

orion AGRISCIENCE



HARMFUL | ECOTOXIC
KEEP OUT OF REACH OF CHILDREN

CropstarTM
Glyphosate 680

GRANULAR HERBICIDE

For weed control in agriculture, horticulture, drains, aquatic areas, forestry and other situations including general weed control.

Active Ingredient:

680 g/Kg glyphosate as the mono-ammonium salt in the form of a water soluble granule.



10kg



PLEASE READ THE LABEL COMPLETELY BEFORE USE**HAZARD CLASSIFICATION: 6.1E, 9.1B****WARNING: HARMFUL, ECOTOXIC**

Maybe harmful if swallowed, inhaled or absorbed through the skin. Toxic to aquatic plants.

PRECAUTIONS

APPROVED HANDLER: This product must be under the control of an approved handler if it is applied onto or into water (otherwise not required).

STORAGE: Keep out of reach of children. Store in the original packaging in a secure place. Storage of certain quantities of this product trigger specific storage requirements (Refer to Safety Note). When stored appropriately this product should show no significant degradation for two years from the date of manufacture. Contact your supplier for further information about the use of product that is older than this.

PERSONAL PROTECTION: Avoid contact with eyes and skin. Avoid inhalation of dust or spray mist. When mixing or applying, wear overalls, boots, gloves and eye protection. Clean protective clothing daily after work. Do not eat, drink or smoke while using. Remove protective clothing and wash hands and face thoroughly before meals and after work.

USE: Apply with well maintained and calibrated spray equipment. This product should only be mixed, contained in or sprayed by equipment made from stainless steel, fibreglass, plastic, aluminium, brass or copper. A highly flammable gas may be formed from the contact of this product with galvanised or unlined steel. All spray equipment, including pumps, spray tanks, lines, nozzles, and landing gear (aircraft) should be thoroughly washed with water after each day of spraying.

DISPOSAL: Dispose of this product only by using in accordance with this label, or at a suitable landfill. Do not burn. Dispose of packaging to a suitable landfill. Do not burn. Do not use packaging for any other purpose.

ENVIRONMENTAL: Use this product carefully. Avoid unintentional contamination of aquatic environments. Spray drift or equipment contamination may cause serious damage to desirable plants. Do not allow spray drift outside the target area to occur. If accidental spraying occurs, immediately wash spray off foliage with plenty of water to minimise damage.

First Aid

If swallowed do not induce vomiting. If splashed in eyes, wash out immediately with water. If skin or hair contact occurs, remove contaminated clothing and wash with running water. For advice, call the National Poisons Centre **0800 POISON (0800 764 766)** (24 hrs) or a doctor immediately.

Emergency Response

In a transport emergency call **111, Police or Fire Brigade**. For specialist advice in an emergency only, call **0800 CHEMCALL (0800 243 622)** (24 hrs).

Spillage

Exclude non-essential people from the area. Wear protective clothing and prevent material from entering waterways. Moisten to prevent dusting and sweep up. Place in a waste container. Wash area with water, and absorb with inert material. Dispose of safely to a suitable landfill.

Safety Data Sheet

Additional information is provided in the safety data sheet. Freephone **0800 ORIONAS (0800 674 6627)** or visit **www.orionagriscience.co.nz**

WARRANTY

This formulation is warranted to contain the specified active ingredient within accepted analytical tolerance when packed. The user bears the risk for damage resulting from factors beyond the manufacturer's control. The manufacturer declines all liability for damage resulting from improper storage or use of the product.

Registered pursuant to the ACVM Act 1997, No. P7999

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

Approved pursuant to the HSNO Act 1996, No. HSR007661

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

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AGRISCIENCE

Batch No:

Date of manufacture:

CROPSTAR



PLEASE READ THE LABEL COMPLETELY BEFORE USE**GENERAL INFORMATION**

Cropstar Glyphosate 680 Granular Herbicide is a broad spectrum, non-selective, non-residual herbicide that is non-volatile and may be used in agriculture, horticulture and for other uses including general weed control. Cropstar Glyphosate 680 Granular Herbicide is recommended prior to sowing pasture and crops. The herbicide is absorbed by plant foliage and green stems. It is inactivated immediately upon contact with soil and does not provide residual weed control. Cropstar Glyphosate 680 Granular 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. Apply Cropstar Glyphosate 680 Granular Herbicide only to healthy, actively growing plants with adequate leaves for herbicide uptake. Avoid treating plants that are drought affected, frost damaged, silt laden or suffering the effects of previous herbicide application. Rainfall occurring up to 2 hours after application may reduce effectiveness. The rainfast period may be reduced to 30 minutes if used in conjunction with an organo-silicone penetrant such as Silmaxx™. If Cropstar Glyphosate 680 Granular Herbicide is applied to wet plants, some efficacy may be reduced due to run off.

PRE TREATMENT CHECKLIST

- **DO NOT** apply in conditions where drift may occur, e.g. wind
- Weeds should be clean, actively growing and not under stress from drought, frost, cold, water logging, grazing or previous herbicide applications
- **DO NOT** apply if rainfall is likely within 2 hours (An organo-silicone penetrant may be used to reduce this period)
- Ensure sufficient leaf is present for uptake

POST TREATMENT MANAGEMENT

A withholding period for grazing stock is not required (except where ragwort is present). It is, however, recommended that grazing or cultivating treated plants is delayed for one day for annual weeds and three days for perennial weeds to ensure absorption and translocation.

MIXING INSTRUCTIONS

Cropstar Glyphosate 680 Granular 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 of any residue of previous spray materials.

PROCEDURE

Pre-mix Cropstar Glyphosate 680 Granular Herbicide with water into a slurry prior to adding to a half full spray tank. If adding other herbicides add prior to adding the herbicide to the tank. Use tank mixtures promptly. If using a penetrant add last to avoid foaming.

USE RECOMMENDATIONS

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. Refer to “Weeds controlled” section for rates of application.

• General Weed Control

Handgun Mix 0.5 kg of Cropstar Glyphosate 680 Granular Herbicide with 100 litres of water.

Knapsack Mix 75 g of Cropstar Glyphosate 680 Granular Herbicide with 15 litres of water.

Apply to completely wet the foliage, but not to runoff.

• Brushweed Control

Cropstar Glyphosate 680 Granular Herbicide may be used to control a wide range of brushweeds and woody plants.

• Agricultural Areas

Cropstar Glyphosate 680 Granular Herbicide may be used for the control of annual and perennial weeds as directed 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 3 days for annual weeds and 7 days after spraying perennial weeds.

• Pasture Direct (Spot) Application

Cropstar Glyphosate 680 Granular Herbicide is non-selective and may damage or kill any plant in the sprayed area. Retreatment 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

Cropstar Glyphosate 680 Granular Herbicide may be used to control existing pasture species prior to re-seeding pasture or establishing other crops.

• Pre-Harvest - Wheat, Barley, Oats, Peas

For wheat, barley and oats - apply 7 - 12 days prior to harvest when the grain moisture content is less than 30%. For peas - apply 7 - 14 days prior to harvest when pods have dried. Use only on peas for threshing. **DO NOT** harvest within 3 days after treatment to allow time for the herbicide to translocate into the weed roots. **DO NOT** apply to under-sown crops including clovers as they may be severely damaged. **DO NOT** apply to crops which will be harvested for seed. Use rates up to 2 kg/ha depending on the specific weeds to be treated. Avoid treating drought stressed plants.

• Orchards/Vines - Citrus, Apple, Pear, Stonefruit, Kiwifruit, Grapevines.

Apply as a directed or shielded spray or with wiper equipment. For long term control of annual weeds tank mix 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 stone fruit 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 Cropstar Glyphosate 680 Granular Herbicide.

• Market Gardens

Cropstar Glyphosate 680 Granular Herbicide can be applied before or after seeding and prior to crop emergence. Application can also be made prior to transplanting or as a post harvest clean-up. For longer term control of seedling weeds the herbicide may be tank mixed with other suitable residual herbicides. Use in accordance with the label recommendations for these products.

• Asparagus

Cropstar Glyphosate 680 Granular Herbicide can be applied:

Following the final harvest and immediately after removal of all spears but before crop re-growth occurs. Prior to planting or crop emergence. **DO NOT** treat emerging spears.

In established ferns use 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

Cropstar Glyphosate 680 Granular Herbicide can be used for the control of annual and perennial weeds as directed. For residual control, the herbicide can be tank mixed with suitable residual herbicides. Exercise caution when using residual herbicides prior to planting trees, shrubs or other ornamental plants.

• Turf Grass and Recreational Areas

Apply before establishing lawns, parks, reserves and ornamentals. Cropstar Glyphosate 680 Granular Herbicide can also be applied around the base of established trees as a directed or shielded spray or 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 is above water level or efficacy may be reduced. Following spray application, **DO NOT** not submerge the treated plants as this will cause the herbicide to be washed off. Avoid treating silt laden plants.

• Forestry

Cropstar Glyphosate 680 Granular Herbicide can be applied for the control of grasses and a wide range of brushweeds. The addition of a penetrant 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 METHODS

Ensure the equipment is in good working order and correctly calibrated. Wash through with water before use and ensure filters and nozzles are free of pesticide residue. Avoid spray drift. Care must be taken 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 broad acre 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 1,000 – 2,000 kPa and No. 4 to 6 spray tips are recommended.

• Wiper Application

Pre-mix 1 part of Cropstar Glyphosate 680 Granular Herbicide and 4 parts of clean water. 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 and wash after use.

• Aircraft Application

Cropstar Glyphosate 680 Granular Herbicide may be applied by aircraft in forestry and non-cropping areas only. Aerial application of Cropstar Glyphosate 680 Granular 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 conditions conducive to drift e.g. still air and inversion conditions.

• Mistblower Application

Use a solution of 150g in 10 litres of water. For the micron attachment, increase to 1 kg in 10 litres of water. Provide complete coverage and spray to wet but not to run-off.

ADDITIVES

Apply an organo-silicone penetrant such as Silmaxx where indicated under recommendations for specific weeds.

RESISTANCE MANAGEMENT

GROUP	G	HERBICIDE
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Cropstar Glyphosate 680 Granular Herbicide contains glyphosate, a group G herbicide belonging to the glycine chemical family, and having the EPSP synthase mode of action. Some naturally occurring weeds may become resistant when excessive use of the same herbicide occurs. To prevent or delay the development of resistance, use in tank mixes and/or rotate use with herbicides with a different mode of action. Consult <http://resistance.nzpps.org/index.php> for alternative modes of action and details of resistance management strategies (if any) for the crops listed on the label.



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WEEDS CONTROL TABLE

Weed	Boom/ Aerial Kg/ha	Handgun Kg/100 litres	Knapsack g/15 litres	Mistblower g/10 litres	CRITICAL COMMENTS
ANNUAL WEEDS (General)	0.5 - 1.0	0.1	15	30	Use higher rate for larger weeds.
AUSTRALIAN SEDGE	3 Aerial 4.5	0.5	75	150	Apply from November to March. Where rank growth is present the area should be burnt 12- 18 months prior to aerial application to ensure adequate spray coverage.
BARLEY GRASS	0.5	0.1	15	30	
BARBERRY	-	0.5	75	150	Apply January to April from flowering to late fruit. Where bushes have been cut, regrowth should be 1.5 metres tall before spraying.
BLACKBERRY	4.5 - 10	0.5 - 0.75	75	150	Apply to healthy plants from blossom to ripe fruit stage prior to autumn frosts (December to April). Only bushes with a well developed canopy of leaves should be treated. Early treatment (December to January) 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	-	0.7	-	-	Apply November to April 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	4.5 + Penetrant 250mL/100L	0.5 + Penetrant 200mL/100L	75 + Penetrant 30mL/15L	-	Apply when fronds are unfurled (mid January to June) 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	4.5 + penetrant 250mL/100L	0.5 + penetrant 200mL/100L	75 +penetrant 30mL/15L	150 +penetrant 20mL/10L	Aerial application - Best results are obtained when plants are in full leaf. Handgun - Apply all year round. Spray to ensure full coverage.
BROWNTOP	1.5	0.25	40	75	Apply to 5 - 10 cm high actively growing plants.
BUDDLEJA	4.5	0.5	75	-	Handgun - If actively growing treat all year round. Aerial - Treat up to 2 metres high during February to April.
CALIFORNIAN THISTLE	2	0.5	75	150	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 10 days after treatment may assist control. Retreatment may be necessary in the following season.
CLEAVERS	0.75	0.25	40	75	
COUCH	1.5 - 3	0.5	75	150	For suppression use 1.5kg/ha, for control use 2 - 3 kg/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. In areas of dense infestation, a repeat application may be necessary.
DOCK	2 - 4.5	0.5	75	-	Treat plants in spring or summer when actively growing and in full leaf. Use low rate for seedlings or young plants. Use high rate for control of established plants.
FLOATING SWEET GRASS REED SWEET GRASS	3	0.5	75	150	Apply to actively growing plants when most have reached early seedhead.
GORSE	-	0.5 + penetrant 200mL/100L	-	-	Apply all year round. Spray to ensure complete coverage.
INDIAN DOAB	4.5	0.5	75	-	Apply when most plants have reached early seedhead.
JOHNSON GRASS	3	0.5	75	150	Apply to actively growing plants.
KIKUYU	3	0.5	75	150	Apply to actively growing plants. Under dense growth conditions silorate and allow regrowth before treatment to improve control.

Weed	Boom/ Aerial Kg/ha	Handgun	Knapsack g/15 litres	Mistblower g/10 litres	CRITICAL COMMENTS
MERCER GRASS • Aquatic • Non-aquatic	4.5 3	0.75 0.5	100 75	225 150	Apply to actively growing plants. Under dense growth conditions silorate and allow regrowth before treatment to improve control.
NODDING THISTLE	-	0.5	75	-	Wiper application - Apply when actively growing when at least 10cm of the weed can be wiped. In heavy infestations a double pass is recommended.
OLD MANS BEARD	-	0.5 - 1	150	-	Apply November to March 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 March 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.
PAMPAS GRASS / TOETOE	-	0.5	75	-	Apply spring - autumn. Ensure complete coverage. Best results are achieved when applied after flowering.
PASPALUM	2 - 3	0.5	75	150	Use the low rate from January to April (early seedhead) prior to frosts. Use 3 kg/ha on vegetative plants.
POTATO (self set)	1.5	0.25	40	75	
PRAIRIE GRASS	0.75	-	-	-	
RAGWORT	3	0.5	75	-	Apply when actively growing. Wiper application - Apply when plants are 10 - 15 cm above the pasture. In heavy infestations a double pass is recommended. (Caution: Ragwort plants may become more palatable after spraying and stock should be removed until the treated plants brown out.)
RATSTAIL	2.5	-	-	-	Apply to actively growing plants in autumn.
RAUITAHII (Cutty grass)	3	0.5	75	150	Apply to actively growing plants from January to March. Burning or slashing may take place from 30 days following brownout.
RING FERN	0.5 - 1.5	0.15	25	-	Control: Apply 1.5kg/ha in January to April. Pasture Manipulation: Apply 0.5-1 kg/ha December to April. Use the higher rate for dense infestations. Burn 4 - 6 weeks after treatment and oversow with pasture.
RUSHES	3	0.5	75	150	Apply to actively growing plants from January to March. Burning or slashing may take place from 30 days after treatment following brownout. Wiper - apply November to May.
RYEGRASS PERENNIAL	0.75 - 1.5 + penetrant 100mL/100L	0.25 + penetrant 100mL/100L	40 + penetrant 15mL/15L	-	Apply any time plants are actively growing and 3 - 10 cm high. Use low rate January to July when cultivation is to follow spraying. Use 1.5 Kg/ha August to December.
SWEET BRIAR	6 + penetrant 250mL/100L	0.5 + penetrant 200mL/100L	75 +penetrant 30mL/15L	-	Apply from late flowering to early leaf yellowing. Best results achieved with full coverage.
TALL FESCUE	3	0.5	75	150	Apply to actively growing plants January to March.
WILLOW	4.5	0.5	-	-	Apply from January to April before leaf fall begins. Total spray coverage is essential for best results.
YARROW	1.5 - 3	-	-	-	Apply to plants with 5 - 10 cm of leaf. Cultivate with a minimum of 2 grubblings from 10 days after treatment. Use the 1.5 kg/ha rate when a competitive crop to yarrow is to be drilled. Use the higher rate when the crop to be drilled is a poor competitor.

