

ECOTOXIC

Knock Out 360

HERBICIDE

ACTIVE INGREDIENT:

Contains 360g/litre glyphosate as the isopropylamine salt in the form of a soluble concentrate.

A water soluble herbicide for non-selective control of many annual and perennial weeds.

Registered pursuant to the ACVM Act 1997, No. P10204

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

HSNO Act 1996, Approval Code: HSR101102

See www.epa.govt.nz for Controls

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



READ LABEL BEFORE USE

GENERAL INFORMATION

Knock Out 360 is a broad spectrum, non-selective, non-residual, foliar absorbed and translocated herbicide for control of emerged weeds only. It is deactivated immediately upon contact with the soil and will not provide residual weed control.

Plants should have sufficient leaf area for uptake, be actively growing, free of stress with clean foliage at time of spraying. Do not treat plants that are silt laden or affected by drought, frost, water logging, grazing, or previous herbicide application.

The effects of **Knock Out 360** may not be apparent for 3-7 days depending on weather conditions, weed species and the herbicide rate used. Some perennial weeds may not show effects for 14-21 days.

Cultivation may start from 1 day after spraying on annual weeds and 3 days after spraying perennial weeds. Cultivation should occur within 21 days of spraying.

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. If hard water cannot be avoided, the addition of a recommended surfactant is advised. A penetrant may be used with **Knock Out 360** to increase the rate of uptake into certain weeds.

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, barely, oat grain: 7 days

Animal safety

A withholding period for stock grazing is not required except for 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 cultivating or grazing treated areas is delayed for 1 day for annual weeds and 3 days for perennial weeds to ensure full uptake and translocation. For brushweed control, wait for stem dehydration before burning or slashing.

RAINFALL

Rain occurring up to 2 hours after application may reduce effectiveness. When an organo-silicone penetrant is added the rainfast period is reduced to 20 minutes. Do not apply to wet plants as the efficacy may be reduced.

APPLICATION

Do not apply **Knock Out 360** at more than 20 L /ha (equivalent to 7.2 kg glyphosate acid/ha).

Boom Equipment

Knock Out 360 can be applied in spray volumes up to 200 L per hectare using fan nozzles at pressures in the range of 200-280 kPa. Boom height should be set so a double overlap of nozzle pattern is achieved at the top of the target plants.

Aerial Equipment

Application should be made to forestry and non-crop areas only. **Knock Out 360** can be applied by aircraft in spray volumes of up to 100 L per hectare. Increase the spray volume in hilly terrain to ensure maximum target contact.

Handgun and Knapsack

Ensure a fine spray pattern to give complete coverage. For handguns use pressures of 1000-2000kPa and No.4 to No.6 spray tips.

Mistblower

Refer to table.

Wiper Equipment

Mix only enough for immediate use, mixing a 33% solution (1 part **Knock Out 360** with 2 parts water). Plants must be clean and dry and the wiper fully saturated. Apply up and down slopes for effective applications. High weed density: reduce speed and apply twice in opposing directions.

MIXING AND COMPATIBILITY

Half fill the spray tank with clean water and add the required amount of **Knock Out 360**, agitate and continue to fill the tank. If a penetrant is required, add this last to minimize foaming. Agitate well before spraying. When tank mixing with other herbicides, ensure these are fully dispersed before adding **Knock Out 360**. Be sure to observe all precautions, especially plant back periods when using other herbicides. Use tank mixes promptly. **Knock Out 360** is compatible with most commonly used herbicides.

SITUATIONS FOR USE

SITUATIONS	COMMENTS
Agricultural Areas	May be used for the control of annual and perennial weed species as indicated in the Weeds Controlled Table
Asparagus	Pre-crop emergence and post harvest applications. In established ferns, apply as directed or shielded spray or with a weed wiper. Do not allow spray, spray drift or the wiper surface to contact any part of the asparagus plant.
Aquatic Areas: Drains and Waterways	Do not spray until 75% of the weed is above water level. Avoid treating silt laden plants Do not allow submergence for 6 hours post spraying.
Broadacre Crops Wheat, barley, oats	To be used to control weeds prior to cultivation or prior to harvest. Do not use as a preharvest desiccant. Do not apply more than 4 L/ha. Spray 7-12 days prior to harvest when the grain moisture is less than 30%. Do not harvest within 7 days of spraying. Do not spray under-sown crops. Do not spray crops that will be harvested for seed.
Forestry	For control of all listed weeds as listed in the Weeds Controlled Table, prior to burning or planting of forest or nursery or around established trees. Do not allow spray to come into contact with foliage or green bark of desirable trees.
Industrial and Non-Agricultural Areas	Treat weeds as per Weeds Controlled Table.
Market Gardens As a knock down prior to seeding, transplanting and after harvest	Apply before or after seeding but prior to crop emergence. Spraying can also be carried out prior to transplanting or as a post harvest clean up. For longer term control of seedling weeds, an appropriate residual herbicide can be used as a tank mix with Knock Out 360 , in accordance with label recommendations.
Minimum Tillage For total weed control prior to seeding in a reduced tillage system.	Weeds should be actively growing and not under stress. For improved control of white clover and certain other broadleaf weeds, Knock Out 360 may be tank mixed with another herbicide product effective on those weed types. Consult companion herbicide label for further instructions on use, plant back periods and other restrictions.
Orchards and Vineyards. Citrus, apple, pear, stonefruit, kiwifruit, grapes	Apply as a directed or shielded spray. Do not apply near unprotected trees less than 3 years old. Do not let spray contact green foliage or new growth. Do not allow spray or spray drift to come into contact with the bark of stonefruit trees, or, green bark, suckers, buds, foliage or fruit of any other tree. Spray before crops bud, sucker or bloom. Knock Out 360 can be tank mixed with an appropriate herbicide for residual control.

Pasture (grass/clover)	For the control of existing species prior to pasture renewal. For improved control of white clover and certain other broadleaf weeds, Knock Out 360 may be tank mixed with another herbicide product effective on those weed types. Consult companion herbicide label for further instructions on use, plant back periods and other restrictions. For the suppression of seed heads on unimproved pasture (Pasture Topping) apply 270 mL/ha in spring at early seed head emergence. Do not use a penetrant. Do not use if soil moisture levels following application are too low for pasture growth. Do not use on ryegrass or on another improved pasture as suppression may occur. Brownout will occur but this will be temporary until the pasture grows back. Grazing may commence 3 days after treatment but for best results delay grazing for at least 21 days after treatment. As treatment will restrict grazing, limit the area to be treated.
Recreational Areas Lawns, parks, turf, reserves and ornamentals	Apply before the sowing and planting of these areas or use as a spot application. In mown areas allow sufficient re-growth before spraying. Can also be used around the base of established trees and shrubs as a directed or shielded spray. Avoid contact with any part of the shrub or tree.

DIRECTIONS FOR USE

WEED	RATE				COMMENTS
	Boom/ Aerial L/ha	Handgun L/100 L	Knapsack mL/15 L	Mistblower mL/10 L	
Annual weeds	1.0-2.0	0.2	30	60	Use the high rate on larger weeds. May be tank mixed with residual herbicides such as one containing simazine.
Australian sedge	6-9	1.0	150	300	Apply from Nov-March. Burn or slash from 30 days after treatment.
Barley grass	1.0	0.2	30	60	Apply when plants are at early seed head stage (September-December). A herbicide containing simazine may be added for residual control.
Browntop	3	0.5	75	150	Apply when plants are actively growing and 5-10cm high. For taller plants, graze or burn

					and allow re-growth of 5-10cm height before spraying.
Californian thistle	4	1.0	150	300	Spray after the development of flower buds but before autumn browning. Mowing 10 days after treatment may improve control. Re-treatment the following summer may also be necessary to prevent re-infestation.
Cleavers	1.5	0.5	75	150	Spray actively growing plants after the majority reach early seed head.
Couch	3-6	1.0	150	300	For best results apply 4-6 L/ha in autumn to actively growing plants at least 10cm high where no cultivation has occurred for at least 6 months. For suppression apply 3 L/ha in spring and repeat in the autumn.
Docks	4-9	1.0	150	—	Spray actively growing plants in spring and summer before seed heads have formed. Use higher rate for mature plants. In pasture, spray prior to reseeding or cropping to restrict re-establishment of seedlings.
Floating sweet grass	6	1.0	150	300	Apply at early seed head stage to actively growing, unstressed plants.
Indian doab	9	1.0	150	—	Apply at seed head stage before frosts occur
Johnson grass	6	1.0	150	300	Apply when actively growing
Kikuyu/Mer cer grass	6	1.0	150	300	Apply at early seed head stage. On dense infestations, cut then spray the re-growth.
Nodding thistle	—	1.0	150		When applying with wiper ensure plants are actively growing (Oct-Apr) when at least 10cm of the plant can be wiped. A double pass is recommended and follow up with spot treatment if necessary.
Paspalum	4-6	1.0	150	300	Use low rate when plants are in early seed head. Use the higher rate on mature

					vegetative plants, Sbefore the onset of frosts.
Potato - volunteer	3	0.5	75	150	Spray actively growing plants.
Prairie grass	1.5	0.2	30	—	Apply at early seed head.
Ragwort	6	1.0	150	—	Apply to actively growing plants with sufficient leaf area for uptake. Use wiper when plants are 10-15cm above the pasture using double pass in opposite directions. See note on Withholding Period.
Ratstai	5	1.0	150		Apply to actively growing plants (Mar-Apr). In dry conditions delay spraying until sufficient green foliage is present.
Rautahi (cuttgrass)	6	1.0	150	300	Apply to actively growing plants (Jan-Mar). Burning or slashing may take place after plants have browned out, usually 30 days after application.
Rushes	6	1.0	150	300	Wiper application should be carried out between Nov- May. Burning or slashing may take place after plants have browned out, usually 30 days after application.
Ryegrass (annual, Italian, short rotation hybrids)	3 - 4 + 100 mL/100 L organo-silicone penetrant	1.0 + 100 mL/100 L organo-silicone penetrant	150 + 100 mL/100 L organo-silicone penetrant	300 + 10 mL/100 L organo-silicone penetrant	Spray to actively growing plants when 5 to 10 cm tall. The higher rate may be necessary to reflect the spectrum of weeds present.
Established , > 8 months	4 +100 mL/100 L organo-silicone penetrant	1.0 + 100 mL/100 L organo-silicone penetrant	150 + 100 mL/100 L organo-silicone penetrant	300 + 10 mL/100 L organo-silicone penetrant	
Ryegrass (perennial)	4 + 100 mL/100 L	1.0 + 100 mL/100 L	150 + 100 mL/100 L	—	Apply anytime plants are actively growing and 3-10cm tall. Use low rate Jan-Jul when

	organo-silicone penetrant	organo-silicone penetrant	organo-silicone penetrant		cultivation is to follow spraying. Use the high rate Aug-Sept. For pasture renewal select a suitable rate that reflects weed spectrum present.
Tall fescue	6	1.0	150	300	Apply to actively growing plants Jan-Mar
Yarrow	3-6	—	—		Apply to plants with 5-10cm leaf. For best results cultivate 10 days after treatment. Use low rate when a competitive crop is to be drilled.

BRUSHWEEDS: Wait until stems have dehydrated before slashing or burning					
WEED	RATE				COMMENTS
	Boom/ Aerial L/ha	Handgun L/100 L	Knapsack mL/15 L	Mistblower mL/10 L	
Barberry	—	1.0	150	300	Apply from flowering to late fruit set (Jan- Apr). Growth should reach 1.5m before spraying.
Blackberry	9-20	1.5	150	300	Best results when sprayed mid to late summer after flowering to full fruit (Dec-Apr) but before frosts occur. Allow 6-10 weeks before slashing/burning or over- sowing. Use high rate for hard to kill blackberry, aerial applications and where no follow up treatment is planned.
Boxthorn	—	1.25	150	—	Apply to actively growing plants (Nov- Apr). Ensure complete coverage of dense thickets. Do not use additional surfactant or spray salt damaged plants.
Bracken	9 +250 mL/100 L	1.0 + 200 mL/100 L	150 + 30 MI organo-silicone penetrant	300 + 20 mL organo-silicone penetrant	Apply after bracken fronds have unfurled (mid Jan- June) but before frost occurs
Broom	organo-silicone penetrant (min 500 ml/ ha)	organo-silicone penetrant			Apply to broom via ground application at anytime but for aerial application apply only when broom is in full leaf.

Buddleia	9	1.0	150	—	Apply using a handgun at anytime. For aerial application treat buddleia up to 2m high (Feb-Apr) using a spray volume of 200-300 L/ha
Gorse	—	1.0 + 200 mL/100 L organo-silicone	—	—	Apply anytime ensuring complete coverage of plant. Do NOT treat plants stressed by (for example) drought, grazing or previous herbicide applications.
Old mans beard		1.0-2.0	300	—	Apply Nov-Mar before first leaves brown. Use higher rate on stems over 1cm in diameter. If complete coverage is not possible, plants should be cut at ground level and the re-growth sprayed with the higher rate when the plants are at least 50cm long.
Pampas grass, toetoe	—	1.0	150	—	Spray in spring to autumn. Reduced control may result if plants are in full flower at the time of spraying. Ensure complete coverage.
Ring fern	1-3	0.3	50	—	For effective control use 2 L/ha. For pasture manipulation, apply 0.7-1.4lt/ha from December to April. Use the higher rate for dense infestations. Burn 4-6 weeks after application.
Sweet brier	12+250m L/100 L organo-silicone penetrant e (min 500ml/ha)	1.0 + 200 mL/100 L organo-silicone penetrant	150 + 30 mL organo-silicone penetrant	—	Spray when plant is in late flowering to early leaf yellowing stage. Ensure full coverage.
Willow	9	1.0	—	—	Apply before leaf fall begins (Jan-Apr). Total coverage is essential for good control.

RESISTANCE MANAGEMENT

GROUP	9	HERBICIDE
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Knock Out 360 contains the GROUP 9 herbicide glyphosate. 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).

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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