

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

Balance[®] Flow

HERBICIDE

ACTIVE CONSTITUENT: 480 g/L ISOXAFLUTOLE

GROUP H HERBICIDE

For the control and suppression of various broadleaf weeds and grasses in sugarcane, chickpeas and fallow as specified in the DIRECTIONS FOR USE Table

GENERAL INSTRUCTIONS

Resistance Weed Warning

Balance Flow Herbicide is a member of the isoxazole group of herbicides. Balance Flow is a herbicide which inhibits 4-hydroxyphenyl-pyruvate dioxygenase (4-HPPD). For weed resistance management Balance Flow is a Group H herbicide.

Some naturally-occurring weed biotypes resistant to Balance Flow, and other Group H 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 Balance Flow or other Group H herbicides.

Since occurrence of resistant weeds is difficult to detect prior to use, Bayer CropScience Pty Ltd accepts no liability for any losses that may result from the failure of Balance Flow to control resistant weeds.

Crop Safety

Chickpeas

Application of Balance Flow PSPE to chickpeas planted in sandy or gravelly soils, or soils low in clay or organic matter may result in crop damage. Heavy rains after the application of Balance Flow may cause crop damage, particularly in sandy or gravelly soils. Application of Balance Flow + simazine in sandy or gravelly soils may result in severe crop damage.

Varietal tolerance

Balance Flow is not recommended for use with the chickpea variety Yorker. Application of Balance Flow post-sowing pre-emergence to crops of Yorker variety chickpeas can result in unacceptable crop damage and may result in yield loss.

Crop rotation recommendations

Balance Flow may be applied to chickpea crops where the following crop will be chickpeas, or where the land will be left fallow. The following recropping instructions apply to following crops other than chickpeas.

- Prolonged dry periods or cold conditions may result in extended re-cropping intervals, even if rainfall exceeds the required amount (listed in the table below). If in doubt, contact your local Bayer CropScience representative.
- Heavy rainfall after an extended dry period may result in the reactivation of Balance Flow. This can lead to transient bleaching or crop stunting.
- Use on soils with a pH less than 7.0 has not been extensively tested, and may result in extended recropping intervals.
- Cultivation is recommended prior to recropping.
- Minimum recropping intervals apply for all crops following Balance Flow application. For advice on crops not listed below, contact the manufacturer, Bayer CropScience Pty Ltd.

CROP	MINIMUM RECROPPING INTERVAL	MINIMUM RAINFALL REQUIREMENT*
Wheat	10 weeks**	100 mm
Barley	10 weeks**	100 mm
Oats	10 weeks**	100 mm
Canola	9 months	350 mm
Faba beans	9 months	250 mm
Field peas	9 months	250 mm
Vetch	9 months	250 mm
Lentils	21 months	500 mm
Clover	21 months	500 mm
Lucerne	9 months	350 mm
Medic	21 months	500 mm
Maize	10 weeks**	100 mm
Mung beans	7 months	250 mm
Sorghum	7 months	250 mm
Soybeans	7 months	250 mm
Sunflowers	7 months	250 mm
Cotton	7 months	350 mm

*Minimum rainfall total from Balance Flow use until planting of the subsequent crop. **Do not include flood or furrow irrigation in the minimum rainfall requirement.**

**If Balance Flow has been tank-mixed with simazine, observe the recropping interval for simazine for wheat, barley, oats and maize.

Sugarcane

There are 6 general guidelines for maintaining crop safety when using Balance Flow in sugarcane.

GENERAL GUIDELINES

1. In plant cane, do not apply to shallow planted cane unless there is sufficient soil cover over the sett. (Minimum of 60 mm but preferably at least 75-100 mm). See Critical Comments.
2. Add paraquat to Balance Flow to minimise foliar uptake when applying as a broadcast spray to plant cane, and in very young ratoons if green cane shoots are likely to be intercepted by sprays.
3. Do not apply with wetting agents, crop oils or other adjuvants.
4. Do not apply to areas which have poor drainage or poor root development in the crop.
5. The use of Balance Flow on newly limed soil could cause severe crop damage, please contact your local Bayer CropScience representative for advice prior to use of Balance Flow in this situation.
6. Adhere to the general rate guidelines regarding light, medium and heavy soils.

CATEGORY	Common soil description	Clay content %	Suitable Balance Flow rates
Light soils	e.g. sands, loamy sand, light sandy loam, light silty loams	less than 15 %	150-200 mL/ha
Medium soils	e.g. sandy loam, silty loam, sandy clay loam, loam	15-33 %	150-250 mL/ha
Heavy soils	e.g. heavy loams, clay loams, clays, dark earths	Greater than 33 %	150-300 mL/ha

Balance Flow is adsorbed to organic matter and clay particles in the soil. Soils with low organic carbon (O.C.) and cation exchange capacity (C.E.C.) have a reduced capacity to adsorb the herbicide in the soil, which may result in the herbicide leaching past the weed root zone into the cane root zone. Crop root uptake of Balance Flow may result in phytotoxicity, which is evident as bleaching of leaves. To minimise the risk of crop root uptake, Balance Flow is not recommended for use on some soils. Carefully check the specific guidelines and constraints with respect to cation exchange capacity, organic carbon content and clay content. These values should be determined through soil analysis prior to using Balance Flow. Refer to your local reseller or Bayer CropScience representative to assist you with interpretation of your soil analysis results.

The use of Balance Flow on newly limed soil could cause severe crop damage, please contact your local Bayer CropScience representative for advice prior to use of Balance Flow in this situation.

Balance Flow has been field tested on most important commercial varieties of sugarcane without any evidence of major varietal tolerance variation. If you are contemplating the use of Balance Flow on

experimental or minor varieties of sugarcane, small test areas should be treated to establish suitable tolerance before treating large areas. For further information on varietal tolerance please contact your Bayer CropScience representative.

Mixing

Partly fill the spray tank with water. Start agitation. Add the correct amount of Balance Flow to the spray tank with the agitation system running. When tank-mixing with paraquat, ensure that Balance Flow is added to the spray mixture first, followed by paraquat to ensure thorough mixing. When tank-mixing with glyphosate, ensure that Balance Flow is added to the spray mixture first, followed by glyphosate to ensure thorough mixing. Continue agitation while topping up the tank with water and while spraying. In all cases, use prepared spray mixture on day of preparation. Do not allow spray mixture to stand overnight.

In the case of tank mixtures with glyphosate, water should be clean and free of clay, silt and algae. Provided it meets these requirements then water collected from roofs, bore water, dam water and water from creeks may be used.

Application

Balance Flow can be applied to hot and dry soils, without the risk of breakdown by sunlight. This ultraviolet stability removes the need for immediate soil incorporation of the product. Balance Flow is activated by rainfall or irrigation, which is required to carry the herbicide into the root zone of the germinating weeds. Deep germinating weeds (e.g. wild radish) may not be adequately controlled in years where rainfall is low (<15 mm).

Weed escapes may occur after spraying Balance Flow if weed germination occurs before the chemical is activated OR carried to the depth of the weed root zone. Under prolonged dry conditions a greater quantity of rainfall or irrigation may be required for effective activation of the product. Under these conditions, shoots of germinating weeds may intercept the Balance Flow herbicide band and appear affected, but may not be controlled. Weeds that do not turn completely white within days of emergence must be sprayed with an appropriate knockdown herbicide. To avoid weed escapes, it is recommended to allow weeds to germinate, and then apply Balance Flow in tank mixture with paraquat at an appropriate label rate to provide additional weed knockdown.

Soil movement from irrigation or cultivation may result in poor weed control from Balance Flow. Do not incorporate Balance Flow by flood irrigation or with high-pressure water cannons if excessive soil movement is expected, particularly if the soil is in a loose, dry condition. Best results are achieved where rainfall or low pressure overhead irrigation carries the herbicide downward in an even band to the depth of the weed root zone.

Sugarcane

Apply in a minimum spray volume of 250 L/ha. For best results flat fan nozzles are recommended. Use a nozzle size that delivers a medium to coarse droplet at the selected operating pressure.

Compatibility**Sugarcane**

Balance Flow may be tank-mixed with paraquat formulations at the appropriate label rates for each product. Balance Flow may be tank-mixed with Soccer[®], atrazine (900 g/kg) and Actril[®] DS (apply no more than 500 mL/ha in combination with Balance Flow).

Tank Mixtures: Read and follow all label directions including restraints, spray drift restraints, mandatory no-spray zones, critical comments, withholding periods, regional use restrictions and safety directions for the tank mix products.

Chickpeas

Balance Flow should not be tank-mixed with trifluralin.

Fallow

Balance Flow may be tank-mixed with glyphosate. Tank mixes of glyphosate and Balance Flow may reduce glyphosate efficacy. Balance Flow may be tank-mixed with atrazine and Flame.

Spray Equipment Clean-Up

After using Balance Flow, empty the tank completely and drain the whole system. Without entering it, thoroughly wash inside the tank using a pressure hose. Alternatively, if the tank is fitted with in-tank rinse nozzles, activate these nozzles to thoroughly rinse the inside of the tank. Drain the tank and clean any tank,

pump, line and nozzle filters. Before disassembling nozzles, filters and other parts for cleaning, thoroughly wash down the exterior of the spray equipment with a pressure hose.

To rinse. After cleaning the tank as above, quarter fill the tank with clean water and circulate through the pump, lines, hoses and nozzles. Drain and repeat the rinsing procedure twice.

To decontaminate. Before spraying sensitive crops (e.g. canola, pulses (except chickpeas), forage legumes and forage brassicas), wash the tank and rinse the system as above. Quarter fill the tank and add a liquid alkali detergent at 500 mL/100 L of water or a chlorine bleach (4 % chlorine) at 300 mL/100 L of water and circulate throughout the system for at least fifteen minutes. Drain the whole system. Nozzles, screens, relief valves, dump lines, caps and taps at the end of spray lines, tank lids, flow meters, lines to pressure gauges, external tank indicators, induction hoppers and transfer systems should be removed/pulled apart and cleaned separately. Pay special attention to by-pass lines from pressure relief or dump valves to the main tank. Finally, flush the system with clean water and allow to drain.

Drainage and rinse water should be discharged into a designated disposal area or if this is unavailable, onto unused land away from desirable plants and their roots, and water courses.

PRECAUTIONS

Re-entry period

Do not allow entry into treated areas until the spray has dried, unless wearing cotton overalls buttoned to the neck and wrist (or equivalent clothing) and chemical resistant gloves. Clothing must be laundered after each day's use.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

Very toxic to aquatic life. DO NOT contaminate wetlands or watercourses with this product or used containers.

PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS

DO NOT apply under weather conditions, or from spraying equipment, which could be expected to cause spray to drift onto nearby susceptible plants/crops, cropping lands or pastures.

STORAGE AND DISPOSAL

Store in the closed, original container in a dry, cool, well-ventilated area out of direct sunlight.

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 for appropriate disposal 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. Do not re-use container for any other purpose.

SAFETY DIRECTIONS

Will irritate the eyes. May irritate the skin. Avoid contact with eyes and skin. If product or spray in eyes, wash it out immediately with water. When opening the container, preparing spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing), elbow length chemical resistant gloves and a face shield or goggles. Wash hands after use. After each day's use wash gloves, face shield or goggles and contaminated clothing.

FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre (telephone 13 11 26).

SAFETY DATA SHEET

Additional information is listed in the Safety Data Sheet, which can be obtained from www.crop.bayer.com.au.

EXCLUSION OF LIABILITY

This product must be used strictly as directed, and in accordance with all instructions appearing on the label and in other reference material. So far as it is lawfully able to do so, Bayer CropScience Pty Ltd accepts no liability or responsibility for loss or damage arising from failure to follow such directions and instructions.

APVMA Approval No.: 81192/102525

Balance®, Actril® and Soccer® are Registered Trademarks of the Bayer Group.

FOR 24 HOUR SPECIALIST ADVICE
IN EMERGENCY ONLY
PHONE 1800 033 111



DIRECTIONS FOR USE

Apply as sprays to the soil surface. Balance Flow can be applied to hot and dry soils, without the risk of rapid breakdown by sunlight. For effective weed control, incorporation by rainfall or irrigation to the weed root zone is required, but immediate soil incorporation is not critical due to the ultraviolet stability of Balance Flow. See 'Crop Safety' and 'Application' under General Instructions.

RESTRAINTS**All crops**

DO NOT apply by aircraft.

Sugarcane

DO NOT apply with wetting agents, crop oils or other adjuvants.

DO NOT apply to poorly drained soils, e.g. soils prone to waterlogging, sodic soils or soils affected by physical compaction.

DO NOT apply to crops with poor root development or to crops under stress from waterlogging, drought, nutrient deficiency or disease.

DO NOT apply at any rate to soils of cation exchange capacity (C.E.C.) less than 3 meq/100 g or with clay content less than 10 %, or with organic carbon content of less than 0.8 %. These values should be obtained from soil analysis prior to using Balance Flow.

DO NOT apply at rates of 200 mL/ha or higher to soils with organic carbon content of less than 1.0 %, unless the cation exchange capacity (C.E.C.) is above 9.5 meq/100 g. These values should be determined through soil analysis prior to using Balance Flow.

DO NOT apply at rates of 200 mL/ha or higher to soils of cation exchange capacity (C.E.C) less than 4.5 meq/100 g.

SPRAY DRIFT RESTRAINTS

DO NOT apply with spray droplets smaller than a **MEDIUM** spray droplet size category according to nozzle manufacturer specifications that refer to the ASAE S572 Standard or the British Crop Production Council guideline.

DO NOT apply when wind speed is less than 3 or more than 20 kilometres per hour, as measured at the application site.

DO NOT apply during surface temperature inversion conditions at the application site.

Users of this product **MUST make an accurate written record** of the details of each spray application within 24 hours following application, and must **KEEP** this record for at least 2 years. The spray application details that must be recorded are: **1.** date with start and finish times of application; **2.** location address and paddock(s) sprayed; **3.** full name of this product; **4.** amount of product used per hectare and number of hectares applied to; **5.** crop or situation and weed or pest; **6.** wind speed and direction during application; **7.** air temperature and relative humidity during application; **8.** nozzle brand, type, spray angle, nozzle capacity and spray system pressure measured during application; **9.** name and address of person applying this product. (Additional record details may be required by the state or territory where this product is used.)

CROP	WEEDS CONTROLLED	STATES	RATE	CRITICAL COMMENTS
Sugarcane	Pre weed emergence: Barnyard grass, billygoat weed (blue top), blackberry nightshade, crowsfoot grass, green summer grass, guinea grass, sowthistle, summer grass, thickhead, turnip weed	Qld, NSW, WA only	Light soils 150-200 mL/ha Medium soils 150-250 mL/ha Heavy soils 150-300 mL/ha See GENERAL INSTRUCTIONS for soil guidelines. Use higher rates for longer residual effect.	PLANT CANE BROADCAST OR BANDED SPRAY APPLICATIONS (From planting up to 3-4 leaf crop stage only) May be applied as a broadcast or band spray 'over the top' of plant cane from planting up to the 3 to 4 leaf crop stage. If weeds have emerged at application or if green leaf tissue is unfurling from emerging cane shoots, add paraquat at the appropriate label rate to burn down existing weed growth and minimise uptake by crop. DO NOT apply to shallow planted cane unless there is sufficient soil cover above the sett. A minimum of 60 mm soil cover is required above the sett even in heavy soils. In most cases it is preferable to have 75-100 mm soil cover at least. More soil

CROP	WEEDS CONTROLLED	STATES	RATE	CRITICAL COMMENTS
Sugarcane <i>Continued</i>	Pre weed emergence: Barnyard grass, billygoat weed (blue top), blackberry nightshade, crowsfoot grass, green summer grass, guinea grass, sowthistle, summer grass, thickhead, turnip weed	Qld, NSW, WA only	<p>Light soils 150-200 mL/ha</p> <p>Medium soils 150-250 mL/ha</p> <p>Heavy soils 150-300 mL/ha</p> <p>See GENERAL INSTRUCTIONS for soil guidelines.</p> <p>Use higher rates for longer residual effect.</p>	<p>cover is recommended where soils have a high infiltration rate. In conventionally planted (furrow planting) sugarcane, DO NOT apply to unconsolidated soil in the cutaway situation, where rainfall or irrigation may cause soil movement into the planting drill.</p> <p>If planting into pre-formed mounds using double-disc opener planters or similar equipment, ensure that planting slits in soil are closed completely so that there is adequate soil cover over the sett.</p> <p>PLANT CANE and RATOON CANE DIRECTED SPRAY APPLICATIONS PRIOR TO CANOPY CLOSURE</p> <p>Apply as a directed inter-row spray (e.g. Irvin leg) to the soil surface. Best results are obtained after all tillage operations are completed and the row mound surface has consolidated to minimise soil and herbicide movement. The inter-row surface should not be disturbed after application. Direct the spray to minimise contact with sugarcane foliage. Do not apply to sugarcane less than 0.75 m in height. If weeds have emerged at application, add a knockdown herbicide at the appropriate label rate to provide improved weed knockdown.</p> <p>RATOON CANE BROADCAST OR BANDED SPRAY APPLICATIONS (After harvest up to two-leaf crop stage)</p> <p>May be applied “over the top” of ratoon cane as a broadcast or band spray up to the two-leaf crop stage. Balance Flow can be applied to burnt or green trash blanketed ratoon cane. If a non-UV stable pre-emergence herbicide is included for extended weed spectrum, heavy trash blanket layers should be removed prior to application to ensure herbicide contact with the soil surface. Avoid soil disturbance, e.g. stool splitting, after application.</p> <p>If weeds have emerged at application or if green leaf tissue is unfurling from ratoon shoots, add paraquat at the appropriate label rate to burn down existing weed growth and minimise uptake by crop.</p> <p><i>Other pre-emergence herbicides may be necessary for extended weed spectrum.</i></p>

CROP	WEEDS CONTROLLED	STATES	RATE	CRITICAL COMMENTS
Sugarcane <i>Continued</i>	Pre weed emergence: Barnyard grass, billygoat weed (blue top), blackberry nightshade, crowfoot grass, green summer grass, guinea grass, sowthistle, summer grass, thickhead, turnip weed	Qld, NSW, WA only	Light soils 150-200 mL/ha Medium soils 150-250 mL/ha Heavy soils 150-300 mL/ha See GENERAL INSTRUCTIONS for soil guidelines. Use higher rates for longer residual effect.	<i>For best results, consider label requirements for those products regarding soil moisture at application as well as incorporation guidelines.</i>
Fallow prior to planting of crops as directed under the <i>Crop rotation recommendation</i> section	Weeds controlled Fleabane (<i>Conyza bonariensis</i>), sowthistle (<i>Sonchus oleraceus</i>), feathertop Rhodes grass (<i>Chloris virgata</i>) Weeds suppressed Barnyard grass (<i>Echinochloa colona</i>)	All States	150 mL/ha	Balance Flow may be applied following crop harvest but not less than the period specified under Crop rotation recommendations . Minimum recropping intervals apply for all crops following Balance Flow application. Best results are obtained where a complete and even application of Balance Flow is applied to weed-free soil prior to weed germination and sufficient rainfall occurs after application and prior to weed emergence allow herbicide uptake by germinating weeds. Use a nozzle configuration to achieve a medium to coarse spray pattern. A minimum spray volume of 50 L/ha is recommended. Cultivation following application may reduce pre-emergence weed control provided by Balance Flow. Balance Flow will not control emerged weeds when applied alone. Emerged weeds must be controlled by application of a knockdown herbicide. Refer to the compatible products listed below for an appropriate knockdown herbicide to apply with Balance Flow in this situation. Weed control may be reduced by prolonged wet soil conditions following application. Weed escapes may require follow up application of knockdown herbicides.

CROP	WEEDS CONTROLLED	STATES	RATE	CRITICAL COMMENTS
Chickpeas	<p>Weeds controlled Capeweed, crassula, Indian hedge mustard, medic, prickly lettuce, sowthistle, turnip weed, wild radish</p> <p>Weeds Suppressed Deadnettle, slender celery</p>	Qld, NSW, ACT, Vic, SA and WA only	150 mL/ha	<p>Pre weed emergence: Application can be made to dry or damp soil. Application should be made as soon as possible after planting prior to emergence of the crop. If applied during the planting operation ensure Balance Flow is applied after furrow closure. Failure to thoroughly close and firm the seed furrow may allow herbicide to directly contact the seed which may cause crop injury. If sowing with knife points or disc openers, ensure that herbicide cannot be concentrated in the sowing furrow by soil wash. Either close the furrow with harrows, or stabilise the furrow with press wheels. Mechanical incorporation is not recommended. Use a nozzle configuration to achieve a medium to coarse spray pattern. A minimum spray volume of 50 L/ha is recommended.</p> <p>Application of Balance Flow post-sowing pre-emergent to chickpeas planted in sandy or gravelly soils, or soils low in clay or organic matter may result in crop damage. Heavy rains after the application of Balance Flow may cause crop damage, particularly in sandy or gravelly soils.</p> <p>Balance Flow is not recommended for use on Yorker chickpeas. See “Crop Safety” in the GENERAL INSTRUCTIONS section below.</p>
	<p>Weeds Controlled Capeweed, crassula, deadnettle, Indian hedge mustard, medic, prickly lettuce, silvergrass, slender celery, sowthistle, spear thistle, turnip weed, wild radish</p> <p>Weeds suppressed Saffron thistle, spiny emex, wireweed</p>		150 mL/ha + 1.5 L/ha simazine (500 g/L SC)	<p>The Critical Comments for the use of Balance Flow alone in chickpeas (above) also apply to this section.</p> <p>Application of Balance Flow + simazine in sandy or gravelly soils may result in severe crop damage.</p>

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

WITHHOLDING PERIODS

Sugarcane

Harvest: DO NOT HARVEST FOR 19 WEEKS AFTER APPLICATION

Grazing: DO NOT GRAZE ANIMALS ON TREATED CROPS

Chickpeas

Harvest: NOT REQUIRED WHEN USED AS DIRECTED

Grazing: DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 6 WEEKS AFTER APPLICATION

Summer fallow

Harvest:

Crops planted after summer fallow: NOT REQUIRED WHEN USED AS DIRECTED

Grazing:

DO NOT GRAZE TREATED WEEDS AND STUBBLE IN A FALLOW SITUATION FOR 8 WEEKS AFTER APPLICATION

DO NOT GRAZE OR CUT FOR STOCKFOOD A CROP SOWN FOLLOWING A FALLOW SPRAY FOR 6 WEEKS AFTER SOWING