

HARMFUL, ECOTOXIC
KEEP OUT OF REACH OF CHILDREN

BRUNO[®]

HERBICIDE

Contains: 500g/litre cyanazine in the form of a suspension concentrate

**For selective control of various weeds in
maize, onions, peas, potatoes, lentils,
lucerne, and sweetcorn**



PLEASE READ ENTIRE LABEL BEFORE MIXING OR APPLYING. SHAKE OR STIR WELL BEFORE USE.

HAZARD CLASSIFICATION: 6.1D, 6.8B, 6.9A, 9.1A, 9.3B

APPROVED HANDLER: This product must be under the control of an approved handler during use. See MSDS details.

RECORD KEEPING: Records of use must be kept. See MSDS for details.

DANGER: May cause organ damage from repeated oral exposure at high doses.

WARNING: May be harmful if swallowed, inhaled or absorbed through the skin. Avoid contact with skin and eyes. May cause reproductive/development damage from repeated oral exposure.

FIRST AID: If swallowed DO NOT induce vomiting. For advice contact the National Poisons Centre 0800 POISON (0800 764 766) or a doctor immediately. If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. DO NOT scrub the skin. If splashed in eyes, wash out immediately with water for at least 15 minutes. If inhaled move the victim to fresh air immediately. Begin artificial respiration if breathing has stopped.

PERSONAL PROTECTION: Avoid skin and eye contact and inhalation of spray mist. When mixing or applying wear waterproof gloves, eye protection, boots and overalls. DO NOT eat, drink or smoke while using. Wash splashes of concentrate from skin immediately. Remove protective clothing and wash hands and face thoroughly before meals and after work. Wash protective clothing daily after work.

ECOTOXIC: Very toxic to aquatic organisms. Avoid contamination of any water supply with product or empty container. Toxic to terrestrial vertebrates.

STORAGE: Store in original container, tightly closed, away from foodstuffs.

DISPOSAL: Triple rinse empty container and add rinsate to the spray tank. If recycling, discard cap and deliver clean container to an Agrecovery depot. Alternatively crush and bury in an approved landfill. Dispose of product only by using according to this label, or at an approved disposal facility.

MATERIAL SAFETY DATA SHEET: Additional information is listed in the MSDS available from Zelam Ltd or www.zelam.com.

Approved pursuant to the HSN Act 1996, No: HSR000964. See www.epa.govt.nz for approval conditions.

Registered pursuant to the ACVM Act 1997, No: P007332. See www.foodsafety.govt.nz for registration conditions.

DIRECTIONS FOR USE

CROP	WEEDS CONTROLLED	RATES	CRITICAL COMMENTS
PEAS	Weeds from seedling to 4 true leaf stage: spurrey, black nightshade, combind, willow weed, groundsel, brassica species, annual poa, speedwell, shepherds purse, calandrinia and twin cress. Fathen, redroot fumitory and white clover are controlled only up to the 2 true leaf stage and become partially or totally resistant with increased size. Wireweed is partially controlled. Weeds not reliably controlled include: storksbill, couch, wild oats, field poppy, tares, California thistle, yarrow and docks	2 - 3 litres in 300 litres of water/ha	Apply at weed emergence but not to crops less than 5cm high or crops suffering from disease. If weeds have progressed beyond the 4 leaf stage use 2.5-3 litres plus 1.0-1.4 litres MCPB. The mixture should be used to control more advanced fathen seedlings and to improve effectiveness on wireweed. Best results when applied to moist soils. CAUTION: DO NOT apply if soil conditions are dry. DO NOT apply to peas grown on very light predominantly sand or peaty soil types. DO NOT apply to poorly prepared seedbeds containing large clods as these will protect some germinating weeds from herbicide contact. DO NOT apply within 7 days before or after rolling the emerged pea crop. DO NOT apply during drizzle or rain or to peas that are wet with dew as crop scorch can result. DO NOT overlap spray patterns eg. turns and corners.
POTATOES	Weeds not reliably controlled include: storksbill, couch, wild oats, field poppy, tares, California thistle, yarrow and docks	2 - 4 litres/ha	Apply just before or as the crop is emerging. When application is made after emergence the crop may show temporary signs of yellowing. For a broader spectrum of weed control BRUNO may be tank mixed with other herbicides such as JAZZ™ (500 g/litre metribuzin) at recommended rates. Use the low rate of BRUNO when tank mixing and the high rate when weeds are larger.
LENTILS	Many grasses particularly perennial grasses are not controlled.	3 - 4 litres in 200 - 300 litres of water/ha	Apply immediately after planting. Use the higher rate for high populations of polygonum type weeds. CAUTION: DO NOT apply if soil conditions are dry. DO NOT apply to poorly prepared seedbeds containing large clods, as these will protect some germinating weeds from contact with the herbicide. DO NOT overlap spray patterns eg. turns and corners.
LUCERNE	Seedling storksbill, musky storksbill, chickweed, barley grass, annual poa, scrambling speedwell, hairgrass, twin cress and seedling browntop.	2 - 3 litres plus paraquat at the recommended rate in 200 - 300L of water/ha	Use the higher rates when weeds are past the seedling stage, on soils high in clay or organic matter or where application is later than the end of June. Apply to closely grazed stands in winter when lucerne is dormant but after weeds have been allowed to freshen. Avoid application when frost is on the foliage or when ground conditions are excessively wet. CAUTION: DO NOT apply to young lucerne stands until after plants have developed a crown.

CROP	WEEDS CONTROLLED	RATES	CRITICAL COMMENTS
MAIZE, SWEETCORN	Up to the 2 leaf true stage: annual poa, barnyard grass, black nightshade, bristle grass, crowfoot grass, fathen, redroot, summer grass, willow weed, and witch grass. Weeds not controlled include: broad-leaved dock, narrow-leaved plantain, dandelion, Californian thistle, Scotch thistle.	2 - 3 litres plus 5 - 7 litres alachlor at the recommended rate in 200 - 300L of water/ha	Apply immediately after planting. Apply to a moist, firm clod and trash free surface, followed by 10 - 20mm of rain or irrigation within 7 days. If rain is not expected within 3 days then application should be accompanied by light chain harrowing to move the chemicals into the soil. Note: The addition of alachlor extends the spectrum of weeds to include most annual grasses. In dry clay soils, alachlor should be incorporated prior to planting, then use 2 - 3 litres of BRUNO immediately after planting.
ONIONS	Buttercup, daisy, dandelion, fumitory, hedge mustard, mayweed, plantain, volunteer potato (suppression), storksbill, and twincrest. Partial control of sow thistle, toad rush, white clover, and wireweed. Improved control of clover, cleavers, sow thistle, toad rush, and wireweed.	450 ml/ha plus 450 ml/ha toxynil (240 g/litre) 450 ml/ha plus 750 ml/ha Twin-Star™	Apply the mixture once the onions have two true leaves. Use up to four applications at 7 - 10 day intervals as necessary. Spray at low pressure and avoid drift. Do not add any surfactants. WARNING: Some crop damage such as burning, twisting, and distortion of young leaves is likely to occur in the first days following application. Allow three to four days to elapse after spraying BRUNO before applying other products as the adjuvants in them may re-activate the BRUNO and cause damage to the crop. Do not apply more than 2 litres of BRUNO per ha per crop per year.

MODE OF ACTION: Primarily absorbed by roots, but some scorching of foliage in susceptible weeds. Following uptake it inhibits photosynthesis resulting in yellowing and then death.

RAINFALL: Rain falling soon after treatment will improve results as **BRUNO** needs to be moved into the root zone of weeds to be effective. See caution statement under peas.

COMPATIBILITY: May be tank mixed with likely additives including alachlor, metolachlor and paraquat.

APPLICATION: Apply with boom spraying equipment fitted with fan nozzles. Use 200 - 300 litres of water/ha. Maintain agitation during spraying and avoid overlapping. **Sprayer clean-up:** To avoid injury to subsequently sprayed sensitive crops, thoroughly flush sprayer with several rinses of clean water.

Beware: Apply this product carefully. Spray drift may cause serious damage to desirable plants or where their roots may extend, or in locations where the chemical may be washed or moved to their roots.

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

WITHHOLDING PERIOD: Do not apply later than four weeks before harvest of onions.

RESISTANCE MANAGEMENT: **GROUP C1 HERBICIDE**

BRUNO contains a triazine herbicide with the inhibition of photosynthesis at photosystem II mode of action. Naturally occurring biotypes resistant to triazine herbicides are known to exist and others could develop. These resistant biotypes may dominate when **BRUNO** or other related group C1 herbicides are used exclusively. To minimise this risk use strictly in accordance with label instructions and any resistance management strategies that exist for these weeds. For further information see www.resistance.nzpps.org

NOTICE TO BUYER: The manufacturer and vendors of **BRUNO** warrant the formulation to contain the specified active ingredients within accepted tolerance when packed but make no warranty of any kind on the use of this material and accept no responsibility for results, whether the material has been used in accordance with directions or not.

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