## CAUTION

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

# Palmero® 750 WG

## Herbicide

ACTIVE CONSTITUENT: 750 g/kg ISOXAFLUTOLE

GROUP 27 HERBICIDE

Crops/Situations: Sugarcane, Chickpeas and Fallow.

Controls/Suppresses: Various Broadleaf weeds and Grasses as specified in the Directions for Use.





NET CONTENTS: 500 g - 10 kg

#### **DIRECTIONS FOR USE**

**RESTRAINTS** 

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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 (CEC) 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 PALMERO® 750 WG.

DO NOT apply at rates of 125 g/ha or higher to soils with organic carbon content of less than 1.0 %, unless the cation exchange capacity (CEC) is above 9.5 meq/100g. These values should be determined through soil analysis prior to using PALMERO® 750 WG.

DO NOT apply at rates of 125 g/ha or higher to soils of cation exchange capacity (CEC) less than 4.5 meq/100 g.

#### **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.

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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, Summer Grass, Thick Head, Turnip Weed.	QId, NSW, WA only	Light soils 100-125 g/ha Medium soils 100-150 g/ha Heavy soils 100-200 g/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. ADD paraquat at label rates where green cane leaf has emerged at application, even if no weeds have emerged. DO NOT apply to shallow planted cane unless there is sufficient soil cover above the sett. A minimum of 60mm 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 cover is recommended (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. 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.  PLANT CANE and RATOON CANE DIRECTED SPRAY APPLICATIONS PRIOR TO CANOPY CLOSURE 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.  RATOON CANE BROADCAST OR BANDED SPRAY APPLICATIONS (After harvest up to two-leaf crop stage) May be applied "over the top" of ratoon cane as a broadcast or band spray up to the two-leaf crop stage. PALMERO® 750 WG can be applied to burnt or green trash blanket layers should be removed prior to application to ensure herbicide is included for extended weed spectrum, heavy trash blanket layers should be removed prior to application to ensure herbicide contact wi
Fallow prior to planting of crops as directed under the crop rotation recommendation section	Weeds controlled Fleabane (Conyza bonariensis), Sowthistle (Sonchus oleraceus), Feathertop Rhodes Grass (Chloris virgata) Weeds suppressed Barnyard Grass (Echinochloa colona)	All States	100 g/ha	PALMERO® 750 WG 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 PALMERO® 750 WG application. Best results are obtained where a complete and even application of PALMERO® 750 WG 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 PALMERO® 750 WG. PALMERO® 750 WG 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 PALMERO® 750 WG 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	Weeds controlled Capeweed, Crassula, Indian Hedge Mustard, Medic, Prickly lettuce, Sowthistle, Turnip Weed, Wild radish Weeds suppressed Deadnettle, Slender Celery	QId, NSW, ACT, Vic, SA, WA only	100 g/ha	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 PALMERO® 750 WG 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. Application of PALMERO® 750 WG 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 PALMERO® 750 WG may cause crop damage, particularly in sandy or gravelly soils. PALMERO® 750 WG is not recommended for use on Yorker chickpeas. See "Crop Safety" in the GENERAL INSTRUCTIONS section below.
	Weeds controlled Capeweed, Crassula, Deadnettle, Indian Hedge Mustard, Medic, Prickly Lettuce, Silvergrass, Slender Celery, Sowthistle, Spear Thistle, Turnip Weed, Wild Radish Weeds suppressed Saffron Thistle, Spiny Emex, Wireweed		100 g/ha +830 g/ha Simanex® 900 WG	The Critical Comments for the use of PALMERO® 750 WG alone in chickpeas (above) also apply to this section.  Application of PALMERO® 750 WG + Simanex® 900 WG in sandy or gravelly soils may result in severe crop damage.

## 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 SUMMER FALLOW SITUATION.

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

#### **RESISTANT WEEDS WARNING**

PALMERO® 750 WG Herbicide is a member of the isoxazole group of herbicides.



PALMERO® 750 WG is a herbicide which inhibits 4-hydroxyphenyl-pyruvate dioxygenase (4-HPPD). For weed resistance management PALMERO® 750 WG is a Group 27 herbicide. Some naturally-occurring weed biotypes resistant to PALMERO® 750 WG, and other Group 27 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 PALMERO® 750 WG or other Group 27 herbicides. Since occurrence of resistant weeds is difficult to detect prior to use, Adama Australia accepts no liability for any losses that may result from the failure of PALMERO® 750 WG to control resistant weeds.

#### **CROP SAFETY**

#### Chickpeas

Application of PALMERO® 750 WG PSPE to chickpeas planted in sandy or gravely soils, or soils low in clay or organic matter may result in crop damage. Heavy rains after the application of PALMERO® 750 WG may cause crop damage, particularly in sandy or gravely soils. Application of PALMERO® 750 WG + Simanex® 900 WG in sandy or gravel soils may result in severe crop damage.

#### <u>Varietal tolerance</u>

PALMERO® 750 WG is not recommended for use with the chickpea variety Yorker. Application of PALMERO® 750 WG 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

PALMERO® 750 WG 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 recropping intervals, even if rainfall exceeds the required amount (listed in the table below). If in doubt, contact your local Adama representative.
- Heavy rainfall after an extended dry period may result in the reactivation of PALMERO® 750 WG. 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 PALMERO® 750 WG application. For advice on crops not listed below, contact the manufacturer, Adama Australia.



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 PALMERO® 750 WG use until planting of the subsequent crop. Do not include flood or furrow irrigation in the minimum rainfall requirement.
- \*\* If PALMERO® 750 WG has been tank-mixed with Simanex® 900 WG, observe the recropping interval for Simanex® 900 WG for Wheat, Barley, Oats and Maize.

### Sugarcane Sugarcane:

There are 6 general guidelines for maintaining crop safety when using PALMERO® 750 WG 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 PALMERO® 750 WG 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 PALMERO® 750 WG on newly limed soil could cause severe crop damage, please contact your local Adama Australia representative for advice prior to use of PALMERO® 750 WG in this situation.
- Adhere to the general rate guidelines regarding light, medium and heavy soils.

CATEGORY	Common soil description	Clay content %	Suitable PALMERO® 750 WG rates
Light soils	e.g. sands, loamy sand, light sandy loam, light silty loams	less than 15%	100-125 g/ha
Medium soils	e.g. sandy loam, silty loam, sandy clay loam, loam	15-33%	100-150 g/ha
Heavy soils	e.g. heavy loams, clay loams, clays, dark earths	Greater than 33%	100-200 g/ha

PALMERO® 750 WG is adsorbed to organic matter and clay particles in the soil. Soils with low organic carbon (0.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 PALMERO® 750 WG may result in phytotoxicity, which is evident as bleaching of leaves. To minimise the risk of crop root uptake, PALMERO® 750 WG 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 PALMERO® 750 WG. Refer to your local reseller or Adama representative to assist you with interpretation of your soil analysis results.

The use of PALMERO® 750 WG on newly limed soil could cause severe crop damage, please contact your local Adama representative for advice prior to use of PALMERO® 750 WG in this situation.

PALMERO® 750 WG has been field tested on all important commercial varieties of sugarcane (available up to September 2002) without any evidence of varietal tolerance variation. If you are contemplating the use of PALMERO® 750 WG 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 Adama representative.

#### MIXING

Partly fill the spray tank with water. Start agitation. Add the correct amount of PALMERO® 750 WG to the spray tank with the agitation system running. When tank-mixing with paraquat, ensure that PALMERO® 750 WG is added to the spray mixture first, followed by paraquat to ensure thorough mixing. When tank-mixing with glyphosate, ensure that PALMERO® 750 WG 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. Continue agitation while topping up the tank with water and while spraying. 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

PALMERO® 750 WG 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. PALMERO® 750 WG is activated by rainfall or irrigation, which is required to carry the herbicide into the root zone of the germinating weeds. Deep germinating weeds (eg. wild radish) may not be adequately controlled in years where rainfall is low (<15 mm).

Weed escapes may occur after spraying PALMERO® 750 WG 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 PALMERO® 750 WG 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 PALMERO® 750 WG 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 PALMERO® 750 WG. DO NOT incorporate PALMERO® 750 WG 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. Select the lowest pressure (within the recommended nozzle operating range), to reduce drift. Use a nozzle size that delivers a medium to coarse droplet at the selected operating pressure.



#### **COMPATIBILITY**

Tank Mixtures: Read and follow all label directions including restraints, spray drift restraints, mandatory buffer zones, critical comments, withholding periods, regional use restrictions and safety directions for the tank mix products.

#### Sugarcane

PALMERO® 750 WG may be tank-mixed with paraquat formulations at the appropriate label rates for each product. PALMERO® 750 WG is also compatible with Mentor®, and Farmozine®.

#### Chickpeas

PALMERO® 750 WG is compatible with Simanex® 900 WG. PALMERO® 750 WG should not be tank-mixed with trifluralin.

#### Fallow

PALMERO® 750 WG may be tank-mixed with glyphosate. Tank-mixes of glyphosate and PALMERO® 750 WG may reduce glyphosate efficacy. PALMERO® 750 WG may be tank-mixed with Farmozine® and Impose®.

#### **SPRAY EQUIPMENT CLEAN-UP**

After using PALMERO® 750 WG, 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 for 12 hours after treatment. 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.

#### PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

DO NOT contaminate streams, rivers or watercourses with this product or the used containers, as this product may cause injury to non-target plants and vegetation, particularly aquatic plants and algae.

#### 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

#### **HDPE** containers

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.

#### **HDPE** bags

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

Single-rinse or shake remainder into spray tank. Do not dispose of undiluted chemicals on site. 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.

#### **SAFETY DIRECTIONS**

Will irritate the eyes and skin. Avoid contact with eyes and skin. If product in eyes, wash it out immediately with water. When opening the container and preparing spray, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing), a washable hat, elbow-length chemical resistant gloves and face shield or goggles. When using the prepared spray wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and a washable hat and elbow-length chemical resistant gloves. 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. Phone Australia 131126.

#### **SAFETY DATA SHEET**

Additional information is listed in the safety data sheet (SDS). A safety data sheet for PALMERO® 750 WG Herbicide is available from Adama on request. Call Customer Service on (02) 9431 7800.

**CONDITIONS OF SALE:** The use of PALMERO® 750 WG Herbicide being beyond the control of the manufacturer, no warranty expressed or implied is given by Adama Australia regarding its suitability, fitness or efficiency for any purpose for which it is used by the buyer, whether in accordance with the directions or not and Adama Australia accepts no responsibility for any consequence whatsoever resulting from the use of this product.

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