plants.

Rainfall occurring up to 6 hours after application may reduce effectiveness. When Pulse® is added the rain free period may be reduced. If Lion Herbicide is applied to wet plants, the period between application and rainfall, without affecting performance, will be longer.

RESISTANCE MANAGEMENT

Resistance to this herbicide could develop from excessive use. Lion Herbicide contains a **GROUP 9 HERBICIDE** and belongs to the glycine group of herbicides. Lion Herbicide has the inhibition of EPSP synthase mode of action. Some naturally occurring weed biotypes resistant to Lion Herbicide and other Group 9 herbicides may exist through normal genetic variability in any weed population. The resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly. To minimise this risk use strictly in accordance with label instructions and for alternative modes of action and the details of resistance management strategies (if any) consult www.resistance.nzpps.org/.

PRE-TREATMENT CHECKLIST

- Do not apply in conditions where drift may occur e.g. wind.
- Apply Lion Herbicide only to healthy, actively growing plants with adequate leaves for herbicide uptake. Avoid treating plants that are drought affected, frost damaged, silt laden, water logged, or suffering from the effects of previous herbicide application.
- Do not apply Lion Herbicide if rainfall is likely within 6 hours.
- Ensure sufficient leaf is present for uptake of Lion Herbicide.

POST-TREATMENT MANAGEMENT

- Where ragwort and other poisonous weeds are present, stock should be withheld from the treated area until these plants brown out (see Ragwort weed control section). For other weeds, It is recommended that grazing or cultivating treated plants is delayed for 3 days for annual weeds and 7 days for perennial weeds to ensure absorption and translocation of Lion Herbicide.
- With brushweeds wait for stem dehydration to occur prior to burning or slashing.

MIXING INSTRUCTIONS

Lion Herbicide mixes readily with water. Reduced results may occur if dirty water is used (e.g. water from ponds or unlined ditches) or if hard water containing calcium salts is used. Ensure the spray tank is free from any residue of previous spray materials.

Procedure

Half fill the tank with clean water. Add the required amount of Lion Herbicide, agitate and continue filling the tank. Avoid foaming by keeping the filler nozzle below water level. Do not store mixed solutions for longer than 5 days. If adding other herbicides add prior to adding Lion Herbicide to the tank. Use tank mixtures promptly.

USE RECOMMENDATIONS

Refer to "WEEDS CONTROLLED" table for rates of application.

It is an offence for users of this product to cause residues exceeding the relevant MRL in the Food Notice: Maximum Residue Levels for Agricultural Compounds.

Withholding period: Wheat, Barley, and oat grain

For human consumption- only to be used prior to sowing

For animal feed- 7 days

General Weed Control:

Handgun – mix 1 litre of Lion Herbicide with 100 litres of water. (1% solution).

Knapsack – mix 150ml of Lion Herbicide with 15 litres of water.

Smaller sprayers – mix 10ml of Lion Herbicide with every 1 litre of water.

Apply to completely wet the foliage but not to run-off.

Brushweed Control: Lion Herbicide may be used to control a wide range of brushweeds and woody plants.

Agricultural Areas: Lion Herbicide may be used for the control of annual and perennial weeds in agricultural land prior to sowing any edible or non-edible crop or pasture.

Where white clover control is required, tank mix with a suitable white clover herbicide and observe recommended waiting periods prior to planting legumes.

Cultivation may start from 7 days after spraying perennial weeds and 3 days for annual weeds.

Pasture: Direct (Spot) Application.

Lion Herbicide is non-selective and may damage or kill any plant in the sprayed area. Apply as a directed low pressure spray. Re-treatment and/or pasture improvement may be necessary to restrict seedling re-establishment.

Selective Wiper Application: For the control of erect weeds in pastures.

Pasture Renovation: Lion Herbicide may be used to control existing pasture species (grass species, legumes and forage herb species) prior to re-seeding pasture or establishing other crops.

Pre-Harvest Weed Control for: Wheat, Barley and Oats.

Not for use on crops intended for human consumption.

For wheat, barley and oats – Apply 4L/ha of Lion Herbicide, 7-12 days prior to harvest when the grain moisture content is less than 30%.

Do not harvest within 7 days after treatment to allow time for the herbicide to translocate into the weed roots.

Do not apply to undersown crops including clovers as they may be severely damaged.

Do not apply to crops which will be harvested for seed.

Avoid treating drought stressed plants.

Orchards / Vines: Citrus, Apples, Pears, Stonefruit, Kiwifruit, Grapevines.

Apply as a directed or shielded spray or with wiper equipment. For long term control of annual weeds Lion Herbicide may be tank mixed with a suitable residual herbicide.

Do not apply near unprotected trees less than 3 years old. Do not allow spray or spray drift to contact any part of stonefruit trees, or green bark, suckers, buds, foliage or fruit of other trees. Do not allow wiper surfaces to contact any part of the trees. Weed foliage coated in copper or calcium based compounds may reduce the activity of Lion Herbicide.

Market Gardens: Lion Herbicide can be applied before or after seeding and prior to crop emergence. Lion Herbicide can be applied prior to transplanting or as a post harvest clean-up. For longer term control of seedling weeds, Lion Herbicide may be tank mixed with Ramrod® or Lasso® Micro-tech® or other suitable residual herbicides. Use in accordance with the label recommendations for these products.

Asparagus: Lion Herbicide can be applied:

- Following the final harvest and immediately after removal of all spears but before crop regrowth occurs.
- Prior to planting or crop emergence. Do not treat emerging spears.
- In established ferns as a directed or shielded spray or with wiper equipment.

Do not allow spray, spray drift or the wiper surface to contact any part of the asparagus plants.

Industrial and Non-Agricultural Areas: Lion Herbicide can be used for the control of annual and perennial weeds as directed. For residual control Lion Herbicide can be tank mixed with simazine or another suitable residual herbicide.

Exercise caution when using residual herbicides prior to planting trees, shrubs or other ornamental plants.

Turfgrass and Recreational Areas: Apply before establishing lawns, parks, reserves and ornamentals. Lion Herbicide can also be applied around the base of established trees as a directed or shielded spray or by wiper equipment. Do not allow spray or spray drift, or the wiper surface to contact any part of the tree. In mown areas, allow sufficient re-growth before spraying.

Aquatic Areas: Drains and Waterways:

Ensure that 75% of the weed to be treated is above water level or efficacy may be reduced. Following spray application do not submerge the treated plant as this will cause the herbicide to be washed off. Avoid treating silt laden plants.

Forestry: Lion Herbicide can be applied for the control of grasses and a wide range of brush weeds.

The addition of Pulse is required for the control of bracken and gorse.

Do not allow spray, spray drift or the wiper surface to contact the foliage or green bark of desirable trees as severe injury can occur.

APPLICATION INSTRUCTIONS

- Ensure the equipment is in good operating order and correctly calibrated.
- Wash thoroughly with water before use, and ensure filters and nozzles are free of pesticide residue.
- Avoid spray drift; care must be used when applying this product to prevent injuring desirable plants and crops.
- To clean equipment after use, flush thoroughly with water.

Boom Application: Water volumes up to 200 litres/ha of clean water are desirable. For broadacre boom application, flat fan, wide angle nozzles (e.g. 110°) using pressures of 200-280 kPa are preferred. Set the boom height to ensure a double overlap of the spray pattern at the top of the weed canopy.

For orchard application wide angle, even spray nozzles are preferred.

Knapsack and Handgun Application:

Adjust the equipment to achieve a fine spray. Use the minimum spray volume necessary to achieve uniform and complete coverage without runoff. Handgun spraying pressures of 1000-2000 kPa and No. 4 to No. 6 spray tips are recommended.

Wiper Application: Pre-mix 1 part of Lion Herbicide and 2 parts of clean water to prepare a 33% solution. Mix only enough herbicide for immediate needs and allow the wiping area to become fully saturated before commencing. The wiping area must remain moist and clean otherwise reduced results will occur. In heavy weed infestations or when treating perennial weeds such as Californian thistle or multi-crown ragwort, a double pass in opposite directions on the same day will give the best results. As weed density increases, decrease ground speed.

Drain thoroughly and wash immediately after use.

Aircraft Application: Lion Herbicide may be applied by aircraft in forestry and non-cropping areas only. Aerial application of Lion Herbicide is not recommended on cropping land or near desirable plant species as even slight drift may cause severe injury or destruction. Do not apply in gusty or windy conditions, or in other conditions conducive to drift e.g. still air and inversion conditions.

Mistblower Application: Use a solution of 300ml of Lion Herbicide in 10 litres of water. For the micron attachment increase to 2 litres of Lion Herbicide in 10 litres of water. Provide complete coverage and spray to wet but not to runoff.

Addition of PULSE PENETRANT

Pulse Penetrant may be used with Lion Herbicide to improve the rate of uptake and shorten the rain free period on certain weeds. Refer to Pulse label before using.

Always use Pulse when treating gorse, broom, bracken, ryegrass and sweet brier.

WEEDS CONTROLLED

BRUSHWEEDS					
WEED	Boom or Aerial litres/ha	Handgun Vol/100 litres	Knapsack ml/10 litres	Mistblower ml/10 litres	CRITICAL COMMENTS
BARBERRY	-	1 litre	100	300	Apply Jan. to Apr. from flowering to late fruit. Where bushes have been cut, regrowth should be 1.5 metres tall before spraying
BLACKBERRY	9-20	1-1.5 litres	100	300	Apply to healthy plants from blossom to ripe fruit stage prior to Autumn frosts (Dec. to Apr.). Only bushes with a well developed canopy of leaves should be treated. Early treatment (Dec. to Jan.) may be preferred in drought prone areas. Leave sprayed blackberry for 40-60 days before burning or slashing and oversow the area. Where treatment has been carried out under marginal conditions some regrowth can be expected within 1-2 years. For aerial application of hard to kill blackberry or where no follow-up pasture management is anticipated, use the higher rate.
BOXTHORN	-	1.25 litres	-	-	Apply Nov. to Apr. to actively growing plants. Avoid salt damaged plants. Spray to ensure complete coverage of dense thickets. DO NOT use additional surfactant as poor results may occur.

BRACKEN PULSE MUST BE USED	9 + Pulse 250ml/ 100 litres (min 500ml/ha)	1 litre + Pulse 200ml/ 100 litres	100 + Pulse 20ml	-	Apply when fronds are unfurled (mid Jan. to Jun.) but prior to frost browning. DENSE VIRGIN BRACKEN WITH HIGH TRASH CONTENT AND LOW LEAF TO ROOT RATIO SHOULD BE BURNT IN SPRING AND THE UNFURLED FROND REGROWTH SPRAYED THE FOLLOWING MARCH TO JUNE.
BROOM PULSE MUST BE USED	9 + Pulse 250ml/ 100 litres (min 500ml/ha)	1 litre + Pulse 200ml/ 100 litres	100 + Pulse 20ml	300 + Pulse 20ml	Aerial Application: Best results are obtained when plants are in full leaf. Handgun Application: Apply all year round. Ensure full coverage.
BUDDLEJA	9	1 litre	100	-	Handgun: If actively growing treat all year. Aerial: Treat buddleja up to 2 metres high during Feb. to Apr.
GORSE PULSE MUST BE USED	-	1 litre + Pulse 200ml/ 100 litres	-	-	Apply all year round. Spray to ensure complete coverage.
OLD MAN'S BEARD	-	1-2 litres	200	-	Apply Nov. to Mar. prior to leaf senescence. Vines too high for complete coverage should be cut at ground level in winter or spring and the regrowth sprayed in Mar. when plants are at least 0.5 metres long. Follow-up treatment will be necessary to control seedlings. Use the low rate for small vines.

BRUSHWEEDS (continued)					
WEED	Boom or Aerial litres/ha	Handgun Vol/100 litres	Knapsack ml/10 litres	Mistblower ml/10 litres	CRITICAL COMMENTS
PAMPAS GRASS / TOETOE	-	1 litre	100	-	Apply spring-autumn. Ensure complete coverage. Best results are achieved when applied after flowering.
RING FERN	1-3	300ml	35	-	Control: Apply 3 litres/ha in Jan. to Apr. Pasture Manipulation: Apply 1-2 litres/ha Dec. to Apr. Use the high rate for dense infestations. Burn 4-6 weeks after treatment and oversow with pasture.
SWEET BRIER PULSE MUST BE USED	12 litres + Pulse 250ml/ 100 litres (min 500ml/ha)	1 litre + Pulse 200ml/ 100 litres	100 + Pulse 20ml	-	Apply from late flowering to early leaf yellowing. Best results achieved with full coverage.
WILLOW	9-18L + Pulse	1 litre	-	-	Apply from Jan. to Apr. before leaf fall begins. Total spray coverage is essential for best results.

ANNUAL WEEDS					
WEED	Boom or Aerial litres/ha	Handgun Vol/100 litres	Knapsack ml/10 litres	Mistblower ml/10 litres	CRITICAL COMMENTS
ANNUAL WEEDS*	1-2	200ml	20	60	Use higher rate for larger weeds.
BARLEY GRASS	1	200ml	20	60	
CLEAVERS	1.5	500ml	50	150	

PERENNIAL WEEDS					
WEED	Boom or Aerial litres/ha	Handgun Vol/100 litres	Knapsack ml/10 litres	Mistblower ml/10 litres	CRITICAL COMMENTS
AUSTRALIAN SEDGE*	6 9 Aerial	1 litre	100	300	Apply from Nov. to Mar. Where rank growth is present the area should be burnt 12-18 months prior to aerial application to ensure adequate spray coverage.
BROWNTOP	6	500ml	50	150	Apply to 5-10cm high actively growing plants.
CALIFORNIAN THISTLE*	4	1 litre	100	300	Apply after flower bud development but before autumn browning. To ensure maximum shoot emergence do not cultivate for 6 months prior to treatment. Wiper: A double pass at low speed is recommended in heavy infestations. Mowing thistles 10 days after treatment may assist control. Re-treatment may be necessary in the following season.
COUCH	3-6	1 litre	100	300	For suppression use 3 litres/ha; for control use 4-6 litres/ha, when growing conditions are satisfactory. Use the high rate in late spring. Apply to plants with at least 4-5 leaves and active shoot and root growth. Do not cultivate for 6 months prior to application to ensure maximum shoot emergence. See the Use Recommendations section for control of couch in a pre-harvest situation. In areas of dense infestation, a repeat application may be necessary

PERENNIAL WEEDS (continued)					
WEED	Boom or Aerial litres/ha	Handgun Vol/100 litres	Knapsack ml/10 litres	Mistblower ml/10 litres	CRITICAL COMMENTS
DOCK	4-9	1 litre	100	-	Treat plants in spring or summer when actively growing and in full leaf. Use low rate for seedlings and young plants. Use high rate for control of established plants.
FLOATING SWEET GRASS REED SWEET GRASS	6	1 litre	100	300	Apply to actively growing plants when most have reached early seedhead.
INDIAN DOAB	9	1 litre	100	-	Apply when most plants have reached early seedhead.
JOHNSON GRASS	6	1 litre	100	300	Apply to actively growing plants.
KIKUYU	6	1 litre	100	300	Apply to actively growing plants. Under dense growth conditions silorate and allow regrowth before treatment to improve control levels.
MERCER GRASS Aquatic Non-Aquatic	9 6	1.5 litres 1 litre	150 100	450 300	
NODDING THISTLE*	-	1 litre	100	-	Wiper Application (see Application Instructions). Apply when actively growing when at least 10cm of the weed can be wiped. In heavy infestations a double pass is recommended.
PASPALUM	4-6	1 litre	100	300	Use the low rate from Jan. to Apr. (early seedhead) prior to frosts. Use 6 litres/ha on vegetative plants.
POTATO (SELF SET)	3	500ml	50	150	
PRAIRIE GRASS	1.5	-	-	-	

PERENNIAL WEEDS (continued)					
WEED	Boom or Aerial litres/ha	Handgun Vol/100 litres	Knapsack ml/10 litres	Mistblower ml/10 litres	CRITICAL COMMENTS
RAGWORT*	6	1 litre	100	-	Apply when actively growing. Wiper: Apply when plants are 10-15cm above the pasture. In heavy infestations a double pass is recommended. Caution: Ragwort plants may become more palatable following spraying and stock should be removed until the treated plants brown out.
RATSTAIL	5	-	-	-	Apply to actively growing plants in autumn.
RAUTAHİ (CUTTY GRASS)	6	1 litre	100	300	Apply to actively growing plants from Jan. to Mar. Burning or slashing may take place from 30 days after treatment following brown-out.
RUSHES*	6	1 litre	100	300	
RYEGRASS PERENNIAL	3-4 + Pulse 100ml/ 100 litres	500ml + Pulse 100ml/ 100 litres	50 + Pulse 20ml	-	Apply any time plants are actively growing and 3-10cm high. Use low rate Jan. to Jul. when cultivation is to follow spraying. Use 3 litres/ha Aug. to Dec. Add Pulse at all times.
PULSE MUST BE USED					
TALL FESCUE	6	1 litre	100	300	Apply to actively growing plants Jan. to Mar.
YARROW	3-6	-	-	-	Apply to plants with 5-10cm of leaf. Cultivate with a minimum of 2 grubblings from 10 days after treatment. Use the 3 litre rate when a competitive crop to yarrow is to be drilled. Use the 6 litre rate when the crop to be drilled is a poor competitor.

* Wiper – See Application Instruction for directions.

Registered pursuant to the ACVM Act 1997, No. P6015

See www.foodsafety.govt.nz for registration conditions.

Approved pursuant to the HSNO Act 1996, Approval Code HSR000227

See www.epa.govt.nz for approval controls.

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® Lion is a registered trademark of Nufarm Limited

CONDITIONS OF SALE:

CAUTION: READ THIS NOTICE BEFORE OPENING THE CONTAINER

If you open this container you will be deemed to have accepted the conditions below.

The results from use of this product may be affected by factors beyond Nufarm's control, including mixing, use, climatic conditions, time of application, crop or crop stage and the possible development of resistance to the active ingredient, even though the product is reasonably fit for the purposes stated in this label, and even though label directions are followed. Nufarm will replace, free of charge, any product which is found to have a manufacturing defect. To the extent permitted by law, all other warranties, guarantees, representations and conditions, whether expressed or implied by law, trade, custom or otherwise are expressly excluded.

When you use this product, you agree that neither Nufarm Limited nor any manufacturer of any component of the product will be liable for any damage, injury or loss including consequential loss which arises in any way from the storage, handling, or use of the product. This exclusion of liability includes loss caused by negligent acts or omissions of Nufarm Limited or any supplier or manufacturer of the product or any of their employees and agents.

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UN 3082
ENVIRONMENTALLY
HAZARDOUS SUBSTANCE,
LIQUID, N.O.S (glyphosate)
Class 9, PG III, Marine Pollutant