

POISON

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

Palmero® TX

Herbicide

ACTIVE CONSTITUENTS:

750 g/kg TERBUTHYLAZINE

75 g/kg ISOXAFLUTOLE

GROUP

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HERBICIDE

Crops/Situations: Chickpeas, Fallow, Sugarcane

Controls/Suppresses: Various broadleaf weeds and grasses as per the Directions for Use

Formulation type

Water Dispersible
Granule

WG



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NET CONTENTS: 1 kg - 500 kg

RESTRAINTS

All crops

- DO NOT apply by aircraft.
- DO NOT apply by a vertical sprayer.
- DO NOT apply by boom spray equipment using an open cab tractor.
- DO NOT apply to fields where the slope exceeds 3%.
- DO NOT apply to waterlogged soil.
- DO NOT apply if heavy rains or storms are forecast within two days of application.
- DO NOT irrigate crop to the point of runoff unless it can be retained on farm.
- DO NOT apply more than one application of PALMERO® TX in a 12 month period.
- DO NOT apply PALMERO® TX in fallow prior to planting sugarcane.

Sugarcane

- DO NOT apply after the out of hand stage.
- DO NOT apply as a broadcast spray in the Fitzroy region.
- DO NOT apply at the highest rate as a broadcast spray in the South East Queensland region.
- 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 PALMERO® TX.
- DO NOT apply at rates higher than 1 kg/ha 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 PALMERO® TX.
- DO NOT apply at rates of 1.25 kg/ha or higher to soils of cation exchange capacity (C.E.C) 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 www.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. The advisory buffer zones in the relevant buffer zone table/s below provide guidance but may not be sufficient in all situations. 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 surface temperature inversion conditions present at the application site during the time of application. These conditions exist most evenings one to two hours before sunset and persist until one to two hours after sunrise.
- DO NOT apply by a boom sprayer unless the following requirements are met:
 - Spray droplets not smaller than a COARSE spray droplet size category;
 - Minimum distances between the application site and downwind sensitive areas (see 'Mandatory Buffer Zones' section of the following table titled 'Buffer Zones for Boom Sprayers') are observed.

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Buffer Zones for Boom Sprayers

APPLICATION RATE	BOOM HEIGHT ABOVE THE TARGET CANOPY	MANDATORY DOWNWIND BUFFER ZONES	
		NATURAL AQUATIC AREAS	VEGETATION AREAS
1000 g/ha or lower	0.5 m or lower	30 metres	30 metres
	Over 0.5 m	80 metres	75 metres
Up to maximum label rate	0.5 m or lower	45 metres	45 metres
	Over 0.5 m	140 metres	130 metres

DIRECTIONS FOR USE

Table 1. Chickpeas and Fallow

CROP	SITUATION	WEEDS	RATE	CRITICAL COMMENTS
Chickpeas (NSW, Vic, SA, WA, Qld only)	Incorporated By Sowing (IBS)	Weeds controlled: Capeweed, Corn Gromwell (White Iron Weed, Sheep Weed), Flaxleaf Fleabane Weeds suppressed: Annual Ryegrass, Burr Medic, Doublegee/Spiny Emex, Fumitory (<i>Fumaria muralis</i>), Phalaris, Wild Carrot, Wild Oats	1 kg/ha	DO NOT apply to Chickpeas if an application has been made to the preceding fallow. General guidelines: Ensure the crop is sown at a depth of 5 cm. The soil should be free of excessive clods, trash and deep furrows. A minimum spray volume of 50 L/ha is recommended. Sufficient rainfall (20 to 30 mm) to wet the soil through the weed zone is necessary within 2-3 weeks of application. Heavy rains following an application of PALMERO® TX may cause crop damage, particularly in sandy or gravelly soils. Application of PALMERO® TX to Chickpeas planted in sandy or gravelly soils, or soils low in clay or organic matter may result in crop damage. PALMERO® TX is not recommended for use on Yorker Chickpeas. See "CROP SAFETY" in the "GENERAL INSTRUCTIONS" section below.
	Post- Sowing, Pre- Emergence (PSPE)	Weeds controlled: Burr Medic, Corn Gromwell (White Iron Weed, Sheep Weed), Deadnettle, Indian Hedge Mustard, Long Haired Poppy, Mint Weed, Ox Tongue, Prickly Lettuce, Shepherd's Purse, Sowthistle/Milk Thistle, Toad Rush, Turnip Weed, Wild Gooseberry, Wild Turnip, Wireweed/ Hogweed Weeds controlled: Annual Saltbush, Capeweed, Common Cotula, Crassula, Feathertop Rhodes Grass, Flaxleaf Fleabane, Fumitory (<i>Fumaria muralis</i>), London Rocket, Marshmallow, Medic, Wild Radish Weeds suppressed: Annual Ryegrass, Doublegee/ Spiny Emex, Phalaris, Slender Celery, Wild Carrot, Wild Oats	700 g – 1 kg/ha	For PSPE applications, use the lower rate on light soils (sandy loams to loamy sands) and the higher rate (including the tank mix with Vezir®) on heavier soils (loams, silt plus clay 40-60%). Avoid spray overlap and double spraying on headlands and corners. Refer to the "APPLICATION" section for specific recommendations regarding IBS and PSPE use.
		Weeds Controlled/ Suppressed: As above plus suppression of Black Bindweed/ Climbing Buckwheat	1 kg/ha plus Vezir® 700 WG at 20 g/ha	Minimum recropping intervals apply for all crops following PALMERO® TX application. See "CROP SAFETY" section below for recropping restrictions. Black Bindweed/Climbing Buckwheat: Apply to moist, well prepared, clod and weed-free soil after planting and prior to crop emergence (PSPE). Sufficient rainfall is required after application and prior to weed emergence to wet soil to a depth of 5 cm. Under adverse conditions, weeds may not be totally controlled but populations will be significantly reduced and surviving plants will be stunted and damaged. Transient yellowing or reddening of the crop may occur. The risk of crop injury may be increased under adverse growing conditions. Refer to the Vezir® 700 WG label for additional guidelines for crop safety, recropping and other restraints/ requirement. DO NOT use PALMERO TX or the tank mixture with Vezir® on soils and in areas ill-suited to growing Chickpeas and/or on highly alkaline soils with pH ≥ 8 e.g. soils with excessive free lime as severe crop injury can occur.

CROP	SITUATION	WEEDS	RATE	CRITICAL COMMENTS
Fallow prior to planting of crops as directed under "CROP ROTATION RECOMMENDATION" section	Pre- Emergence	<p>Weeds controlled: Burr Medic, Capeweed, Clammy Goosefoot, Corn Gromwell (White Iron Weed, Sheep Weed), Deadnettle, Flaxleaf Fleabane, Indian Hedge Mustard, Long Haired Poppy, Mint Weed, Ox Tongue, Prickly Lettuce, Red Pigweed, Shepherd's Purse, Sowthistle/Milk Thistle, Toad Rush, Turnip Weed, Wild Gooseberry, Wild Turnip, Wireweed/ Hogweed</p>	700 g – 1 kg/ha	<p>Apply PALMERO® TX to moist soil or when rain is imminent and prior to germination of weeds. Best results are obtained where PALMERO® TX is applied to weed-free soil prior to weed germination and sufficient rainfall occurs after application and prior to weed emergence to allow herbicide uptake by germinating weeds. Use the higher rate where >50% of the soil is covered by trash/ stubble/weeds, for heavy weed pressure, to increase the weed spectrum and for longer residual control.</p> <p>If weeds are present at the time of application, apply PALMERO® TX in a tank mix with a suitable knockdown herbicide. See "COMPATIBILITY" section below. A minimum spray volume of 50 L/ha is recommended. Avoid spray overlap and double spraying on headlands and corners. Weed control after application may be reduced by cultivation or prolonged wet soil conditions following application. Weed escapes may require follow up application of knockdown herbicides.</p> <p>Minimum recropping intervals apply for all crops following PALMERO® TX application. See "CROP SAFETY" section below for recropping restrictions.</p>
		<p>Weeds controlled: Annual Saltbush, Awnless Barnyard Grass, Caltrop/ Yellow Vine, Capeweed, Common Cotula, Crassula, Dinebra Grass, Dwarf Amaranth, Feathertop Rhodes Grass, Fumitory (<i>Fumaria muralis</i>), London Rocket, Marshmallow, Medic, Wild Radish</p>	1 kg/ha	
		<p>Weeds suppressed: Annual Ryegrass, Bell Vine, Bladder Ketmia, Doublegee/ Spiny Emex, Phalaris, Slender Celery, Wild Carrot, Wild Oats</p>		

Table 2. Sugarcane Prior to using PALMERO® TX in sugarcane, refer to the GENERAL INSTRUCTIONS for guidelines on rates by soil type.

CROP	SITUATION	WEEDS	RATE	CRITICAL COMMENTS
Sugarcane	Pre- Emergence of Weeds	Weeds controlled: <i>Amaranthus</i> spp., Awnless Barnyard Grass, Barnyard Grass, Bell Vine, Billygoat Weed (Blue Top), Blackberry Nightshade, Caltrop/ Yellow Vine, Crowsfoot Grass, Cudweed, Flaxleaf Fleabane, Green Summer Grass, Guinea Grass, Marshmallow, Medics, Phyllanthus, Potato Weed, Red Pigweed, Sesbania Pea, Shepherds Purse, Sida, Sowthistle, Stinging Nettle, Summer Grass, Thick Head, Turnip Weed, Wild Rose Weeds suppressed: Common Pigweed	1 to 2 kg/ha*	General guidelines There are two main use timings for PALMERO® TX in sugarcane: 1. As a directed spray in plant or ratoon cane just prior to canopy closure in a tank mix with Spraytop®; OR 2. As a broadcast or banded spray in ratoons after harvest and up to the two-leaf crop stage. Refer to the sections below for more guidelines on the two use timings. PALMERO® TX can be applied to ratoon crops that are burnt prior to harvest or to crops harvested green with trash blanketed ratoons. Heavy trash blanket layers may need to be removed prior to application to ensure herbicide contact with the soil surface or reduced control may occur, unless applying as a broadcast spray at the highest rate. Avoid soil disturbance e.g. stool splitting, after application. Sufficient rainfall, or overhead irrigation, is required after application and prior to weed emergence to wet soil to a minimum depth of 5 cm. Emerged weeds must be controlled by prior cultivation, or application of an appropriate herbicide e.g. Spraytop®. See sections below on use of PALMERO® TX in a tank mix with paraquat. Weed escapes may require follow up application of an appropriate herbicide. Contact Adama for advice on variety susceptibility before using this product (refer to the CROP SAFETY section of the label). DO NOT apply to blocks that are to be replanted soon after harvest. Minimum recropping intervals apply for all crops following PALMERO® TX application. See "CROP SAFETY" section below for recropping restrictions * Rate selection Prior to using PALMERO® TX, refer to the GENERAL INSTRUCTIONS for guidelines on rates by soil type for sugarcane. Where soil types permit, use the higher rates for longer residual control and to broaden the spectrum of weeds controlled/suppressed. DO NOT apply more than 2 kg/ha per year. PLANT CANE and RATOON CANE DIRECTED SPRAY APPLICATIONS IN A TANX MIX WITH SPRAYTOP® PRIOR TO CANOPY CLOSURE Apply as a directed inter-row spray (e.g. Irvin leg), full width between rows or as a band treatment after final cultivation and hill formation to a weed-free surface. 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. Contact with sugarcane foliage may cause temporary crop damage such as chlorosis and/or a reduction in crop biomass or crop height. Always apply in a tank mix with paraquat i.e. Spraytop® 250 (or equivalent paraquat formulation) to minimise herbicide uptake by the crop and control any emerged weeds. Refer to Spraytop® 250 SL Herbicide label for further instructions on spray boom types and safety precautions. DO NOT apply in the planting furrow in plant cane. Only apply to plant cane as a directed inter-row spray after the final cultivation and hill formation. RATOON CANE BROADCAST OR BANDED SPRAY APPLICATIONS AFTER HARVEST. PALMERO® TX can be applied to ratoon cane after harvest as per the following timings and guidelines: 1. Apply after harvest and prior to crop and weed emergence; OR 2. Apply as pre-emergent application between harvest and up to the two-leaf crop stage in a tank mix with Spraytop® to control emerged weeds and minimise herbicide uptake by the crop. If applying as a band treatment, avoid throwing excessive untreated soil onto the treated band when inter-row cultivating.
		Weeds controlled: Blue Morning Glory Weeds suppressed: Nutgrass	1.5 to 2 kg/ha*	
		Weeds controlled: Paddy's Lucerne, Painted Spurge Weeds suppressed: Couch Grass, Mullumbimby Couch, Sensitive Plant	2 kg/ha*	

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

WITHHOLDING PERIODS

Harvest

CHICKPEAS, SUGARCANE – NOT REQUIRED WHEN USED AS DIRECTED.

Grazing

CHICKPEAS – DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 6 WEEKS AFTER APPLICATION.

SUGARCANE – DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 8 WEEKS AFTER APPLICATION.

FALLOW – DO NOT GRAZE TREATED WEEDS OR STUBBLE FOR 8 WEEKS AFTER APPLICATION.

GENERAL INSTRUCTIONS

PALMERO® TX can be used to selectively control weeds in the crops listed in the directions for use tables and in fallow prior to planting crops as directed in the "FALLOW APPLICATION" section below.

PALMERO® TX is applied pre-emergence and is mainly absorbed via the roots. Weeds buried by cultivation may not be effectively controlled. Heavy rainfall on light soils may cause movement of the herbicide out of the weed seed zone, resulting in reduced weed control.

Do not apply to recently burnt stubble/trash. After burning, rainfall or cultivation is required to allow PALMERO® TX to reach the soil and not be irreversibly bound by ash.

PALMERO® TX is primarily incorporated by rainfall. Sufficient rainfall (20 to 30 mm either as rainfall or irrigation) to wet the soil through the weed root zone is necessary within 2 to 3 weeks of application to make the product effective.

Weeds may germinate and emerge before being controlled by PALMERO® TX, however a delay in rainfall for an extended period may result in weeds germinating from depth and surviving.

Where soil has a high potential for leaching, heavy rainfall between application and crop emergence may result in crop damage from movement of herbicide into the crop seed zone.

In flood or furrow irrigation situations, complete and continued activation of the product may not occur due to a thin band of dry soil on the surface during or after irrigation. Always apply the product to an even un-ridged seedbed. Dense weed populations and multiple germinations (especially Wild Radish) may require both a pre-emergent application of PALMERO® TX and a post emergent herbicide treatment with a registered post-emergent herbicide to give acceptable control.

MIXING

Do not mix or load within 20 m of any well, dam, intermittent or perennial stream. Partially fill the spray tank with water. Start agitation. Add the correct amount of PALMERO® TX to the spray tank with the agitation system running. When tank-mixing with Spraytop® 250 SL or other suitable knockdown herbicide, ensure that PALMERO® TX is added to the spray mixture first, followed by Spraytop® to ensure thorough mixing. Continue agitation while topping up the tank with water and while spraying. Use prepared spray mixture on day of preparation. If spray is allowed to stand, agitate thoroughly before resuming spraying. DO NOT allow spray mixture to stand overnight.

APPLICATION

PALMERO® TX contains isoxaflutole, which is activated by rainfall or irrigation and is carried 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 PALMERO® TX 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® TX 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® TX in tank mixture with Spraytop® 250 SL at an appropriate label rate to provide additional weed knockdown.

Soil movement from irrigation or cultivation may result in poor weed control from PALMERO® TX. DO NOT incorporate PALMERO® TX 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.

Incorporated by Sowing Application (IBS) in Chickpeas

PALMERO® TX can be applied up to a week before sowing. Heavy rain between sowing and crop emergence that washes soil into the seeding furrow may cause crop damage.

For best results apply to moist soil immediately before sowing and incorporate with a combine or air-seeder fitted with knife or blade points to incorporate the PALMERO® TX evenly. Use press wheels to avoid dragging treated soil back into the seed furrow. Ensure the crop is sown at a depth of 5 cm. For crop safety, maintain slow to moderate speed to avoid leaving deep furrows and avoid throwing soil into adjacent furrows.

DO NOT use PALMERO® TX where disc seeders will be used as there is an increased risk of treated soil coming into contact with seed, causing crop damage. Additionally, if insufficient rainfall occurs post-sowing to wet the soil through the weed zone, the herbicide may not be incorporated sufficiently by a disc seeder.

NOTE: Knife or blade point systems can result in poor weed control in the seed furrow as the herbicide can be displaced from this zone. A knife or blade point is 12 mm or less, no wings, inverted T or blade and generally at a minimum of 20 cm spacing. Stubble coverage above 50% ground cover can reduce weed control below acceptable levels.

Post-Sowing Pre-Emergence Application (PSPE) in Chickpeas

Chickpea crops must be sown to a depth of at least 5 cm. Apply PALMERO® TX within 2 days of sowing to soil left relatively flat by the sowing operation. A minimum spray volume of 50 L/ha is recommended. Sufficient rainfall (20 to 30 mm) to wet the soil through the weed zone is necessary within 2-3 weeks of application. Heavy rain after application onto ridged soil in particular may cause crop damage from PALMERO® TX washed into the seed furrow. At the higher rates, avoid over-lapping sprays and spraying out corners. Sowing with disc seeders may lead to unacceptable crop damage due to uneven seeding depth and treated soil coming in contact with seed.

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 droplets at the selected operating pressure.

Fallow Application

PALMERO® TX can be applied to provide pre-emergence control of certain weeds emerging prior to planting Chickpeas. A minimum spray volume of 50 L/ha is recommended. Apply to moist soil or when rain is imminent and prior to germination of weeds. If weeds are present, cultivate or apply a knockdown herbicide prior to applying PALMERO® TX. PALMERO® TX may also be tank-mixed with certain knockdown herbicides. See "COMPATIBILITY" section of the label.

Crop Rotation Recommendations

PALMERO® TX may be applied to Chickpea crops where the following crop will be chickpeas, or when the land will be left fallow. DO NOT apply PALMERO® TX in fallow prior to planting sugarcane.

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® TX. 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® TX application. For advice on crops not listed below, contact Adama.

CROP	MINIMUM RECROPPING INTERVAL	MINIMUM RAINFALL REQUIREMENT*
Wheat	6 months	100 mm
Barley	6 months	100 mm
Oats	6 months	100 mm
Canola	9 months	350 mm
Faba Beans	9 months	250 mm
Field Peas	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	6 months	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

*Total minimum rainfall from PALMERO® TX use until planting of the subsequent crop. **DO NOT include flood or furrow irrigation in the minimum rainfall requirement.**

CROP SAFETY

Chickpeas

Application of PALMERO® TX or the tank mixture with Vezir® 700 WG to Chickpeas planted in sandy or gravelly soils, soils low in clay or organic matter, soils that are less suitable for Chickpea growth and/or highly alkaline soils with pH ≥ 8 e.g. soils with excessive free lime, may result in severe crop damage. Heavy rains after the application of PALMERO® TX may cause crop damage, particularly in sandy or gravelly soils.

Environmental and agronomic factors which do not favour breakdown of PALMERO® TX e.g. dry conditions, pH <7.0 ; make it impossible to eliminate all risks associated with this product and rotational crop injury is always possible. Where PALMERO® TX residue carryover is suspected (even after observing the minimum re-cropping intervals) and susceptible crops are to be planted, test the treated area as follows:

- Field bioassay – where rain allows, plant a small area of the susceptible crop four to six weeks before desired planting date and take note of any symptoms of injury. If any herbicide symptoms are observed, only plant a non-susceptible crop.
- Pot bioassay – where not practical to do field bioassay, plant a small number of seeds of the susceptible crop into pots containing soil from the treated field. Do this four to six weeks before desired planting date. If any herbicide symptoms are observed, only plant a non-susceptible crop.

For more information, contact your local Adama representative.

Varietal Tolerance in Chickpeas

PALMERO® TX is not recommended for use with the Chickpea variety Yorker. Application of PALMERO® TX PSPE to crops of Yorker variety Chickpeas can result in unacceptable crop damage and may result in yield loss.

Sugarcane

The following guidelines should be observed for maintaining crop safety when using PALMERO® TX in sugarcane:

1. Apply PALMERO® TX with Spraytop® 250 (or equivalent registered paraquat formulation) where emerged cane is present at the time of application and follow the use guidelines by crop timing in the Critical Comments in the Directions for Use table.
2. Do not apply PALMERO® TX with wetting agents, crop oils or other adjuvants
3. Do not apply PALMERO® TX to areas which have poor drainage or poor root development in the crop.
4. The use of PALMERO® TX on newly limed soil could cause severe crop damage, please contact your local Adama representative for advice prior to use of PALMERO® TX in this situation.
5. Follow the general rate guidelines regarding light, medium and heavy soils.

Category	Common soil description	Clay content %	Suitable PALMERO® TX rates
Light soils	e.g. sands, loamy sand, light sandy loam, light silty loams	less than 15%	1 to 1.25 kg/ha
Medium soils	e.g. sandy loam, silty loam, sandy clay loam, loam	15-33%	1 to 1.5 kg/ha
Heavy soils	e.g. heavy loams, clay loams, clays, dark earths	Greater than 33%	1 to 2 kg/ha

PALMERO® TX contains both isoxaflutole and terbuthylazine. Isoxaflutole 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 isoxaflutole 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® TX may result in phytotoxicity, which is evident as bleaching of leaves. To minimise the risk of crop root uptake, PALMERO® TX 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® TX. Refer to your local reseller or Adama representative to assist you with interpretation of your soil analysis results.

PALMERO® TX has been field tested on most important commercial varieties of sugarcane without any evidence of major varietal tolerance variation. If you are considering the use of PALMERO® TX 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.

COMPATIBILITY

It is recommended that a small scale compatibility test be carried out prior to tank mixing with products other than those listed below.

PALMERO® TX is compatible with 2,4-D Amine, Zulu® XT, Picoflex®, Vezir® 700/Spinnaker® 700 WG, Trilogy® (when applied IBS in Chickpeas), Spraytop®, Spray & Sow® and Wipe-Out®. A reduction in control may be observed on some weeds compared to the application of knockdown herbicides i.e. Wipe-Out®; alone, particularly on large weeds.

Tank mixtures of PALMERO® TX plus Wipe-Out® may not control emerged Flaxleaf Fleabane and Feathertop Rhodes Grass and consideration should be given to cultivation or a subsequent application of another herbicide such as Spraytop® application ("double knock" strategy). Refer to local agronomist advice or Adama current recommendations for control of Flaxleaf Fleabane and Feathertop Rhodes Grass.

PALMERO® TX may be tank-mixed with Impose® in fallow.

For all products to be applied in tank mixtures, read and follow all label directions including restraints, spray drift restraints, mandatory no-spray zones, critical comments, withholding periods, regional use restrictions, re-cropping intervals and safety directions for the tank mix products.

SPRAY EQUIPMENT CLEAN-UP

Do not empty tank or clean equipment within 20 m of any well, dam, intermittent or perennial stream. Immediately after using PALMERO® TX, empty the tank completely, drain the whole system and rinse equipment with water. 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, their roots, and wetlands or watercourses.

RESISTANT WEEDS WARNING

PALMERO® TX Herbicide is a member

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 of the isoxazole and triazines groups of herbicides. PALMERO® TX is a herbicide which inhibits 4-hydroxyphenyl-pyruvate dioxygenase (4-HPPD) and photosynthesis at photosystem II. For weed resistance management PALMERO® TX is a Group H and Group C herbicide. Some naturally-occurring weed biotypes resistant to PALMERO® TX, and other Group H and Group C 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® TX or other Group H and Group C 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® TX to control resistant weeds.

PRECAUTION

Re-Entry

Do not enter treated areas until spray has dried. If 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

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

To protect soil organisms, DO NOT apply at the highest rate as a broadcast spray in ratoon cane after harvest and up to the two-leaf crop stage unless green cane harvested with retention of the trash blanket.

PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS

DO NOT apply or drain or flush equipment on or near desirable trees or other plants or on areas where their roots may extend or in locations where the chemical may be washed or moved into contact with their roots.

DO NOT apply on sites where surface water from heavy rain can be expected to runoff to areas containing, or to be planted with susceptible crops or plants.

DO NOT plant crops other than those recommended on this label for at least 6 months following the last application.

STORAGE AND DISPOSAL

Store in the closed, original container in a dry, cool, well-ventilated area out of direct sunlight. Shake bag contents into spray tank until the bag is empty. Do not dispose of undiluted chemicals on site. Puncture or shred 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.

SAFETY DIRECTIONS

When opening the container and preparing spray, wear cotton overalls over normal clothing buttoned to the neck and wrist, elbow-length chemical resistant gloves and a full facepiece respirator. Wash hands after use. After each day's use wash gloves, respirator and if rubber wash with detergent and warm water, and contaminated clothing.

FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 131 126.

SDS

Additional information is listed in the safety data sheet (SDS). A safety data sheet for PALMERO® TX Herbicide is available from adama.com or call Customer Service 1800 423 362.

Conditions of sale: The use of PALMERO® TX Herbicide being beyond the control of the manufacturer, no warranty expressed or implied is given by Adama Australia Pty Ltd, regarding its suitability, fitness or efficacy for any purpose for which it is used by the buyer, whether in accordance with the directions or not and Adama Australia Pty Ltd accepts no responsibility for any consequence whatsoever resulting from the use of this product.

NOT A DANGEROUS GOOD ACCORDING TO THE AUSTRALIAN DANGEROUS GOODS (ADG) CODE.

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