



ECOTOXIC

MACHETTE® 540

HERBICIDE

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.

ACTIVE INGREDIENT: Contains 540 g/L glyphosate as the potassium salt in the form of a soluble concentrate

GSMC163/F03



MACHETTE® 540
NET CONTENTS: 20 Litres

Grosafe®

MACHETTE® 540

PEEL HERE



HSNO CLASSIFICATION: Hazardous to the aquatic environment, chronic, Category 2

ECOTOXICITY:

Toxic to aquatic organisms, with lasting effects. Do not mix or load near any body of water, avoid spray drift over, or spillage into open water. Avoid contamination of any water supply with chemical or empty container.

QUALIFIED HANDLER: This product must be under the control of an approved handler when applied directly onto or into water.

RECORD KEEPING:

Records of use as described in NZS 8409 Management of Agrichemicals, must be kept if using 3L or more of MACHETTE 540 applied directly onto or into water.

PERSONAL PROTECTION: Avoid contact with skin and eyes and breathing spray mist. When using wear waterproof gloves, suitable boots and cotton overalls. Remove protective clothing and wash hands and face thoroughly before meals and after work.

STORAGE: Store product in original container, tightly closed, in a cool, dry place. Keep out of reach of children, and away from foodstuffs. Storage must be in accordance with the current version of NZS 8409 Management of Agrichemicals. Stores containing more than 1000 L are subject to requirements for signage, secondary containment and an emergency response plan.

Solutions of MACHETTE 540 should be mixed, stored and applied only in stainless steel, aluminium, brass, copper, fiberglass, plastic or plastic lined containers. Do not mix or store this product in galvanized or unlined steel (except stainless steel) containers or spray tanks. MACHETTE 540 or solutions of MACHETTE 540 react with such containers to produce hydrogen gas which may form a highly combustible gas mixture which can flash or explode if ignited.

Shelf life: When stored appropriately this product should show no significant degradation for two years from date of manufacture. Contact your supplier for further information about the use of any product that is older than this.

SPILLS AND DISPOSAL: When dealing with spills wear personal protective clothing and equipment as described in the PERSONAL PROTECTION section. Contain spilled product and store in properly labelled, sealed drums for safe disposal. If spray mixture is spilled absorb with sawdust, soil or absorbent material and collect in drums as above. Deal with all spillages immediately. If contamination of drains, streams, watercourses, etc. is unavoidable, warn the local water authority.

PRODUCT DISPOSAL: If possible dispose of by using according to the label, otherwise dispose of in an approved landfill.

CONTAINER DISPOSAL: Triple rinse and add rinseate to the spray tank. Take to an Agrecovery site or burn if circumstances, especially wind direction, permit. Otherwise bury in a suitable land fill.

FIRST AID:

If medical advice is needed, have product container or label at hand. For advice call a doctor or the National Poisons Centre (0800 764 766).

IF SWALLOWED: Rinse mouth. Do NOT Induce vomiting. Call a POISON CENTRE or doctor for advice.

IF ON SKIN: Wash with plenty of soap and water.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists, get medical advice.

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

EMERGENCY RESPONSE 0800 CHEMCALL: (0800 243 622)

SAFETY DATA SHEET: A safety data sheet is available from Grosafe Chemicals Ltd.

READ THE ATTACHED BOOKLET COMPLETELY BEFORE MIXING OR APPLYING

Registered and distributed by:

**Grosafe**
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Email: info@grosafe.co.nz
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Batch No:

Date of manufacture:

GSMC163/B03

Registered pursuant to the ACVM Act 1997, No P9567.
See www.foodsafety.govt.nz for registration conditions.
Approved pursuant to HSNO Act 1996, Approval Code: HSR100587.
See www.epa.govt.nz for approval conditions

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.

MACHETTE® and FORCE® are registered trademarks of Grosafe Chemicals



GENERAL INFORMATION

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.

MACHETTE® 540 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. MACHETTE® 540 is recommended prior to sowing pasture, crops and for the control of a wide range of brush weeds. MACHETTE® 540 is absorbed by plant foliage and green stems. It is inactivated immediately upon contact with the soil and does not provide residual weed control. MACHETTE® 540 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 MACHETTE® 540 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 Force® Penetrant organosilicone is added the rain free period may be reduced to 30 minutes. If MACHETTE® 540 is applied to wet plants, efficacy may be reduced due to runoff. After application of MACHETTE® 540 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 MACHETTE® 540. With brush weeds wait for stem dehydration to occur prior to burning or slashing.

RESISTANT WEEDS WARNING:

GROUP

9

HERBICIDE

Resistance to this herbicide could develop from excessive use. The product contains and belongs to the glycine group of herbicides and has the inhibition of EPSP synthase mode of action. Some naturally occurring weed biotypes resistant to this product and other group 9 herbicides may exist through normal genetic variability in any weed population. The resistant weeds can eventually dominate the weed population if these types of herbicides are used repeatedly.

USE RECOMMENDATIONS:

Refer to "Weeds Controlled" section for rates of application.

General Weed Control

Handgun - mix 660ml of MACHETTE® 540 with 100 litres of water (0.66% solution).

Knapsack - mix 100ml of MACHETTE® 540 with 15 litres of water.

Small sprayers - mix 6.5ml of MACHETTE® 540 with every 1 litre of water.

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

Brush weed Control - MACHETTE® 540 may be used to control a wide range of brush weeds and woody plants.

Agricultural Areas - MACHETTE® 540 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 after spraying perennial weeds and 1 day for annual weeds.

Pasture - Direct (Spot) Application - MACHETTE® 540 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.

Pasture Renewal - MACHETTE® 540 may be used to control existing pasture species prior to re-seeding pasture or establishing crops.

Pasture Seed head 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 seed head emergence with 180–200ml MACHETTE® 540/ha. Temporary pasture brownout will occur. Do not use Force® Penetrant 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, MACHETTE® 540 may be applied before the silage is cut. Use 2.0-2.7 L/ha plus Force® Penetrant 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 Force® Penetrant.

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%. Peas - apply 7-14 days prior to harvest when the pods have dried. Use only on peas for threshing. Do not harvest within 7 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 2.7 litres/ha depending on the specific weeds to be treated. Avoid treating drought stressed plants.

Orchards/Vines: Citrus, Apples, Pears, Stone fruit, Kiwifruit, Grapevines - Apply as a directed or shielded spray or with wiper equipment. For long term control of annual weeds MACHETTE® 540 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 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 MACHETTE® 540.

Market Gardens: MACHETTE® 540 can be applied before or after seeding and prior to crop emergence. MACHETTE® 540 can be applied prior to transplanting or as a post-harvest clean-up for longer term control of seedling weeds. MACHETTE® 540 may be tank mixed with suitable residual herbicides. Use in accordance with the label recommendations for these products.

Asparagus: MACHETTE® 540 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: MACHETTE® 540 can be used for the control of annual and perennial weeds as directed. For residual control MACHETTE 540 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.

Turf grass and Recreational Areas: Apply before establishing lawns, parks, reserves and ornamentals. MACHETTE® 540 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: MACHETTE® 540 can be applied for the control of grasses and a wide range of brush weeds. The addition of Force® 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 INSTRUCTIONS:

For broadcast boom application flat fan, wide angle nozzles (e.g. 110°) using pressures of 200-280 kPa are preferred. Set boom height to ensure a double overlap of the spray pattern at the top of the weed canopy. Apply in 100-200 litres of clean water per hectare. For orchard application wide angle, even spray nozzles are preferred.

For knapsack or handgun applications adjust equipment to apply a fine spray. Use the minimum spray volume necessary to achieve uniform and complete coverage. Handgun spraying pressures of 1,000-2,000 kPa and No.4 to No.6 spray tips are recommended.

Wiper Application - pre-mix 1 part of MACHETTE® 540 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.

Aircraft Application - MACHETTE® 540 may be applied by aircraft in forestry and non-cropping areas only. Aerial application of MACHETTE® 540 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.

Mist blower Application - Use a solution of 200ml of MACHETTE® 540 in 10 litres of water. For the micron attachment increase to 1.3 litres of MACHETTE® 540 in 10 litres of water. Provide complete coverage and spray to wet but not to runoff.

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 -13	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 over sow 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 Force® Penetrant per 100L (Min 500ml/Ha)	0.66 + 200ml Force® Penetrant per 100L	66 + 20ml Force® Penetrant	-	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 Force® Penetrant per 100L (Min 500ml/Ha)	0.66 + 200ml Force® Penetrant per 100L	66 + 20ml Force® Penetrant	200 + 20ml Force® Penetrant	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 buddleia up to 2 meters high during Feb. to Apr.
Gorse	-	0.66 + 200ml Force® Penetrant per 100L	-	-	Apply all year round. Spray to ensure complete coverage.
Old Mans'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.
PampasGrass 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 Briar	8 + 250ml Force® Penetrant per 100L (Min 500ml/Ha)	0.66 + 200ml Force® Penetrant per 100L	66 + 20ml Force® Penetrant	-	Apply from late flowering to early leaf yellowing. Best results achieved with full coverage.
Willow	9 - 12 + 250ml Force® Penetrant per 100L (Min 500ml/Ha)	0.66 + 200ml Force® Penetrant 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	
Rye Grass Short rotation (Annual, Italian, Hybrid) Estab. < 8mths	2 - 2.7 + 100ml Force® Penetrant per 100L	0.66 + 100ml Force® Penetrant per 100L	66 + 10ml Force® Penetrant	200 + 10ml Force® Penetrant	Ensure plants are actively growing and have at least 5-10 cm of green leaf. Add Force® Penetrant at all times.
Estab. > 8mths	2.7 + 100ml Force® Penetrant per 100L	0.66 + 100ml Force® Penetrant per 100L	66 + 10ml Force® Penetrant	200 + 10ml Force® Penetrant	

WEEDS CONTROLLED - PERENNIAL WEEDS

Weed	Boom or Aerial L/Ha	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.
Brown Top	4	0.66	66	200	Apply to 5 -10cm high actively growing plants. Some regrowth may occur. Longterm control requires a pasture renewal programme utilizing annual crops and repeat applications of MACHETTE 540 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 MACHETTE 540 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 Force® Penetrant per 100L	0.66 + 100ml Force® Penetrant 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 MACHETTE 540 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, Reed Sweet Grass	4	0.66	66	200	Apply to actively growing plants when most have reached early seed head.
Indian Doab	6	0.66	66	-	Apply when most plants have reached early seed head.
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 MACHETTE 540 before re-establishing perennial pastures.
Mercer Grass Aquatic Non-aquatic	6 4	1 0.66	100 66	300 200	
Nodding Thistle	4	0.66	66	-	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	2.7 - 4	0.66	66	200	Use the low rate from Jan to Apr (early seed head) 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).
Rushes	4	0.66	66	200	Apply Nov to May.
Ryegrass Perennial	2.7 + 100ml Force® Penetrant per 100L	0.66 + 100ml Force® Penetrant per 100L	66 + 10ml Force® Penetrant	-	Ensure plants are actively growing and have at least 5 – 10 cm of green leaf. Add Force® Penetrant 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.