

# **RANGELAND AND PERMANENT GRASS PASTURES (SOUTHERN U.S.) - WOODY PLANTS - MESQUITE**

## General Information

## Product Information

Use Tordon 22K herbicide to control noxious, invasive, or other broadleaf weeds and listed woody plants and vines on rangeland and permanent grass pastures, fallow cropland, Conservation Reserve Program (CRP) acres, non-crop areas including forest planting sites, industrial manufacturing sites, rights-of-way such as electrical power lines, communication lines, pipelines, roadsides, railroads, and wildlife openings in forest and non-crop areas.

## Use Precautions

- Use this product only as specified on this label or EPA-accepted Dow AgroSciences supplemental labeling. Observe any special use and application restrictions and limitations, including method of application and permissible areas of use as promulgated by state or local authorities.
- To prevent damage to crops and other desirable plants, read and follow all directions and precautions on this label and container before using.
- Grass Tolerance: Tordon 22K at rates over 1 quart per acre may suppress certain established grasses, such as bromegrass and blue gramma. However, subsequent grass growth should be improved by release from weed competition.

## Use Restrictions

- Not for Sale, Distribution, and/or Use in Nassau and Suffolk Counties of New York State.
- Not for sale or use in the San Luis Valley of Colorado.
- Use In Hawaii: In Hawaii, approved uses of Tordon 22K are limited to those described in Supplemental Labeling which may be obtained from your Dow AgroSciences representative or chemical dealer. Refer to the Supplemental Labeling for specific use directions and precautions.
- Do not use this product for impregnation of dry fertilizer, unless otherwise specified in use directions on Dow AgroSciences supplemental labeling.

- Chemigation: Do not apply this product through any type of irrigation system.

#### Maximum Use Rates:

- Non-cropland Areas: Total use of Tordon 22K, including retreatments or spot treatments, must not exceed 1.0 lb a.i. picloram (2 quarts) per acre per annual growing season on rights-of-way and other non-crop areas.
- On forest sites, no more than 1.0 lb a.i. picloram (2 quarts) per acre may be applied within a period of 2 annual growing seasons.
- Rangeland and Permanent Grass Pastures:
  - For control of noxious or invasive weeds as defined by federal, state, or local authorities, do not apply more than 1.0 lb active ingredient (2 quarts of Tordon 22K) per acre per annual growing season as a broadcast treatment. Spot treatments may be applied at the equivalent broadcast rate of up to 1.0 lb active ingredient (2 quarts) per acre.
  - For control of other broadleaf weeds and woody plants, do not apply more than 0.5 lb active ingredient (1 quart of Tordon 22K) per acre per annual growing season. Spot treatments may be applied at an equivalent broadcast rate of up to 1.0 lb active ingredient (2 quarts) per acre per annual growing season, but not more than 50% of an acre may be treated. Repeat treatments may be applied as necessary, but total use must not exceed the maximum amount specified.
- Fallow Cropland (Not Rotated to Broadleaf Crops): Do not apply more than 0.25 lb a.i. picloram (1 pint) per acre as a broadcast treatment per annual growing season.
- Conservation Reserve Program (CRP) for Seeding to Permanent Grasses Only: Do not broadcast apply more than 0.5 lb active ingredient (1 quart) per acre of Tordon 22K per annual growing season or apply more than 1.0 lb active ingredient (2 quarts) per acre per annual growing season as a spot application. To reduce potential damage to subsequent small grain crops, use the lower rate or discontinue the use of Tordon 22K at least 2 years prior to the seeding of small grain crops. After CRP, do not plant broadleaf crops in treated acres until an adequately sensitive bioassay (such as planting strips of the intended broadleaf crop in the treated area) shows that no detectable picloram is present in the soil.
- Do not apply to areas that may be rotated to any broadleaf crop.
- Do not use manure from animals grazing treated areas or feeding on treated hay on land used for growing broadleaf crops, ornamentals, orchards or other susceptible, desirable plants. Manure may contain enough picloram to cause injury to susceptible plants.

- Do not use grass or hay from treated areas for composting or mulching of susceptible broadleaf plants or crops.
- Do not transfer livestock from treated grazing areas (or feeding of treated hay) onto sensitive broadleaf crop areas without first allowing 7 days of grazing on an untreated grass pasture (or feeding of untreated hay). Otherwise, urine and manure may contain enough picloram to cause injury to sensitive broadleaf plants.
- Do not contaminate water intended for irrigation or domestic purposes. To avoid injury to crops or other desirable plants, do not treat or allow spray drift or run-off to fall onto banks or bottoms of irrigation ditches, either dry or containing water, or other channels that carry water that may be used for irrigation or domestic purposes.
- Do not use on flood or sub-irrigated land (such as pastures/meadows areas irrigated by periodic flooding or a shallow water table).
- Do not rotate to food or feed crops on treated land if they are not registered for use with picloram until an adequately sensitive bioassay or chemical test shows that no detectable picloram is present in the soil.
- Do not spray if the loss of forage legumes, including clover cannot be tolerated. Tordon 22K may injure or kill legumes. New legume seedlings may not grow for several years following application of this herbicide.
- Do not apply to snow or frozen ground. Application during very cold (near freezing) weather is not advisable.
- Do not apply Tordon 22K on residential or commercial lawns or near ornamental trees and shrubs. Untreated trees can occasionally be affected by root uptake of herbicide through movement into the topsoil or by excretion of the product from the roots of nearby treated trees. Do not apply Tordon 22K within the root zone of desirable trees unless such injury can be tolerated.
- Do not move treated soil to areas other than sites for which Tordon 22K is registered for use. Also, do not use treated soil to grow plants for which use of Tordon 22K is not registered until an adequately sensitive bioassay or chemical test shows that no detectable residue of picloram is present in the soil.
- Do not make application when circumstances favor movement from treatment site.
- Do not apply this product through a mist blower.

#### Grazing Restrictions:

- Meat animals grazing for up to two weeks after treatment should be removed from treated areas three days prior to slaughter.
- Do not graze lactating dairy animals on treated areas within two weeks after

treatment.

- When applying more than 0.5 lb a.i. picloram (1 quart of Tordon 22K) per acre, do not cut grass for feed within two weeks after treatment. There are no restrictions for rates below 1 quart per acre.

Grazing Poisonous Plants: Herbicide application may increase palatability of certain poisonous plants. Do not graze treated areas until poisonous plants are dry and no longer palatable to livestock.

#### P recautions for Avoiding Spray Drift

Do not apply or otherwise permit Tordon 22K or sprays containing Tordon 22K to contact crops or other desirable broadleaf plants, including but not limited to alfalfa, beans, grapes, melons, peas, potatoes, safflower, soybeans, sugar beets, sunflower, tobacco, tomatoes, and other vegetable crops, flowers, fruit plants, ornamentals or shade trees or t h e soil containing roots of nearby valuable plants.

Avoid spray drift. Exposure to very small quantities of spray or drift, which may not be visible, may cause serious injury to susceptible plants during active growth or dormant periods. To minimize spray drift, use low nozzle pressure; apply as a coarse spray; and use nozzles designed for herbicide application that do not produce a fine droplet spray. To aid in further reducing spray drift, a drift control or deposition aid may be used with this product, especially when water alone is used as the carrier. If a drift control aid is used, follow all use recommendations and precautions on the product label. Do not use a thickening agent with Microfoil or Thru-Valve booms, or other systems that cannot a c commodate thick sprays.

Ground Equipment: With ground equipment spray drift can be lessened by keeping the spray boom as low as possible; by applying 10 gallons or more of spray per acre; by keeping the operating spray pressures at the manufacturer's recommended minimum pressures for the specific nozzle type used (low pressure nozzles are available from spray equipment manufacturers); by spraying when the wind velocity is low (follow state regulations). Avoid calm conditions which may be conducive to air inversions. Direct sprays no higher than the tops of target vegetation and keep spray pressures low enough to provide coarse spray droplets to minimize drift. A drift control or deposition aid may be used to further reduce the potential for drift.

Aerial Application: Avoiding spray drift at the application site is the responsibility of

the applicator. The interaction of many equipment-and weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications:

1. The distance of the outer most operating nozzles on the boom must not exceed 3/4 the length of the wingspan or 90% of rotor width.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

Where states have more stringent regulations, they must be observed.

The applicator should be familiar with and take into account the information covered in the following Aerial Drift Reduction Advisory. [This information is advisory in nature and does not supersede mandatory label requirements.]

### Weed Resistance Management

Picloram, the active ingredient in this product, is a Group 4 synthetic auxin herbicide based on the mode of action classification system of the Weed Science Society of America. The occurrence of herbicide resistance is not as common in this mode of action group, as other, more specific mode of action groups. However, any weed population could develop plants that are resistant to herbicides with frequent, continued use. Such resistant weed plants may be effectively managed utilizing other herbicides alone or in mixtures from a different herbicide mode of action group (that are labeled for control of these weeds on these sites) and/or by using cultural or mechanical practices. Consult your local company representative, state cooperative extension service, professional consultants or other qualified authorities to determine appropriate actions for treating specific resistant weeds.

**Best Management Practices:** Proactively implementing diversified weed control strategies to minimize selection for weed populations resistant to one or more herbicides is recommended. A diversified weed management program may include the use of multiple herbicides with different modes of action and overlapping weed spectrum with or without tillage operations and/or other cultural practices. Research has demonstrated that using the labeled rate and directions for use is important to delay the selection for resistant weeds. Scouting after a herbicide application is important because it can facilitate the early identification of weed shifts and/or

weed resistance and thus provide direction on future weed management practices. One of the best ways to contain resistant weed populations is to implement measures to avoid allowing weeds to reproduce by seed or to proliferate vegetatively. Cleaning equipment between sites and avoiding movement of plant material between sites will greatly aid in reducing the spread of resistant weed seed.

Refer to label for Mixing and Application Directions.

## Application Methods

### Ground or Aerial Broadcast]

Use Tordon 22K as a broadcast treatment by ground or by air to control listed broadleaf weeds and woody plants. Apply Tordon 22K as a coarse low-pressure spray at the specified rates in a spray volume of 2 or more gallons per acre by air or 10 or more gallons per acre by ground. For optimal results make ground applications of Tordon 22K in 15 or more gallons of total spray mixture per acre. For optimal results from aerial applications, use 5 to 20 gallons per acre of spray mixture.

### High-Volume Foliar Applications

Spray to thoroughly wet foliage and stems of individual plants. An approved surfactant should be added at the manufacturer's recommended rate. Do not apply more than the maximum application rate of Tordon 22K specified for a given treatment site.

### Modified High Volume Applications

For modified high volume leaf-stem treatments of woody brush mix 1 to 3 quarts of Tordon 22K in 100 gallons of water. To control a wider range of plant species, mix 1 to 3 quarts of Tordon 22K with 1-3 quarts of Garlon® 4 herbicide or 1 to 4 quarts of Garlon 3A herbicide and dilute to make 100 gallons of spray. Apply after the foliage is well developed and in a manner which thoroughly wets all leaves, stems, and root collars.

The amount of spray mixture applied per acre will vary with plant size and density. For optimal results, apply in a total spray volume of 40 to 60 gallons per acre. Do not apply more than the maximum application rate of Tordon 22K specified for a given treatment site.

### Spot Treatment

Use application rates specified in the "Approved Uses" section of this label or specified by your area weed control specialist. Apply in a total spray volume of 20 to 100 gallons per acre. To prevent misapplication, spot treatments should be applied with a calibrated boom or with hand sprayers according to directions provided below. Do not exceed maximum application rates for Tordon 22K for a given treatment site. On rangeland and permanent grass pastures, spot treatments may be applied at an equivalent broadcast rate of up to 2 quarts per acre per annual growing season, but not more than 50% of an acre may be treated (unless the target weed is a noxious weed which allows higher broadcast use rates). Repeat treatments may be applied as necessary, but total use must not exceed the maximum amount specified.

**Hand-Held Sprayers:** Hand-held or backpack sprayers may be used for spot applications of Tordon 22K if care is taken to apply the spray uniformly and at a rate equivalent to a broadcast application. Application rates in the table are based on an area of 1,000 sq ft. Mix the amount of Tordon 22K (fl oz or ml) corresponding to the desired broadcast rate in 0.5 to 2.5 gallons of water, depending on the spray volume required to treat 1000 sq ft. To calculate the amount of Tordon 22K required for larger areas, multiply the table value (fl oz or ml) by the area to be treated in "thousands" of square feet, e.g., if the area to be treated is 3,500 sq ft, multiply the table value by 3.5 (calc.  $3,500 \div 1,000 = 3.5$ ). An area of 1000 sq ft is approximately 10.5 X 10.5 yards (strides) in size.

### Special Application Methods

**Soil Spot Concentrate:** Tordon 22K may be applied undiluted as a spot concentrate application to control ashe juniper, eastern redcedar and eastern persimmon. (See specific use directions for these plant species under the Rangeland and Permanent Grass Pasture section of this label.) Applications should precede periods of expected rainfall. Apply directly to the soil within the dripline and on the upslope side of the tree. For best results, apply to trees under 12 feet in height.

### Broadcast Cut Stubble Treatment

To prevent re-sprouting of susceptible woody species after mowing or hand cutting on non-crop areas and rights-of-way, use Tordon 22K herbicide at the rate of 2 quarts per acre in 15 or more gallons of a water spray mixture. Best results may be obtained when applications are made before or during periods of active root growth. Applications should not be made when the soil is frozen or covered by snow or

standing water. Make applications soon after cutting, before sprouting of woody species has occurred. For best results, use the Brown Brush Monitor for this type of application.

**Special Ground Sprayer Equipment:** To control annual and perennial weed species using special low-volume, minimum drift equipment, such as the hooded Forage Chemical Mower, apply 1 to 2 pt of Tordon 22K in total volumes ranging from 1 gal to 5 gal per acre in water alone or as an oil-water emulsion at a 1:5 and 1:4 oil-to-water ratio for a 1 gal and 5 gal per acre solutions, respectively.

### Limitations, Restrictions, and Exceptions

#### Rangeland and Permanent Grass Pastures

Use Tordon 22K on rangeland and permanent grass pastures to control susceptible broadleaf weeds and woody plants including, but not limited to those shown in the following tables. Many annual weeds at the seedling stage can be controlled at the rate of 1 pt per acre. Where a rate range is recommended, choose the higher rate for dense weed infestations, and for more dependable, longer lasting control. Lower rates will perform best when applied under favorable conditions and at the optimum growth stage, but may provide a lower level of control and require retreatment. For best results treat when weeds are small and actively growing in the spring before full bloom, however, certain weeds may also be treated in late summer to fall. Treatments during full bloom or seed stage of some weeds may not provide acceptable control.

SOUTHERN U.S. (ALABAMA, ARKANSAS, GEORGIA, LOUISIANA, MISSISSIPPI, NORTH CAROLINA, OKLAHOMA, SOUTH CAROLINA, TENNESSEE, TEXAS AND VIRGINIA)

Tordon 22K can be applied alone or in combination with 2,4-D amine or ester or other products labeled for rangeland and pastures to enhance control of certain species. When Tordon 22K is applied alone, herbicide symptoms will appear more slowly than when tank mixed with 2,4-D.

#### Specific Use Directions

**Tordon 22K Alone:** Apply as a water spray or oil-water emulsion (see Mixing Instructions) in 4 or more gpa by air or 10 or more gpa by ground. Increase spray volumes with increasing brush density and height to ensure adequate coverage.



Where control of pricklypear cactus is desired, use the 2 pt/acre rate of Tordon 22K.

Tordon 22K in Tank Mix: Tank mixing with Sendero will provide control of pricklypear and improved control of legume species such as mesquite and acacias while tank mixing with Remedy Ultra will provide improved control of non-legume species such as granjeno, oaks, and hackberry. Regrowth mesquite should be at least 4 ft tall prior to treatment. See labels for Sendero and Remedy Ultra for additional treatment instructions and information on mesquite control. Within rate ranges given for Tordon 22K and tank mix products, consult local recommendations.

Timing and Factors in Control: The herbicidal response of mesquite is strongly influenced by environmental conditions as well as foliage condition and stage of growth. For best results, apply when new growth foliage has turned from light to dark green, when the soil temperature has reached 75°F to 83°F at a depth of 12 to 18 inches, and soil moisture is adequate for plant growth. Application should be made within 45 days after the critical soil temperature at the 12 to 18 inch depth has been reached or, if Tordon 22K is applied in combination with Sendero, within 60 days. Product performance may be adversely affected if application is made before mesquite foliage has turned from light to dark green or if foliage has been injured or removed by late frost, insects, hail or plant diseases. Do not apply if mesquite exhibits new (light green) growth in response to significant rainfall during the growing season. Soil temperatures at the 12 to 18 inch depth may vary with soil texture and drainage. Coarse-textured (sandy) soils warm up sooner than fine-textured soils (clay) soils and dry soils warm up more quickly than wet soils.

Re-application: Do not reapply in the same growing season. Retreatment will not be effective until woody plants develop sufficient new foliage for interception, uptake, and translocation of the herbicide to plant roots.

#### Rate

1 to 2 pt Tordon 22K + 1.75 pt Sendero or 2 pt Tordon 22K + 1 pt Remedy Ultra - for broadcast application

1 to 2 qt Tordon 22K + 3.5 pt Sendero or 1 1/2 to 3 pt Remedy Ultra - for high volume foliar application

#### Notes:

1 to 2 qt Tordon 22K + 3.5 pt Sendero - Assumes a delivery volume of 50 gpa of

mixture, if delivery volume is higher or lower, adjust the amount per 100 gallons to achieve the rate indicated in Broadcast Application (Rate/acre) column.

Method

[Broadcast/Foliar Air](#)

[Broadcast/Foliar Ground](#)

Rates

[field\\_rates 0](#)

[field\\_rates 1](#)

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Restricted Entry Interval

12 hours

Timings

[N.A.](#)