

ECOTOXIC

Knock Out Extra

HERBICIDE

ACTIVE INGREDIENT:

540g/litre glyphosate as the potassium salt in the form of a soluble concentrate.

A non-residual, non-selective herbicide for weed control prior to planting crops and pasture, prior to harvesting some crops and for general weed control in horticulture, agriculture, and forestry.

Registered pursuant to the ACVM Act 1997, No. P10203

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

Approved pursuant to the HSNO Act 1996, No. HSR100587

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

IN A TRANSPORT EMERGENCY: CALL 111, POLICE OR FIRE BRIGADE



PLEASE READ THE LABEL COMPLETELY BEFORE USE

GENERAL INFORMATION

Knock Out Extra 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.

Knock Out Extra is recommended prior to sowing pasture, crops and for the control of a wide range of brushweeds.

Knock Out Extra is absorbed by plant foliage and green stems. It is inactivated immediately upon contact with the soil and does not provide residual weed control. **Knock Out Extra** 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.

Apply **Knock Out Extra** only to healthy, actively growing plants with adequate leaves for herbicide uptake. Avoid treating plants that are silt laden or affected by drought, frost, water logging, grazing or previous herbicide application.

Rainfall occurring up to 2 hours after application may reduce effectiveness. When Organosilicone is added the rainfree period may be reduced to 30 minutes. If **Knock Out Extra** is applied to wet plants, efficacy may be reduced due to runoff.

After application of **Knock Out Extra** a withholding period for grazing stock is not required (except where ragwort is present). However, it is recommended that grazing or cultivating is delayed for 1 day after treatment of annual weeds or 3 days if perennial weeds are present to ensure absorption of **Knock Out Extra**.

With brushweeds wait for stem dehydration to occur prior to burning or slashing.

MIXING AND COMPATIBILITY

Knock Out Extra mixes readily with clean water. Reduced results may occur if dirty water (e.g. from ponds), hard water containing calcium salts, or water containing metal ions (e.g. iron) is used. Ensure the spray tank is free of any residue of previous spray materials. Half fill the spray tank with water. Add the required amount of **Knock Out Extra**, 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. Do not use with 2,4-D Amine. If adding other herbicides, ensure these are fully dispersed before adding the **Knock Out Extra**. Use tank mixtures promptly.

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, oat grain – 7 days

Animal safety: After application of **Knock Out Extra** a withholding period for grazing stock is not required except where ragwort and other poisonous weeds are present. Stock should be withheld from the treated area until these plants brown out. In all other situations it is recommended that grazing or cultivating is delayed for 1 day after treatment of annual weeds or 3 days if perennial weeds are present to ensure absorption of **Knock Out Extra**.

USE RECOMMENDATIONS

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

General Weed Control

Handgun - mix 660ml of **Knock Out Extra** with 100 litres of water (0.66% solution).

Knapsack - mix 100ml of **Knock Out Extra** with 15 litres of water.

Small sprayers - mix 6.5ml of **Knock Out Extra** with every 1 litre of water.

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

Brushweed Control

Knock Out Extra may be used to control a wide range of brushweeds and woody plants.

Agricultural Areas

Knock Out Extra may be used for the control of annual and perennial weeds as directed in agricultural land including pasture (grass/clover) and 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 after spraying perennial weeds and 1 day for annual weeds.

Pasture - Direct (Spot) Application

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

Pasture - Selective Wiper Application

For the control of erect weeds in pastures. Pre-mix 1 part **Knock Out Extra** in 3 parts clean water to make a 25% solution. Mix only enough for immediate use. Plants must be clean and dry and the wiper fully saturated. Apply up and down slopes for effective applications .

Pasture Renewal

Knock Out Extra may be used to control existing pasture species prior to re-seeding pasture or establishing crops.

Pasture Seedhead Suppression (Unimproved Pasture)

Use in unimproved pasture to delay onset of flowering and to maintain pasture grasses in a vegetative growth phase. Treat spring pasture at early grass seedhead emergence with 180–200 mL **Knock Out Extra** Herbicide /ha. Temporary pasture brownout will occur. Do not use Organosilicone or any other surfactant. Accurate spray calibration is important. Grazing can be carried out at any time after 3 days from treatment, but for optimum results graze from 21 days after treatment.

DO NOT USE ON RYEGRASS OR OTHER IMPROVED PASTURES AS YIELD SUPPRESSION MAY OCCUR. IT IS ADVISABLE NOT TO TREAT MORE THAN 10-15% OF THE FARM IN ANY ONE YEAR. DO NOT USE WHEN SOIL MOISTURE LEVELS ARE INADEQUATE FOR PASTURE GROWTH FOLLOWING APPLICATION.

Spraying of Silage Before Cutting

Where paddocks are to be used for cropping after silage, **Knock Out Extra** may be applied before the silage is cut. Use 2.0-2.7 L/ha plus Organosilicone 100mL/100 litres of water in 100-200 litres of water per hectare. Use the high rate on perennial ryegrass or if the silage is rank or lodged. Refer to higher label rates on other specific weeds. After spraying wait at least 4 days before cutting. Grass quality is maintained for 7-10 days

after the initial planned cutting date, even into the early stages of brown-out.

Spraying of Silage or Hay Paddocks After Cutting

Before spraying ensure that there is at least 5-10 cm of actively growing green leaf on all tillers. Typically this takes three weeks or more after cutting. Refer to application rates in the table. Always use Organosilicone.

Pre-Harvest Weed Control: Wheat, Barley, Oats

For wheat, barley and oats - apply 7-12 days prior to harvest when the grain moisture content is less than 30%. For preharvest weed control only. Do NOT use as a preharvest desiccant. 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. Use rates up to 2.67 litres/ha (1.44 kg ai/ha) depending on the specific weeds to be treated. 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 **Knock Out Extra** 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 **Knock Out Extra**.

Market Gardens

Knock Out Extra can be applied before or after seeding and prior to crop emergence. **Knock Out Extra** can be applied prior to transplanting or as a post harvest clean-up for longer term control of seedling weeds. **Knock Out Extra** may be tank mixed with suitable residual herbicides. Use in accordance with the label recommendations for these products.

Asparagus

Knock Out Extra 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

Knock Out Extra can be used for the control of annual and perennial weeds as directed. For residual control

Knock Out Extra 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. **Knock Out Extra** can be applied around the base of established trees as a directed or shielded spray or by wiper equipment. Do not allow spray, 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

Knock Out Extra can be applied for the control of grasses and a wide range of brushweeds. The addition of Organosilicone 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.

WEEDS CONTROLLED - BRUSHWEEDS

Weed	Boom or Aerial L/Ha	Handgun L/100L	Knapsack mL/10L	Mistblower mL/10L	Critical Comment
Barberry	-	0.66	66	200	Apply Jan. to April from flowering to late fruit. Where bushes have been

					cut, regrowth should be 1.5 meters tall before spraying.
Blackberry	6-12.3	0.66-1	66	200	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	-	0.83	-	-	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	6 + 250mL Organosili cone per 100L (Min 500mL/Ha)	0.66+200 mL Organosili cone per 100L	66 + 20mL Organosili cone	-	Apply when fronds are unfurled (mid Jan. 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	6 + 250mL Organosilicone per 100L (Min 500mL/Ha)	0.66 + 200mL Organosilicone per 100L	66 + 20mL Organosilicone	200 + 20mL Organosilicone	Aerial Application - Best results are obtained when plants are in full leaf. Handgun Application - Apply all year round. Ensure full coverage.
Buddleja	6	0.66	66	-	Handgun - If actively growing treat all year. Aerial - Treat buddleja up to 2 meters high during Feb. to Apr.
Gorse	-	0.66+200 mL Organosilicone per 100L	-	-	Apply all year round. Spray to ensure complete coverage.
Old Man's Beard	-	0.66-1.3	130	-	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 meters long. Follow-up treatment will be necessary to control seedlings. Use the low rate for small vines.
Pampas Grass / Toetoe	-	0.66	66	-	Apply Spring-Autumn. Ensure complete coverage. Best results are achieved when applied after flowering.

Ring Fern	0.66-2	0.2	23	-	Control: Apply 2 litres/ha in Jan. to Apr. Pasture Manipulation: Apply 700ml - 1.4 litres/ha Dec. to Apr. Use the high rate for dense infestations. Burn 4-6 weeks after treatment and oversow with pasture.
Sweet Brier	8 + 250mL Organosilicone per 100L (Min 500mL/Ha)	0.66+200 mL Organosilicone per 100L	66 + 20mL Organosilicone	-	Apply from late flowering to early leaf yellowing. Best results achieved with full coverage.
Willow	9-12+250 mL Organosilicone per 100L (Min 500mL/Ha)	0.66+ 200mL Organosilicone per 100L	-	-	Apply from Jan. to Apr. before leaf fall begins. Total spray coverage is essential for best results. Use the high rate for pussy willow control.

WEEDS CONTROLLED – ANNUAL WEEDS

Weed	Boom or Aerial L/Ha	Handgun L/100L	Knapsack mL/10L	Mistblower mL/10L	Critical Comment
Annual Weeds	0.66-1.3	0.13	13	40	Use higher rate for larger weeds.
Barley Grass	0.66	0.13	13	40	
Cleavers	1	0.33	33	100	
Ryegrass Short rotation (Annual, Italian,	2-2.7+ 100mL Organosilicone	0.66 + 100mL Organosilicone per 100L 0.66 + 100mL	66 + 10mL Organosilicone	200 + 10mL Organosilicone	Ensure plants are actively growing and have at least 5-10 cm of green leaf. Add

Hybrid) Established <8 months	per 100L 2.7+ 100mL Organosilicone per 100L	Organosilicone per 100L	66 + 10mL Organosilicone	200 + 10mL Organosilicone	Organosilicone at all times.
Established >8 months					

WEEDS CONTROLLED – PERENNIAL WEEDS

Weed	Boom or Aerial L/H	Handgun L/100L	Knapsack mL/10L	Mistblower mL/10L	Critical Comment
Australian Sedge	4 Aerial 6	0.66	66	200	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	4	0.66	66	200	Apply to 5-10cm high actively growing plants. Some regrowth may occur. Long term control requires a pasture renewal programme utilizing annual crops and repeat applications of Knock out Extra before re-establishing perennial pasture.
Californian Thistle	2.7	0.66	66	200	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. Retreatment may be necessary in the following season.

Couch	2-4	0.66	66	200	For suppression use 2 litres/ha, for control use 2.7 - 4 litres/ha when growing conditions are satisfactory. Autumn treatment is preferable. Use the high rate in late spring. Apply to plants with at least 4-5 leaves (at least 10-15 cm leaf length) and active shoot and root growth. Do not cultivate for 6 months prior to application to ensure maximum shoot emergence. Some regrowth may occur. Long term control requires a pasture renewal programme utilizing annual crops and repeat applications of Knock out Extra before re- establishing perennial pasture. See the Use Recommendations section for control of couch in a pre-harvest situation.
Chewings Fescue Red Fescue	6+ 100mL Organosilicone per 100L	0.66+ 100mL Organosilicone per 100L	-	-	Apply to healthy actively growing plants with 10-15 cm leaf length. Spring treatment gives best results. Some regrowth may occur. Long term control requires a pasture renewal programme utilizing annual crops and repeat applications of Knock out Extra before re- establishing perennial pasture.
Dock	2.7-6	0.66	66	-	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	4	0.66	66	200	Apply to actively growing plants when most have reached early seedhead.

Reed Sweet Grass					
Indian Doab	6	0.66	66	-	Apply when most plants have reached early seedhead.
Johnson Grass	4	0.66	66	200	Apply to actively growing plants.
Kikuyu	4	0.66	66	200	Apply to actively growing plants. Under dense growth conditions mulch and allow at least 10- 15 cm of regrowth before treatment. Long term control requires a pasture renewal programme utilizing annual crops and repeat applications of Knock out Extra before re-establishing perennial pastures.
Mercer Grass	6	1	100	300	
Aquatic Non-aquatic	4	0.66	66	200	
Nodding Thistle	4	0.66	66	-	Wiper Application (see Applicationm Instructions). Apply when actively growing when at least 10cm of the weed can be wiped. In heavy infestations a double pass is recommended.
Paspalum	2.7-4	0.66	66	200	Use the low rate from Jan. to Apr. (early seedhead) prior to frosts. Use 4 litres/ha on vegetative plants.
Potato (Self Set)	2	0.33	33	100	

Prairie Grass	1	-	-	-	
Ragwort	4	0.66	66	-	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	3.3	-	-	-	Apply to actively growing plants in Autumn.
Rautahi (Cutty Grass)	4	0.66	66	200	Apply to actively growing plants from Jan. to Mar. Burning or slashing may take place from 30 days after treatment following brownout. Wiper (Rushes only). Apply Nov. to May.
Rushes	4	0.66	66	200	
Ryegrass Perennial	2.7 + 100mL Organosilicone per 100L	0.66 + 100mL Organosilicone per 100L	66 + 10mL Organosilicon	-	Ensure plants are actively growing and have at least 5 – 10 cm of green leaf. Add Organosilicone at all times.
Tall Fescue	4	0.66	66	200	Apply to actively growing plants Jan. to Mar.
Yarrow	2-4	-	-	-	Apply to plants with 5-10cm of leaf. Cultivate with a minimum of 2 grubblings from 10 days after treatment. Use the 2 litre rate when a competitive crop to yarrow is to be drilled. Use the 4 litre rate when the crop to be drilled is a poor competitor.

For wiper see application instructions in directions

RESISTANCE MANAGEMENT

GROUP	9	HERBICIDE
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Knock Out Extra contains the active ingredient glyphosate, which belongs to the glycine chemical group. Some naturally occurring weeds may become resistant when excessive use of the same herbicide occurs. Consult <http://resistance.nzpps.org/index.php> for alternative modes of action and details of resistance management strategies (if any) for the weeds or crops listed on the label.

CONDITIONS OF SUPPLY

READ THESE CONDITIONS OF SUPPLY BEFORE BUYING AND USING.

IF THESE CONDITIONS ARE UNACCEPTABLE, RETURN AT ONCE UNOPENED.

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 or registrants control. The manufacturer and registrant decline all liability for damage resulting from improper storage or use of the product.



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