Product Name: NUFARM BIFFO HERBICIDE
APVMA Approval No: 62489/136477

Label Name:	Nufarm Biffo Herbicide

Signal Headings:	CAUTION KEEP OUT OF REACH OF CHILDREN READ SAFETY DIRECTIONS BEFORE OPENING OR USING

Constituent Statements:	ACTIVE CONSTITUENT: 200 g/L GLUFOSINATE-AMMONIUM

Mode of Action:	GROUP 10 HERBICIDE

Statement of Claims:	For non-residual control of broadleaf and grass weeds in various situations as per the DIRECTIONS FOR USE.

Net Contents:	1 - 1000 L

Restraints:	RESTRAINTS DO NOT apply by aircraft. DO NOT apply by mister. DO NOT apply when rain is expected within 6 hours or irrigate until at least 6 hours after application. DO NOT apply onto weeds when dew, fog or mist is present. DO NOT apply to weeds under stress due to, for example, very dry, very wet, frosty or nutrient deficient conditions or as a result of windblast, insect damage, disease or a previous herbicide treatment. DO NOT apply under hot dry conditions (temperatures above 33°C with a relative humidity below 50%). SPRAY DRIFT RESTRAINTS Specific definitions for terms used in this section of the label can be found at apvma.gov.au/spraydrift DO NOT allow bystanders to come into contact with the spray cloud. DO NOT apply in a manner that may cause an unacceptable impact to native vegetation, agricultural crops,

	landscaped gardens and aquaculture production, or cause contamination of plant or livestock commodities, outside the application site from spray drift. Wherever possible, correctly use application equipment designed to reduce spray drift and apply when the wind direction is away from these sensitive areas. DO NOT apply unless the wind speed is between 3 and 20 kilometres per hour at the application site during the time of application. DO NOT apply if there are hazardous surface temperature inversion conditions present at the application site during the time of application. Surface temperature inversion conditions exist most evenings one to two hours before sunset and persist until one to two hours after sunrise.

Directions for Use:	This section contains file attachment.

Other Limitations:	

Withholding Periods:	WITHHOLDING PERIODS HARVEST XtendFlex® cotton: NOT REQUIRED WHEN USED AS DIRECTED. Date palms, green tea, native foods: DO NOT HARVEST FOR 1 DAY AFTER APPLICATION. DO NOT harvest leaves from native pepper or wattles that are close to the ground for food sources. Green bean/Field bean: DO NOT HARVEST FOR 28 DAYS AFTER APPLICATION. Pome and stone fruit: DO NOT HARVEST FOR 21 DAYS AFTER APPLICATION. Sugarcane: DO NOT HARVEST FOR 16 WEEKS AFTER APPLICATION. All other situations: NOT REQUIRED WHEN USED AS DIRECTED. GRAZING XtendFlex® cotton: DO NOT GRAZE OR CUT TREATED AREAS FOR STOCK FOOD. DO NOT FEED COTTON GIN TRASH TO LIVESTOCK Summer fallow (including optical spot spraying technology): DO NOT GRAZE OR CUT FOR STOCK FOOD A CROP SOWN FOLLOWING A FALLOW SPRAY FOR 6 WEEKS AFTER SOWING. Green beans: DO NOT GRAZE OR CUT TREATED AREAS FOR STOCK FOOD FOR 28 DAYS AFTER APPLICATION. Sugarcane: DO NOT GRAZE OR CUT TREATED AREAS FOR STOCK FOOD FOR 16 WEEKS AFTER APPLICATION. All other situations: DO NOT GRAZE OR CUT TREATED AREAS FOR STOCK FOOD FOR 8 WEEKS AFTER APPLICATION.

Trade Advice:	Export of Treated Produce Growers should note that suitable MRLs or import tolerances may not be established in all markets for produce treated with Nufarm Biffo®. If you are growing produce for export, please check with Nufarm Australia Limited for the latest information on MRLs and import tolerances BEFORE using Nufarm Biffo®. Note that residues of glufosinate-ammonium are not found in XtendFlex® cottonseed oil when Nufarm Biffo® is used in accordance with label instructions.

General Instructions:	This section contains file attachment.

Resistance Warning:	RESISTANT WEEDS WARNING GROUP 10 HERBICIDE Nufarm Biffo® Herbicide is a member of the phosphonic acid group of herbicides. Nufarm Biffo® is an inhibitor of glutamine synthetase. For weed resistance management Nufarm Biffo® is a Group 10 herbicide. Some naturally occurring weed biotypes resistant to Nufarm Biffo® and other Group 10 herbicides may exist through normal genetic variability in any weed population. The resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly. These resistant weeds will not be controlled by Nufarm Biffo® or other Group 10 herbicides. Since occurrence of resistant weeds is difficult to detect prior to use, Nufarm Australia Limited accepts no liability for any losses that may result from the failure of Nufarm Biffo® to control resistant weeds. Users of Nufarm Biffo® over XtendFlex® cotton must implement practices that minimize the development of resistance in treated weeds. Minimising this risk may best be achieved by following the integrated weed management strategy guidelines summarised below: 1. Aim to enter the XtendFlex® cotton cropping phase of the rotation with a low weed burden. 2. Integrate as many different weed control options (chemical and cultural) as possible through all phases of the crop rotation. 3. Make every herbicide application count – use registered rates at the correct application growth stage and assess effectiveness. 4. Rotate herbicides with different modes of action throughout the crop rotation. 5. Regularly monitor the effectiveness of resistance management practices. 6. Test weed populations for herbicide resistance status as part of ongoing integrated weed management. 7. Growers should not plant XtendFlex® cotton in paddocks with populations of confirmed glufosinate-ammonium resistant weeds. It is advised that consultation on Integrated Weed Management be undertaken with an accredited agronomist or program prior to use of Nufarm Biffo® over XtendFlex® cotton. More information on Integrated Weed Management can be found at: • Weedsmart: www.weedsmart.org.au • CropLife Australia: http://www.croplife.org.au/industry-stewardship/resistancemanagement. As with conventional varieties, volunteer and ratoon XtendFlex® cotton may occur in fallows, and non-cropping areas of a farm such as irrigation ditches, water storages, etc. These plants will not be controlled by the following herbicides so should be controlled in both cropping and non-cropping areas: • Nufarm Biffo® or other glufosinate-ammonium herbicides • XtendiMax® 2 with VapourGrip® Technology, Nufarm Kamba® 750 or other dicamba herbicides • Roundup Ready® PL Herbicide with Plantshield Technology, Nufarm CRUCIAL®, Nufarm weedmaster® DST®, Nufarm Glyphosate 450 or other glyphosate herbicides These plants are best managed with cultivation and/or appropriate registered herbicides (see Integrated Weed Management Strategy Guidelines above). Growers should ensure that they have an effective weed management strategy developed for the control of these weeds. Herbicide control options for these plants include the following (refer to product labels for further information on use situations): Bromicide® 200, fluroxypyr 400, Nail®600, Sprayseed*, Shirquat® 250 and Terrad'or®. Resistant Weeds Reporting, Auditing and Surveying Users of Nufarm Biffo® are required to report any adverse events, such as suspected weed resistance, to Nufarm, as soon as it is identified. Nufarm will investigate the incident and produce a report of any incidents of confirmed resistance of weeds to Nufarm Biffo® in target weed species which are normally susceptible to this herbicide and forward the report as soon as practicable to the Australian Pesticides and Veterinary Medicines Authority. Weeds identified to have survived Nufarm Biffo® must be controlled by an alternative strategy in order to prevent weeds from setting seed. Users of Nufarm Biffo® over XtendFlex® cotton must allow Nufarm or its agents to undertake audits or surveys as necessary to assess management by users of the development of glufosinate-ammonium resistance in target weeds. Nufarm or its agents may conduct an audit or survey annually on a percentage of fields where Nufarm Biffo® has been used over XtendFlex® cotton.

Precautions:	PRECAUTIONS Re-entry Period DO NOT allow entry into treated areas until the spray has dried. When prior entry is necessary, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and chemical resistant gloves. Clothing must be laundered after each day's use.

Protections:	PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS DO NOT apply under weather conditions, or from spraying equipment, that may cause spray to drift onto nearby susceptible plants/crops, cropping lands or pastures. DO NOT apply on desirable foliage or allow spray to drift onto the foliage of plants, trees or vines, as damage will occur. DO NOT allow product to contact green or uncalloused bark or exposed roots (such as on young trees and vines) or cut, cracked, damaged or wounded tissue, where the affected surface is not adequately healed. Nufarm Biffo® may be used around desirable trees/vines less than two years old provided they are effectively shielded from spray and spray drift. DO NOT allow desirable plant foliage to contact any inert surface, such as plastic mulches, which have been treated with Nufarm Biffo®. DO NOT apply Nufarm Biffo® to recently fumigated or sterilised soil. PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT Very toxic to aquatic life. DO NOT contaminate wetlands or watercourses with this product or the used container.

Storage and Disposal:	STORAGE AND DISPOSAL Store in the closed, original container in a cool, well-ventilated area. DO NOT store for prolonged periods in direct sunlight. Non-refillable containers Triple-rinse containers before disposal. Add rinsings to spray tank. DO NOT dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush, or puncture and deliver empty packaging to an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose, clear of waterways, desirable vegetation and tree roots, in compliance with relevant local, state or territory government regulations. DO NOT burn empty containers or product. Returnable containers Empty contents fully into application equipment. Close all valves and return to point of supply for refill or storage.

Safety Directions:	SAFETY DIRECTIONS Harmful if absorbed by skin contact or swallowed. Will irritate the eyes and skin. Avoid contact with the eyes and skin. When opening the container, preparing spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and a washable hat, elbow length PVC gloves and face shield or goggles. If product on skin, immediately wash area with soap and water. If product in eyes, wash out immediately with water. Wash hands after use. After each day's use, wash gloves, face shield or goggles, and contaminated clothing.

First Aid Instructions:	FIRST AID If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 13 11 26, New Zealand 0800 764 766.

DIRECTIONS FOR USE

Section 1: Summer fallows

CROP/SITUATION	WEEDS	WEED STAGE	RATE	CRITICAL COMMENTS
Maintenance of summer fallow prior to planting - Cereal grains (including wheat, barley, oats, maize and sorghum) Pulses (including chickpeas, faba beans, field peas, lentils, lupins and mung beans) Oilseeds (including canola, cotton, soybeans and sunflowers) Sugarcane	**Control of:** Annual ryegrass (*Lolium rigidum*) Awnless barnyard grass (*Echinochloa colona*)* Annual polymeria (*Polymeria* spp.) Barnyard grass (*Echinochloa crus galli*)* Bellvine (*Ipomoea plebeia*) Bladder ketmia (*Hibiscus trionum*) Caltrop (*Tribulus terrestris*) Dwarf amaranth (*Amaranthus macrocarpus*) Feathertop Rhodes grass (*Chloris virgata*)* Field bindweed (European bindweed) (*Convolvulus arvensis*) Flaxleaf fleabane (*Conyza bonariensis*) Liverseed grass (*Urochloa panicoides*) Paddy melon (*Cucumis myriocarpus*) Peach vine (Cow vine) *(Ipomoea lonchophylla*) Red pigweed (*Portulaca oleracea*) Rhyncho (*Rhyncosia* spp.) Sesbania pea (*Sesbania* spp.) Sowthistle (Milk thistle) (*Sonchus oleraceus)* Volunteer cotton (other than glufosinate-ammonium tolerant cotton) Yellow vine (*Tribulus micrococcus*) **Suppression of:** Chinese lantern (Wild gooseberry) (*Physalis hederifolia*) Noogoora burr complex (*Xanthium occidentale syn. X. strumarium, X. pungens*)	Broadleaf weeds: 2 - 6 leaf Grass weeds: Pre-tillering	3.75 L/ha in a minimum of 100 L water	Apply to actively growing weeds. Good coverage is essential. Refer to **Application** section for details. **DO NOT** apply more than three applications per season. **DO NOT** sow crops until 14 days or more have elapsed after the final application. Nufarm Biffo® will affect weeds that are larger than the recommended leaf stage, but speed of activity and level of control may be reduced. **CLIMATIC CONDITIONS** Best results are achieved when Nufarm Biffo® is applied under warm humid conditions (temperatures below 33°C with a relative humidity above 50%). Poor results may occur under hot, dry conditions. Under cool (below 10˚C), dry and low relative humidity conditions speed of action and control may be reduced. * Control of awnless barnyard grass, barnyard grass or feather top rhodes grass (and most other weeds) may be improved when Nufarm Biffo® is used either as two consecutive applications 10-14 days apart, or as a sequential application following a first application of glyphosate.

Section 2: Optical Spot Spray Technologies (OSST)
Note: Calibrate the sprayer to spray the equivalent of 100 L/ha.
DO NOT apply greater than 30 L of spray mixture per hectare through OSST equipment (3 L of product per hectare).

CROP/SITUATION	WEEDS	WEED STAGE	RATE	CRITICAL COMMENTS
Maintenance of summer fallow prior to planting - Cereal grains (including wheat, barley, oats, maize and sorghum) Pulses (including chickpeas, faba beans, field peas, lentils, lupins and mung beans) Oilseeds (including canola, cotton, soybeans and sunflowers) Sugarcane	Awnless barnyard grass (*Echinochloa colona)*	Up to 40 cm tall	10 L/100L	Apply to actively growing weeds. Good coverage is essential. Refer to **Application** section for details. **DO NOT** apply more than three applications per season. **DO NOT** sow crops until 14 days or more have elapsed after the final application. Nufarm Biffo® will affect weeds that are larger than the recommended leaf stage, but speed of activity and level of control may be reduced. **CLIMATIC CONDITIONS** Best results are achieved when Nufarm Biffo® is applied under warm humid conditions (temperatures below 33°C with a relative humidity above 50%). Poor results may occur under hot, dry conditions. Under cool (below 10˚C), dry and low relative humidity conditions speed of action and control may be reduced. * Control of awnless barnyard grass, barnyard grass or feather top rhodes grass (and most other weeds) may be improved when Nufarm Biffo® is used either as two consecutive applications 10-14 days apart, or as a sequential application following a first application of glyphosate.
	Australian bindweed (*Convolvulus erubescens*)	Up to 60 cm diameter		
	Bladder ketmia (*Hibiscus trionum*)	Up to 50 cm tall		
	Caltrop (*Tribulus terrestris*)	Up to 2 m diameter		
	Flaxleaf fleabane (*Conyza bonariensis*)	Up to 40 cm tall		
	Wild turnip (*Rapistrum rugosum*)	Up to 50 cm tall		
	Weeds listed in Section 1*	Broadleaf weeds: 2 - 6 leaf Grass weeds: Pre-tillering		

Section 3: XtendFlex® cotton WARNING: Application of Nufarm Biffo® to cotton varieties other than XtendFlex® cotton will result in severe crop injury or death of the crop.

CROP/SITUATION	WEEDS	WEED STAGE	RATE	CRITICAL COMMENTS
XtendFlex® cotton - over-the-top (OTT) application - inter-row directed or shielded/hooded nozzle application	**Control of:** Annual ryegrass (*Lolium rigidum*) Awnless barnyard grass (*Echinochloa colona*)* Annual polymeria (*Polymeria* spp.) Barnyard grass (*Echinochloa crus galli*)* Bellvine (*Ipomoea plebeia*) Bladder ketmia (*Hibiscus trionum*) Caltrop (*Tribulus terrestris*) Dwarf amaranth (*Amaranthus macrocarpus*) Feathertop Rhodes grass (*Chloris virgata*)* Field bindweed (European bindweed) (*Convolvulus arvensis*) Flax-leaf fleabane (*Conyza bonariensis*) Liverseed grass (*Urochloa panicoides*) Paddy melon (*Cucumis myriocarpus*) Peach vine (Cow vine) *(Ipomoea lonchophylla*) Red pigweed (*Portulaca oleracea*) Rhyncho (*Rhyncosia* spp.) Sesbania pea (*Sesbania* spp.) Sowthistle (Milk thistle) (*Sonchus oleraceus)* Volunteer cotton (other than glufosinate-ammonium tolerant cotton) Yellow vine (*Tribulus micrococcus*) **Suppression of:** Chinese lantern (Wild gooseberry) (*Physalis hederifolia*) Noogoora burr complex (*Xanthium occidentale syn. X. strumarium, X. pungens*)	Broadleaf weeds: 2 - 6 leaf Grass weeds: Pre-tillering	3.75 L/ha in a minimum of 100 L water	**DO NOT** apply more than two applications per season. The application window is from crop emergence to BBCH61 + 15 days (ie, from crop emergence to 1st white flower + 15 days). When using two applications, the first application must always be prior to BBCH16 + 14 days (14 days after 6 leaf stage). A minimum 14 day interval must be observed between applications and remain within the application window. DO NOT apply later than BBCH61 + 15 days (15 days after 1st white flower). Apply to actively growing weeds. Good coverage is essential. Refer to **Application** section for details. The addition of a surfactant is not required. Nufarm Biffo® will affect weeds that are larger than the recommended leaf stage, but speed of activity and level of control may be reduced. **CLIMATIC CONDITIONS** Best results are achieved when Nufarm Biffo® is applied under warm humid conditions (temperatures below 33°C with a relative humidity above 50%). Poor results may occur under hot, dry conditions. Under cool (below 10˚C), dry and low relative humidity conditions speed of action and control may be reduced. **CROP SAFETY** Nufarm Biffo® may cause minor and transient spotting on leaves which are directly contacted by spray applications. This has not been shown to have any impact on crop growth and development (including yield). * Control of awnless barnyard grass, barnyard grass or feather top rhodes grass (and most other weeds) may be improved when Nufarm Biffo® is used either as two consecutive applications 14 days apart, or as a sequential application following a first application of Roundup Ready Herbicide with Plantshield or Roundup Ready PL Herbicide with Plantshield Technology.

Section 4: Sugarcane (inter-row application)

CROP/SITUATION	WEEDS	RATE	CRITICAL COMMENTS
Sugarcane - inter-row directed or shielded/hooded nozzle application	See list of weeds controlled in Table 1	1 to 3 L/ha (directed application) 1 to 5 L/ha (shielded/hooded nozzle application)	**The recommended rate of use is determined by the following criteria:** **WEED SPECIES** **WEED STAGE OF GROWTH** **WEED DENSITY** **CLIMATIC CONDITIONS** **WEED SPECIES** Refer to recommendations for weed control in Table 1 to check that a label rate in the range 1-3 L/ha (directed application) or 1-5 L/ha (shielded/hooded nozzle application) is suitable for control of the target weed at its current stage of growth. **WEED STAGE OF GROWTH** Use the lower rate when weeds are young and succulent (grasses: pre-tillering; broadleaves: cotyledons to 4 leaf) or the population is very sparse. A median rate should be used for medium sized plants (grasses: tillering; broadleaves: 4 leaf to advanced vegetative) and the high rate should be used when weeds are mature (grasses: noding to flowering; broadleaves: budding to flowering). **WEED DENSITY** Use the higher rates when the weed population is dense. Thorough coverage of weeds is essential for good control. **CLIMATIC CONDITIONS** Best results are achieved when Nufarm Biffo® is applied under warm humid conditions (temperatures below 33°C with a relative humidity above 50%). Poor results may occur under hot, dry conditions. Under cool (below 10˚C), dry and low relative humidity conditions speed of action and control may be reduced. Weeds that have been hardened or stunted in growth due to stressed conditions should be treated at the maximum rate. **COVERAGE** Complete coverage of weeds is essential for good control. Poor coverage may result in re-growth. **PERENNIAL WEEDS** Apply when weeds are actively growing. Follow up treatments will be necessary to control re-growth of perennial weeds in most cases. **CROP SAFETY** To avoid potential crop damage refer to the instructions below and other label sections on APPLICATION and PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS. **APPLICATION** <u>Directed application:</u> Use nozzles that deliver coarse to very coarse droplets and minimise drift, whilst ensuring complete coverage of weeds. The Irvin spray boom has been found to be suitable for the application of Nufarm Biffo® in sugarcane. Use of a bar at the front of the boom to knock down taller weeds may help ensure good coverage and increase performance. *Plant cane* – **DO NOT** apply earlier than just prior to out of-hand stage. Apply spray mixture across the interrow area between cane rows. Avoid all contact with cane shoot growing points and minimise spray contact with green cane foliage. Excessive contact with sugarcane plants may result in damage. *Ratoon cane* - Apply spray mixture across the inter-row area between cane rows. **DO NOT** apply until cane reaches 100 cm overall cane height (top of plants) or 20 cm to dewlap (growing point). Avoid all contact with ratoon shoot growing points and minimise spray contact with green cane foliage. Excessive contact with sugarcane plants may result in damage. <u>Shielded/hooded nozzle application:</u> Use nozzles that deliver coarse to very coarse droplets and minimise drift, whilst ensuring complete coverage of weeds. Take care to prevent spray contact with green cane foliage and avoid contact with growing point. Excessive contact with sugarcane plants may result in damage. Can be applied at all sugarcane stages provided that the shield is set up so as to completely avoid spray contact with sugarcane plants.

Section 5: Orchards, plantations, vineyards and other row crops

CROP/SITUATION	WEEDS	RATE	CRITICAL COMMENTS
Blackberry, Boysenberry, Loganberry, Raspberry	Primocane and sucker control	500 mL/100L water	Apply as a directed spray to suckers and primocanes. Contact with flowers, developing fruit or desirable foliage will cause damage. Ensure complete coverage of primocanes/suckers by spraying to the point of runoff, preferably when they are less than 15 cm high. BS1000 (1000 g/L) may be added at a rate of 25 mL/100 L or equivalent.
Tropical and sub-tropical fruits – inedible peel, including: Avocado, Banana, Feijoa, Guava, Kiwifruit, Litchi, Mango, Pawpaw, Passionfruit, Pineapple, Pitaya (dragon fruit), Rambutan plantations Citrus orchards Olive plantations Pome and stone fruit orchards Tree nut plantations Vineyards	See list of weeds controlled in Table 1	1 - 5 L/ha	Apply as a directed or shielded spray. Refer to the label section **Application Equipment** for specific information on application methods. Controlled Droplet Application equipment must not be used for application in cherry orchards. **Warnings: DO NOT** allow spray or spray drift to contact desirable foliage or green (uncalloused) bark or exposed roots. To avoid potential crop damage, refer to the label sections on **Application Equipment** and **PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS**. Nufarm Biffo® may be used around trees/vines less than two years old provided they are effectively shielded from spray and spray drift. **The recommended rate of use is determined by the following criteria:** **WEED SPECIES** **WEED STAGE OF GROWTH** **WEED DENSITY** **CLIMATIC CONDITIONS** **WEED SPECIES** Refer to recommendations for weed control in Table 1 to check that a label rate in the range 1-3 L/ha (directed application) or 1-5 L/ha (shielded/hooded nozzle application) is suitable for control of the target weed at its current stage of growth. **WEED STAGE OF GROWTH** Use the lower rate when weeds are young and succulent (grasses: pre-tillering; broadleaves: cotyledons to 4 leaf) or the population is very sparse. A median rate should be used for medium sized plants (grasses: tillering; broadleaves: 4 leaf to advanced vegetative) and the high rate should be used when weeds are mature (grasses: noding to flowering; broadleaves: budding to flowering). **WEED DENSITY** Use the higher rates when the weed population is dense. Thorough coverage of weeds is essential for good control. **CLIMATIC CONDITIONS** Best results are achieved when Nufarm Biffo® is applied under warm humid conditions (temperatures below 33°C with a relative humidity above 50%). Poor results may occur under hot, dry conditions. Under cool (below 10˚C), dry and low relative humidity conditions speed of action and control may be reduced. Weeds that have been hardened or stunted in growth due to stressed conditions should be treated at the maximum rate. **COVERAGE** Complete coverage of weeds is essential for good control. Poor coverage may result in re-growth. **PERENNIAL WEEDS** Apply when weeds are actively growing. Follow up treatments will be necessary to control re-growth of perennial weeds in most cases.
Blackcurrants, Blueberries, Cane berry fruits Strawberries, (inter-row) Tomatoes (inter-row)	See list of weeds controlled in Table 1	1 - 5 L/ha	Use inter-row shielded sprayer with a fan nozzle delivering coarse droplets. Take care not to allow spray or spray drift to contact the foliage, flowers, fruits, or young stems including strawberry runners. **DO NOT** make more than 2 applications per season to blackcurrants. **DO NOT** apply to young, green or uncalloused and damaged blueberry plants. **DO NOT** apply to weeds under stress. **DO NOT** apply under unfavourable weather conditions. Refer to **GENERAL INSTRUCTIONS** for warnings concerning plastic mulch and fumigated/sterilised soil. Determine the recommended rate of use by considering the criteria **WEED SPECIES, WEED STAGE OF GROWTH, WEED DENSITY** and **CLIMATIC CONDITIONS**, as described above.
Green Bean / French Bean (Field use only)	See list of weeds controlled in Table 1	1 - 5 L/ha	Use inter-row shielded sprayer with a fan nozzle delivering coarse droplets. Use lower rates when weeds are young or the population is sparse, and higher rates when weeds are mature or weed population is dense. Apply to actively growing weeds. **DO NOT** apply more than 1 foliar application per season.
Date Palms (*Phoenix dactylifera*) Green Tea (*Camellia sinensis*) Native Foods [see Note in critical comments]	See list of weeds controlled in Table 1	1 - 5 L/ha	**DO NOT** allow spray, including drift, to contact any part of the crop as severe damage or crop destruction may result. It is recommended to use shielded sprayer or hooded spray nozzles when spraying between crop rows or near the emerged crops to avoid crop damage from direct spray and drift. Apply as necessary to actively growing weeds, free from environmental stresses, up to a maximum three (3) applications per season. Rotate herbicide mode of action groups within and across growing seasons. Use suitable ground application equipment, including boom sprayer, back-pack sprayer, handlance sprayer, knapsack, or CDA. Ensure equipment is correctly calibrated. Use higher rates for perennial grass weeds. Increase the application rate of Nufarm Biffo® as the size, age and/or density of the weeds increase and become more established. Avoid spraying when crops are in flower or fruiting. **DO NOT** harvest leaves from native pepper or wattles that are close to the ground for food uses. **Note: Native Foods include** Wattles (*Acacia spp.*), Lemon myrtle (*Backhousia citriodora*), Finger lime (*Citrus australasica*), Desert lime (*Citrus glauca*), Mullumbimby plum (*Davidsonia jerseyana*), Davidson's plum (*Davidsonia johnsonii*), Queensland Davidson's plum (*Davidsonia pruriens*), Muntrie berry (*Kunzea pomifera*), Desert quandong (*Santalum acuminatum*), Desert raisin (*Solanum centrale*), Anise myrtle (*Syzygium anisatum*), Small Red Apple (*Syzygium fibrosum*), Lilly pilly (*Syzygium lehumannii*), Kakadu plum (*Terminalia ferdinandiana*) and Native pepper (*Tasmanian lanceolata*)

Section 6: Commercial, industrial, non-food crops, non-agricultural areas and forestry plantations

CROP/SITUATION	WEEDS	RATE	CRITICAL COMMENTS
Commercial and industrial areas, rights-of-way and other non-agricultural areas	See lists of weeds controlled in Table 1 and Table 2.	1 - 6 L/ha	Determine the recommended rate of use by considering the criteria WEED SPECIES, WEED STAGE OF GROWTH, WEED DENSITY and CLIMATIC CONDITIONS as described above in **Section 5** of the Directions for Use table. **Warnings: DO NOT** allow spray or spray drift to contact desirable plants. To avoid potential crop damage, refer to the label sections on **Application** and **PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS**.
Commercial and industrial areas, forest plantations, rights-of-way and other non-agricultural areas	Volunteer or wildling *Pinus* spp.	Handgun and knapsack application: 500 mL/100L water	Nufarm Biffo® is a non-selective herbicide and will affect most weeds. Its forestry use is designed to improve the control of *Pinus* spp. wildings when pre-plant weed control is carried out. To broaden the weed spectrum, mixing with other herbicides such as glyphosate and metsulfuron-methyl at labelled rates may be necessary. **APPLICATION** Apply with an adjuvant. The addition of an adjuvant e.g. Exit* may assist in improving performance. High water volumes or nozzle systems should be used to achieve complete coverage of weeds, which is essential for good control. Handgun and knapsack rates are based on the application of 1000 L of spray mixture per sprayed hectare. This is usually adequate to thoroughly wet dense stands of weeds. Less dense stands will require lower water rates. Nufarm Biffo® does not provide residual weed control. Refer also to comments in the General Instructions which relate to application. **WEED GROWTH STAGE AND CONDITION** Use on Pinus spp. ≤ 15 cm is recommended to maximise efficacy. Apply when weeds are actively growing. Results will be reduced if treated plant is under stress due to very dry, very wet, frosty or diseased conditions. **COVERAGE** Complete coverage of target is essential for good control. Poor coverage may result in re-growth. **CLIMATIC CONDITIONS** Best results are achieved when Nufarm Biffo® is applied under warm humid conditions (temperatures below 33°C with a relative humidity above 50%). Poor results may occur under hot, dry conditions. Under cool (below 10˚C), dry and low relative humidity conditions speed of action and control may be reduced. Trials have shown better results from autumn and winter applications than from spring and summer applications. **SYMPTOMS** Visible symptoms will appear within 3 weeks; tree death may take several months depending on initial coverage and size of tree. Follow up treatments may be necessary to control regrowth in some cases.
Forestry plantations (pre-plant plantation establishment)		5 L/ha	
Duboisia	See list of weeds controlled in Table 1	1 - 5 L/ha	Spray should be directed to the base of the plants avoiding contact with the foliage. Best results are achieved when applied under warm humid conditions. Complete coverage of weeds is essential for good control.
Pyrethrum	Spear thistle, cleavers, hawkbit, cats ear, dandelion plus any weeds controlled in Table 1	Knapsack application: 30 - 75mL/15L water	Apply directly to weeds by knapsack only. Avoid direct contact with pyrethrum.
Oil tea tree Nursery stock [(non-food) - seedlings, plugs, potted colour, trees, shrubs, foliage plants, palms, grasses, fruit trees (non-bearing)] Cut flowers including wildflowers and foliage. Wildflower crops [see Note in critical comments]	See list of weeds controlled in Table 1	Boom spray: 1 - 5 L/ha Hand-gun: 300 - 500 mL/100L	Apply spray treatment along the sides of crops and between rows of crops. Avoid overspray or incidental spray drift onto crop, as damage or death of plants may occur. Apply as necessary to actively growing weeds up to a maximum three applications per season. Use suitable ground application equipment. Ensure equipment is correctly calibrated. Use higher rates for perennial grass weeds. Increase the application rate as the size of target weeds increases. Only apply spray to actively growing grass weeds free from environmental stresses. Avoid spraying when crops are in flower or fruiting. **Note: Wildflower crops include** Banksia species (*Banksia spp.*) - cultivars and hybrids, Berzelia or button brush (*Berzelia spp.*), Black kangaroo paw (*Macropidia spp.*) - cultivars and hybrids, Christmas bells (*Blandfordia grandiflora*), Christmas bush (*Ceratopetalum gummiferum*), Geraldton wax and Waxflower species (*Chamelaucium spp.)* - cultivars and hybrids, Kangaroo paw *(Anigozanthos spp.)* - cultivars and hybrids, Leucadendron species - cultivars and hybrids, Leucospermum species *(Leucospermum spp.)* - cultivars and hybrids (pincushions), Protea *(Protea spp.)* - cultivars and hybrids, Riceflower (*Ozothamnus diosmifolius*), Waratah species *(Telopea speciosissima)* - cultivars and hybrids.

WEED TABLES

Table 1: Recommendations for weed control for Section 5 and Section 6 uses (except when referred to Table 2 for Section 6 uses).

COMMON NAME	SCIENTIFIC NAME	APPLICATION RATE		
		Boom or directed sprayer	Handgun mL/100 L	Knapsack mL/15 L
ANNUAL WEEDS				
Amaranthus spp.	*Amaranthus* spp.	2 - 5 L/ha	500	75
Apple of Peru	*Nicandra physalodes*	1.5 - 3 L/ha	300	45
Argentine peppercress	*Lepidium bonariense*	2 - 3 L/ha	300	45
Awnless barnyard grass	*Echinochloa colona*	2.5 - 3.5 L/ha	350	53
Barley grass	*Hordeum leporinum*	2 - 3 L/ha	300	45
Barnyard grass	*Echinochloa crus galli*	2 - 5 L/ha	500	75
Bell vine	*Ipomoea plebia*			
Billy goat weed	*Ageratum conyzoides*			
Bitter cress	*Cardamine hirsuta*			
Black bindweed (buckwheat) (refer Note 2)	*Fallopia convolvulus*	1.8 - 5 L/ha	500	75
Bladder ketmia	*Hibiscus trionum*	3 - 5 L/ha	500	75
Bordered panic	*Entolasia marginata*	2 - 4 L/ha	400	60
Brome grasses (refer Note 1)	*Bromus* spp.	2 - 3 L/ha	300	45
Calopo	*Calopogonium mucunoides*	2 - 5 L/ha	500	75
Caltrop burr (refer also Table 2)	*Tribulus terrestris*	3 - 5 L/ha	500	75
Cape weed	*Arctotheca calendula*	1.5 - 5 L/ha	500	75
Clover (subterranean)	*Trifolium subterraneum*	1.8 - 3 L/ha	300	45
Cobbler's peg	*Bidens pilosa*	2 - 5 L/ha	500	75

COMMON NAME	SCIENTIFIC NAME	APPLICATION RATE		
		Boom or directed sprayer	Handgun mL/100 L	Knapsack mL/15 L
Common storksbill	*Erodium cicutarium*	1.5 - 4 L/ha	400	60
Crowsfoot grass	*Eleusine indica*	3 - 5 L/ha	500	75
Dead nettle (refer also Table 2)	*Lamium amplexicaule*	2 - 5 L/ha	500	75
Dwarf crumbweed	*Chenopodium pumilo*	3 - 5 L/ha	500	75
Fat hen	*Chenopodium album*			
Fumitory	*Fumaria officinalis*	1.8 - 5 L/ha	500	75
Green crumbweed	*Chenopodium carinatum*	2 - 5 L/ha	500	75
Lesser canary grass (refer also Table 2)	*Phalaris minor*	3 - 5 L/ha	500	75
Liverseed grass (refer also Table 2)	*Urochloa panicoides*	1.5 - 5 L/ha	500	75
Medics (annual)	*Medicago* spp.	1- 5 L/ha	500	75
Milk thistle (Sow thistle)	*Sonchus oleraceus*	2 - 5 L/ha	500	75
Mint weed	*Salvia reflexa*	3 - 5 L/ha	500	75
New Zealand spinach	*Tetragonia tetragoniodes*	2 - 5 L/ha	500	75
Patterson's curse	*Echium plantagineum*	1 - 3 L/ha	300	45
Peanuts	*Arachis hypogaea*	1.5 - 3 L/ha	300	45
Pigweed	*Portulaca oleracea*	3 - 5 L/ha	500	75
Pinkburr	*Urena lobata*	2 - 5 L/ha	500	75
Potato weed	*Galinsoga parviflora*			
Prairie grass (refer Note 1)	*Bromus unioloides*	4 - 5 L/ha	500	75
Prickly lettuce	*Lactuca serriola*	3 - 5 L/ha	500	75
Red natal grass	*Rhynchelytrum repens*	2 - 5 L/ha	500	75
Ryegrass (annual)	*Lolium rigidum*			
Saffron thistle	*Carthamus lanatus*	1.5 - 5 L/ha	500	75
St. Barnaby's thistle	*Centaurea solstitialis*			
Sago weed	*Plantago cunninghamii*	2 - 3 L/ha	300	45
Scarlet pimpernel	*Anagallis arvensis*	2 - 5 L/ha	500	75
Setaria	*Setaria italica*			
Sheep thistle	*Carduus tenuiflorus*	2.5 - 5 L/ha	500	75
Silver grass	*Vulpia myuros*	2 - 5 L/ha	500	75
Sorghum/sudax	*Sorghum bicolor*			
Square weed	*Spermacoce latifolia*			
Stagger weed	*Stachys arvensis*			
Star of Bethlehem (Cupid's Flower)	*Ipomoea quamoclit*			
Summer grass	*Digitaria ciliaris*			
Thickhead	*Crassocephalum crepidioides*	3 - 5 L/ha	500	75
Three cornered jack (Spiny emex, Doublegee)	*Emex australis*	2 - 5 L/ha	500	75
Tomato	*Lycopersicon esculentum*			
Townsville stylo	*Stylosanthes humilis*	1 - 3 L/ha	300	45
Turnip weed	*Rapistrum rugosum*	3 - 5 L/ha	500	75
Variegated thistle (refer also Table 2)	*Silybum marianum*	2.5 - 5 L/ha	500	75
Wheat	*Triticum aestivum*	4 - 5 L/ha	500	75
Wild carrot	*Daucus glochidiatus*	2 - 5 L/ha	500	75
Wild gooseberry	*Physalis minima*			
Wild mustard	*Sysimbrium orientale*			
Wild oats (refer also Table 2)	*Avena spp.*	3 - 5 L/ha	500	75
Wild radish	*Raphanus raphinistrum*	5 L/ha	500	75
Wireweed (refer also Table 2)	*Polygonum aviculare*	1.5 - 5 L/ha	500	75
PERENNIAL WEEDS				
Blady grass	*Imperata cylindrica*	3 - 4 L/ha	400	60
Cape tulip	*Homeria* spp.	2 - 3 L/ha	300	45
Centro	*Centrosema pubescens*	1 - 5 L/ha	500	75
Clover glycine	*Glycine latrobeana*	1 - 3 L/ha	300	45
Couch grass	*Cynodon dactylon*	2.5 - 5 L/ha	500	75
Cow pea	*Vigna unguiculata*	1 - 3 L/ha	300	45
Giant sensitive plant	*Mimosa invisa*	2 - 5 L/ha	500	75
Greenleaf desmodium	*Desmodium intortum*	1 - 3 L/ha	300	45
Johnson grass	*Sorghum halepense*	3 - 5 L/ha	500	75
Panicum spp.	*Panicum* spp.	2 - 5 L/ha	500	75
Paspalum spp.	*Paspalum* spp.	3 - 5 L/ha	500	75
Perennial bindweed	*Convolvulus arvensis*	2 - 3 L/ha	300	45
Shamrock	*Oxalis corymbosa*	3 L/ha	300	45
Sida weed (refer also Table 2.)	*Sida retusa*	3 - 5 L/ha	500	75
Silver leaf desmodium	*Desmodium uncinatum*	4 - 5 L/ha	500	75
Siratro	*Macroptilium atropurpureum*	1 - 3 L/ha	300	45
Stink grass	*Eragrostis cilianensis*	3 - 5 L/ha	500	75
White clover	*Trifolium repens*			
White eye	*Richardia brasiliensis*			
Willow herb	*Epilobium* spp.	4 - 5 L/ha	500	75

Notes:

1. Well-established clumps of Prairie grass and Brome grasses may only be suppressed at these rates. Follow-up treatments may be necessary to control regrowth.
2. Good control will be achieved on small and medium sized plants only in non-crop situation.

Table 2: Recommendations for control of weeds in Section 6 uses (when referred from Table 1).

COMMON NAME	SCIENTIFIC NAME	APPLICATION RATE		
		Boom or directed sprayer	Handgun mL/100L	Knapsack mL/15L
ANNUAL WEEDS				
Caltrop burr	*Tribulus terrestris*	4 - 5 L/ha	500	75
Dead nettle	*Lamium amplexicaule*	6 L/ha	600	90
Lesser canary grass	*Phalaris minor*	4 - 6 L/ha	600	90
Liverseed grass	*Urochloa panicoides*	1.5 L/ha	150	23
Variegated thistle	*Silybum marianum*	6 L/ha	600	90
Wild oats	*Avena* spp.	5 - 6 L/ha	600	90
Wire weed	*Polygonum aviculare*	2 - 5 L/ha	500	75
PERENNIAL WEEDS				
Sida weed	*Sida retusa*	4 - 5 L/ha	500	75

NOT TO BE USED FOR ANY PURPOSE, OR IN ANY MANNER, CONTRARY TO THIS LABEL UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION.

GENERAL INSTRUCTIONS

Nufarm Biffo® is a non-volatile herbicide with non-selective activity against many annual and perennial broadleaf weeds and grasses. Nufarm Biffo® is absorbed by plant foliage and green stems. It is not significantly translocated as an active herbicide throughout the plant, and therefore will only kill that part of a green plant that is contacted by spray. Nufarm Biffo® does not provide residual weed control. Visible symptoms of control appear in 3 to 7 days, but complete desiccation may take 20 to 30 days under cool conditions. Best results are achieved when application is made under good growing conditions. Application to weeds under stress (e.g. due to continuous severe frosts, dry or waterlogged conditions) should be avoided.

Crop Safety

Soil fumigation / sterilisation

Nufarm Biffo® is metabolised (broken down) by microorganisms in the soil to become inactive. Soil fumigation or sterilisation will reduce the number of microorganisms present, thus slowing the breakdown of Nufarm Biffo®. As damage to transplants or seedlings may occur, it is not advisable to apply Nufarm Biffo® in conjunction with soil fumigation or sterilisation.

Plastic mulches

Nufarm Biffo® will remain active on inert surfaces such as plastic. Special care should be taken when applying Nufarm Biffo® over plastic mulches, as plant contact with the mulch after spraying may result in crop damage.

Mixing

Nufarm Biffo® mixes easily with water. Clean water should always be used for mixing with Nufarm Biffo®. Ensure that the spray tank is free of any residues of previous spray materials. Two-thirds fill the spray tank with clean water, and with agitator operating add the required amount of Nufarm Biffo®. Add other relevant compatible products. Top the tank up to the required volume with clean water with agitator running.

Tank Mixtures - Additives

Nufarm Liase® (417 g/L ammonium sulphate liquid), Rate: 2 L per 100 litres spray solution.

Nufarm Liase® may be used as an adjuvant to alleviate the adverse effects of high levels of calcium, magnesium and bicarbonate ions in water. Ammonium sulphate may be corrosive to metal parts of the sprayer. Thoroughly flush tanks, pumps and nozzles with water after use. Solubility and impurity profiles of other forms of ammonium sulphate can vary and may reduce the performance of Nufarm Biffo® or tank mixtures.

Application

Summer fallows and XtendFlex® cotton

Apply by ground spraying equipment only. Aim to apply a thorough and even coverage of spray to the target weed. Incomplete coverage may result in poor control. Equipment set-up should be such that adequate coverage, penetration and volume of spray liquid can be achieved while the potential for off-target movement is minimised.

Nufarm Biffo® should be applied at the recommended rate in sufficient water to give thorough coverage of weeds. Application volumes of at least 100 L /ha through nozzles that will deliver a MEDIUM or COARSE spray droplet are recommended.

For inter-row directed or shielded nozzle application in XtendFlex® cotton, maximum efficacy is obtained by ensuring an even distribution of spray across the furrow. Use a directed spray to avoid shading by the crop which may affect herbicide placement.

Sugarcane

Apply inter-row with directed or shielded/hooded nozzle application. Aim to apply a thorough and even coverage of spray to the target plant. Dense stands of weeds should be thoroughly wetted with spray. Incomplete coverage may result in poor control. Equipment should be such that adequate coverage, penetration and volume of spray liquid can be achieved. It has been found that 300 to 500 L/ha has given good results under most weed conditions

Directed spraying equipment should be set up in such a way that practically no spray intercepts susceptible parts of the crop being sprayed but provides good coverage of weeds. The Irvin spray boom has been found to be suitable for the application of Nufarm Biffo® in sugarcane. Use of a bar at the front of the boom to knock down taller weeds may help ensure good coverage and increase performance.

Shielded/hooded nozzle sprayers should be set up in such a way to ensure that no spray intercepts susceptible parts of the crop being sprayed but provides good coverage of weeds.

Orchards, plantations, vineyards, other row crops, commercial, industrial, non-food crops, non-agricultural areas and forestry plantations

Apply by ground spraying equipment only. Aim to apply a thorough and even coverage of spray to the target plant. Dense stands of weeds should be thoroughly wetted with spray. Incomplete coverage may result in poor control. Equipment should be such that adequate coverage, penetration and volume of spray liquid can be achieved.

Boom or Directed Sprayer Equipment

Nufarm Biffo® should be applied at label rates (refer to specific column in the lists of weeds controlled) in sufficient water to give thorough coverage of weeds. It has been found that 300 to 500 L/ha has given good results under most weed conditions. Special care must be taken when using sprayer/slasher combination units not to cause dust and turbulence, which can carry spray into non-target areas.

Knapsack and Handgun Equipment

Nufarm Biffo® should be applied at label rates (refer to specific columns in the lists of weeds controlled) in adequate water to thoroughly wet the weeds being sprayed, i.e. 500 to 1000 L/ha. Dense stands will require up to 1000 L/ha of spray mixture, whereas less dense stands will require less water. High volume application using hollow-cone nozzles for hand spraying is recommended.

Controlled Droplet Application (CDA) Equipment

Nufarm Biffo® may be applied through CDA row spraying equipment fitted with a solid (impermeable) shroud or skirt, at rates as recommended for boom or directed sprayers (Refer to specific column in the lists of weeds controlled), provided thorough spray coverage of weeds can be achieved. Apply preferably when weeds are less than 15cm in height, with the equipment set up so that the spray dome only just touches the tops of the weeds. A total spray volume of 20 to 30 L/ha has been found to give good results. **DO NOT** mix residual herbicides or any spray adjuvants with Nufarm Biffo® when using CDA equipment.

Warning: Because the spray solution is highly concentrated particular care must be taken when using Nufarm Biffo® through CDA equipment to avoid contact of the spray solution with any part of the crop trunk or canopy. **DO NOT** apply Nufarm Biffo® through equipment fitted with bristle skirts. Particular care should be taken when using CDA equipment around green or uncalloused bark or exposed roots. **Please refer to PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS.** CDA equipment must not be used for application in cherry orchards.

Sprayer Clean-Up

Clean all equipment after use by thoroughly flushing with water.