

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 prior to planting Chickpeas

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

Formulation type

Water Dispersible
Granule

WG



ADAMA

adama.com

NET CONTENTS: 1 kg, 5 kg, 10 kg, 15 kg, 20 kg, 500 kg

DIRECTIONS FOR USE

Restraints

- DO NOT apply by aircraft.
- DO NOT apply to fields where the slope exceeds 3 %.
- DO NOT apply to waterlogged soil.
- DO NOT apply if heavy rains or storms that are likely to cause surface runoff are forecast within two days of application.
- DO NOT irrigate to the point of runoff for at least 2 days after application.
- DO NOT apply more than one application of PALMERO® TX in a 12 month period.
- DO NOT use PALMERO® TX if the area had a triazine herbicide applied to it last growing season.

Spray Drift Restraints

- DO NOT apply with spray droplets smaller than COARSE spray droplet size category according to the "APVMA Compliance Instructions for Mandatory COARSE or Larger Droplet Size Categories" located in the "GENERAL INSTRUCTIONS" section of this label.
 - 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 KEEP this record for a minimum of 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/situation and weed/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.)

Mandatory No-Spray Zones for protection of the aquatic environment and non-target vegetation or animal habitat

- DO NOT apply if there are aquatic or wetland areas including aquacultural ponds within 10 metres downwind from the application area.
- DO NOT apply if there are non-target vegetation and/or animal habitats within 50 metres downwind from the application area.

ADAMA

CROP	SITUATION	WEEDS	RATE	GENERAL GUIDELINES
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 (Fumaria muralis), Phalaris, Wild Carrot, Wild Oats	1 kg/ha	PALMERO® TX is not recommended for use on Yorker Chickpeas. See "CROP SAFETY" in the "GENERAL INSTRUCTIONS" section below. 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 - 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.
	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	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. Minimum recropping intervals apply for all crops following PALMERO® TX application. See "CROP SAFETY" section below for recropping restrictions.
		Weeds controlled: Annual Saltbush, Capeweed, Common Cotula, Crassula, Feathertop Rhodes Grass, Flaxleaf Fleabane, Fumitory (Fumaria muralis), London Rocket, Marshmallow, Medic, Wild Radish Weeds suppressed: Annual Ryegrass, Doublegee/Spiny Emex, Phalaris, Slender Celery, Wild Carrot, Wild Oats	1 kg/ha	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.
		Weeds Controlled/ Suppressed: As above plus suppression of Black Bindweed/ Climbing Buckwheat	1 kg/ha + Vezir® 700 WG at 20 g/ha	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.
Fallow prior to planting Chickpeas	Pre-Emergence	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	700 g - 1 kg/ha	PALMERO® TX is not recommended for use on Yorker Chickpeas. See "CROP SAFETY" in the "GENERAL INSTRUCTIONS" section below. 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.
		Weeds controlled: Annual Saltbush, Awnless Barnyard Grass, Caltrop/ Yellow Vine, Capeweed, Common Cotula, Crassula, Dinebra Grass, Dwarf Amaranth, Feathertop Rhodes Grass, Fumitory (Fumaria muralis), London Rocket, Marshmallow, Medic, Wild Radish	1 kg/ha	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.
		Weeds suppressed: Annual Ryegrass, Bell Vine, Bladder Ketmia, Doublegee/Spiny Emex, Phalaris, Slender Celery, Wild Carrot, Wild Oats		Minimum recropping intervals apply for all crops following PALMERO® TX application. See "CROP SAFETY" section below for recropping restrictions

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

WITHHOLDING PERIODS

Harvest

CHICKPEAS – NOT REQUIRED WHEN USED AS DIRECTED.

Grazing

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

FALLOW – DO NOT GRAZE TREATED WEEDS OR STUBBLE IN A FALLOW SITUATION.

GENERAL INSTRUCTIONS:

PALMERO® TX can be used to selectively control weeds in the crops listed in the directions for use table and in fallow prior to planting chickpeas as directed in the "FALLOW" 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 - 30 mm either as rainfall or irrigation) to wet the soil through the weed root zone is necessary within 2 - 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.

APVMA COMPLIANCE INSTRUCTIONS FOR MANDATORY COARSE OR LARGER DROPLET SIZE CATEGORIES

Important Information

These instructions inform users of this chemical product how to lawfully comply with the requirement of a COARSE or larger spray droplet size category for spray application.

Spray droplet size categories are defined in the ASAE S572 Standard (newer name may also be shown as ASABE) or the BCPC guideline. Nozzle manufacturers may refer to one or both to identify droplet size categories, but for a nozzle to comply with this requirement, the manufacturer must refer to at least one.

Complying with the label requirement to use a specific droplet size category means using the correct nozzle that will deliver that droplet size category under the spray operation conditions being used. The APVMA has approved only the following specific methods for choosing the correct nozzle. Use one of the methods specified in these instructions to select a correct nozzle to deliver a COARSE or larger droplet size category.

Instructions for Ground Application - for COARSE Droplet Size or Larger Categories

Mandatory Instructions for Ground Applications

USE ONLY nozzles that the nozzles' manufacturer has rated to deliver a COARSE, a VERY COARSE or an EXTREMELY COARSE droplet size category as referenced to ASAE S572 or BCPC. Choose a nozzle specified to provide the droplet size category required in the label Spray Drift Restraints.

DO NOT use a higher spray system pressure than the maximum the manufacturer specifies for the selected nozzle to deliver the droplet size category required in the label Spray Drift Restraints.

MIXING

DO NOT mix or load within 10 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)

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)

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 - 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.

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 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 \geq 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.

Crop Rotation Recommendations

PALMERO® TX may be applied to Chickpea crops or Fallow where the following crop will be Chickpeas. The following recropping instructions apply to following crops grown after 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 Australia.

CROP	MINIMUM RECROPPING INTERVAL	MINIMUM RAINFALL REQUIREMENT*
Wheat	6 months	100 mm
Barley		
Oats		
Canola	9 months	350 mm
Faba Beans		250 mm
Field Peas		
Lentils	21 months	500 mm
Clover		
Lucerne	9 months	350 mm
Medic	21 months	500 mm
Maize	6 months	100 mm
Mung Beans	7 months	250 mm
Sorghum		
Soybeans		
Sunflowers		
Cotton		

*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.

Under dry conditions, the breakdown of PALMERO® TX in the soil may take longer and further advice should be sought from Adama Australia

VARIETAL TOLERANCE

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.

RESISTANT WEEDS WARNING

PALMERO® TX Herbicide is a member 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.



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, Trilogy® 480 or Trilogy® 600 (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, recropping intervals and safety directions for the tank mix products.

SPRAY EQUIPMENT CLEAN-UP

DO NOT empty tank or clean equipment within 10 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.

RE-ENTRY PERIOD

Do not enter treated areas until the spray has dried for low and medium exposure activities such as hand weeding and scouting, 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. Do not enter treated areas until day 2 after the spray has dried for high exposure activities such as irrigation (hand-set), 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. After application of PALMERO® TX. DO NOT irrigate crop to the point of runoff, unless it can be retained on farm.

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. 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 most recent application of PALMERO® TX.

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

Avoid contact with eyes and skin. When opening the container and preparing spray, wear cotton overalls, over normal clothing, buttoned to the neck and wrist (or equivalent clothing), a washable hat and chemical resistant gloves. If product on skin, immediately wash area with soap and water. Wash hands after use. After each day's use wash gloves and contaminated clothing.

FIRST AID INSTRUCTIONS

If poisoning occurs, contact a doctor or Poisons Information Centre.
Phone Australia 13 11 26.

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 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 accepts no responsibility for any consequence whatsoever resulting from the use of this product.

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

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