PM23 62719-5

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Merlyn Jones, Ph.D. DowElanco 90u2 Purdue Road, Quad IV Indianapolis, IN 46268

Dear Dr. Jones:

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Subject: Tordon 101 Herbicide EPA Registration No. 62719-5

> Application Dated November 30, 1992, Request for an Alternate Brand Name for Product, With Regional Labeling Under the New Product Name: Forestry 101 Mixture

The proposed amendments to add an alternate brand name and regional labeling to be used with the new brand name nave been reviewed and are acceptable under the Federal Insecticide, Fungicide and Rodenticide Act as amended provided that you:

- Revise the Environmental Hazards statements on the proposed label to include the following statement: "Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark".
- Submit five (5) printed copies of the final printed labeling before releasing the product under the subject alternate brand name for shipment.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA, Section 6(e). Your release for shipment of the product under the subject alterate brand name constitutes acceptance of these conditions.

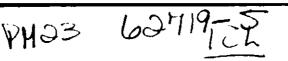
Sincerely yours,

Joanne I. Miller Product Manager (23) Pungicide-Gerbicide Branch Registration Division (H-7505C)

Enclosure

E.Wilson:Diskette #ABC2:12-04-92





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RESTRICTED USE PESTICIDE

May Injure (Phytotoxic) Susceptible, Non-Target Plants. For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification. Commercial certified applicators must also ensure that all persons involved in these activities are informed of the precautionary statements.



Domestic Animals

Keep Out of Reach of Children

WARNING **AVISO:**

Precaucion al usuarlo: Si usted no lee inglés, no use este producto hasta que la etiqueta le haya sido explicada ampliamente.

Causes Substantial But Temporary Eye Injury -**Prolonged Or Frequently Repeated Skin Contact May Cause Allergic Skin Reactions In** Some Individuals • Harmful If Swallowed Or **Absorbed Through Skin**

Do not get in eyes, on skin or on clothing. Wear goggles, face shield or safety glasses when handling. When handling this product, wear chemical resistant gloves. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

First Aid

If in eyes: Immediately flush eyes with plenty of water for at least 15 minutes and get medical attention promptly.

If swallowed: Induce vomiting immediately by giving two glasses of water and sticking finger down throat. Call a physician. Do not induce vomiting or give anything by mouth to an unconscious person.

If on skin: Flush skin with plenty of water. Get medical attention if irritation persists.

Environmental Hazards

Drift or runoff may adversely affect nontarget plants. Do not apply directly to water or wetlands (swamps, bogs, marshes, and potholes). Do not contaminate water when disposing of equipment washwaters.

Picloram is a chemical which can travel (seep or leach) through soil and under certain conditions has the potential to contaminate groundwater which may be used for irrigation and drinking purposes. Users are advised not to apply picloram where soils have a rapid to very rapid permeability

adde Asind the water table of an underlying aquifer is shal-

Dedrock, severely fractured surfaces, and substrates which would allow direct introduction into an aquifer. Your local agricultural agencies can provide further information on the type of soil in your area and the location of groundwater.

An aquifer is defined as "an underground, saturated, permeable, geologic formation capable of producing significant quantities of water to a well or spring. It is the ability of the saturated zone, or portion of that zone, to yield water which makes it an aquifer" (American Chemical Society, 1983).

Physical or Chemical Hazards

Combustible - Do not use or store near heat or open flame. Do not cut or weld container.

Notice: Read the entire label. Use only according to label directions. Before buying or using this product, read "Warranty Disclaimes" and "Limitation of Remedies" elsowhere on this label.

In case of an emergency endangering life-operty involving this product, call collect 517-636-4400.

Agricultural Chemical: Do not ship ar store with food, feeds, drugs or clothing.

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Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Read all Directions for Use carefully before applying.

Do not use for manufacturing or formulating.

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

STORAGE AND DISPOSAL

Do not contaminate water, food, fertilizer or feed by storage or disposal. Open dumping is prohibited.

Storage: Keep container tightly closed when not in use. If exposed to subfreezing temperatures, the product should be warmed to at least 40°F and mixed thoroughly before using.

Pesticide Disposal: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate, is a violation of Federal law and may contaminate groundwater. If these cannot be used according to label instructions, contact your State Pesticide or Environmental Control Agency, or Hazardous Waste representative at the nearest EPA regional office for guidance.

Metal Container Disposal: Do not reuse container. Triple rinse (or equivalent). Puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Plastic Container Disposal: Do not reuse container. Triple rinse (or equivalent). Puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authonties, by burning. If burned, stay out of smoke. Consult federal, state, or local disposal authorities for approved alternative procedures.

Sprayer Clean-Out: To avoid injury to desirable plants, equipment ed to apply Tordon 101 Mixture should be thoroughly cleaned before reusing to apply any other chemicals.

- 1. Rinse and flush application equipment thoroughly after use. Discose of rinse water in non-cropland area away from water supplies.
- 2. Rinse a second time, adding 1 of of household ammonia for every 25 gallons of water. Circulate the solution through the entire system so that all internal surfaces are contacted (15-20 min.). Let the solution stand for several hours, preferably overright.
- Flush the solution out of the spray tank through the boom.
- 4. Rinse the system twice with clean water, recirculating and draining each time.

Nozzles and screens should be removed and cleaned separately.

General Information

Tordon 101 Mixture weed and brush killer is recommended for control of unwanted annual and perennial broadleaved weeds and woody plants and vinits on forest planting sites and non-crop-areas including industrial manufacturing and storage sites, rights of way such as elec-trical power lines, communication lines, pipelines, highways, railroads and wildlife openings in forest and page crop areas.

Use Tordon 101 Mixture weet and brush tiller at rates of 1/2 to 2 gal-lons per acre to control-bloedleeved weeds and al rates of 1 to 2 gal-lons per acre to control woody plants and vines. Tordon 101 Mixture may be taple mixed with Garlon 4, or Garlon 3A herbicides, on 4 b/gal 2,4-D tole-volatile esters registered for sites listed on this label to con-and mixed woody clent and vine species. When tank mixing, observe all precautions, directions, and limitations on both products labeling. In all cases use the amounts specified in enough water to give thorcugh

and uniform coverage of the plants to be controlled.

Note:,"ordon 101 Mixture does not mix readily with oil. Use of a nonionic agricultural surfactant, such as Ontho X-77, Triton AG-98, or Tronic, is recommended for all applications. When using surfactants, Forestry follow the use directions and precautions listed on the surfactant man-. utacturer's label. Use the higher recommended concentrations of surfactant in the spray mixture when applying lower spray volumes per acre.

Annual and Perennial Broadleaved Weeds Controlled by Tordon 101 Mixture

Bindweed, field	Goldenrod
Bouncingbet	Horsenettie
Carrot, wild	Knapweed
Chicory	Milkwood
Clover	Plantain
Dandelion	Prickly lett
Dock	Ragweed
Fleabane	Ragwort, ta

senettie oweed weed ntain kly lettuce weed wort, tansy Ruch ekoleten Sowthistle Courge, leel ير عافه Thistles Toadflax Vetch

Woody Plants and Vines Controlled by Tordon 101

Mixture		Forestry
Ailanthus	-Fir, balsom-	Persimmon
Alder	-Gorse	Pine
Aepen	Gum	Poison oak
Birch	-Hemiesk-	Sassatras
Blackberry	Hickory	Sourwood
Bracken fern	Honeysuckle	- Gpruce-
Buttonbush	Kudzu	Sumac
Cherry	Locust	Tulip poplar
-Deuglas-fir	Maple	Wild rose
Elm	Oak	Willow

Treatments for Forest Roadsides High Volume Leaf-Stem Treatment

Use, Tordon 101 Mixture at the rate of 1 gallon in water to make 100 galions of spray to control broadleaved weeds, vines and other woody plants. To control a wider range of plant species, mix 1/4 to 1/2 gallon of Tordon 101 Mixture with 1 to 3 quarts of Garlen 4-herbicide or 1 to 4 quarts of Garlon 3A Herbicide or 4 lb/gal 2,4-D low-volatile ester and dilute to make 100 gallons of spray. Apply after the foliage is well developed and in a mullimer to give thorough spray coverage. For woody plants, apply the spray mixture in a manner which thoroughly wets all leaves, stems and root collars. For hard-to-kill species, such as ash and oak, also wet the soil around the root collar. The amount of spray mixture applied per acre will vary with plant size and density; however, total use of, Tordon 101 Mixture should not exceed 8 quarts OM ACTO.

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Note: Do not allow the spray, even as minute amounts of spray drift, to contact desirable broadleaf plants, and do not wet the soil over roots of such plants.

Broadcast Ground or Nerial Foliage Treatment

To obtain adequate plant coverage, it is recommended that ground applications of Tordon 101 Mixture be made in 15 or more gallons of total spray mixture per acre. Fer earlat applications, use of 5 to 20 galine per core of opray minture is recommended. Use higher spray volumes where plants are tall, where the vegetation to be treated is dense, or where difficult to control species are present.

Broadleaved Annual and Perennial Weed and Woody Vine Control

Use,Tordon 101 Modure weed and brush killer at tasks of 2 quarts to 2 gallons per acre in a weter spray midure. Apply to problem weeds and vines any time after growth begins in the spring and late in summer or fail.

sensi central of vigorcusty growing stands of field bindweed. Canada thistle or mixtures of mese with susceptible annual weeds such as ragweed, dendelion, plantain, clovers and dock use 2 to 3 quarts of Tordon 101 Mbdure per adré in water coray.

In arid areas and for control of mare resistant perennial woods use 1 to 2 gelions of Tordon 105 Minture per acts. Liep 1 to 1.5 gallons per acre to control species such as Carjada thiste, field bindweed and milkweed. The higher rates should be used under drought stress conditions and for the more resistant species such as bouncingbet, leafy spurge, toadflax and woody vines. The spectrum of activity can be improved by tank mixing 1/2 to 1 gallon of Tordon 10% Mixture with 1/3 to 1 gallon of Garlon 3A or 1 to 3 guarts of Garlon 4 her acre.



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Woody Plant Control

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Use, Tordon 101 Mixture at the rate of 1 to 2 gallons per acre in a water spray mixture.

For susceptible seedling stages of species such as aspen, cherry, and sumac use 1 to 1.5 gallons of Tordon 101 Mixture per acre in a water spray mixture.

For more mature and/or less susceptible species such as Poison oak, blackberries, Deuglas-fir, willow, buttonbush, black locust, sassafras, sumac, tulip poplar and cherry use 2 gallons of Tordon 101 Mixture per acre in a water spray mixture.

For more resistant brush such as maple, pine, sourwood, blackgum, cedar and oak and to improve the spectrum of species controlled, 1 to 2 gallons of Tordon 101 Mixture per acre can be tank mixed with 1/2 to 2 gallons per acre of Garlon 3A, Garlon 4 or 4 to/gal 2,4-D low-volatile ester.

Note: For best results under conditions of drought stress, use the higher rates recommended. Even these rates under such conditions may not be as effective as the lower rates under good growing conditions.

Broadcast Treatments for Forest Site Preparation (Not for Conifer Release)

For broadcast applications apply the recommended rate of, Tordon 101 Mixture herbicide in a total spray volume of 5 to 25 gallons per acre by air or 10 to 100 gallons per acre by ground. Use spray volumes sufficient to provide thorough coverage of treated foliage. Use application systems designed to prevent s, ay drift to off-target sites. Nozzles or additives that produce larger droplets may require higher spray volumes to provide adequate coverage.

Note: This use is not intended for conifer release (see precautions).

<u>Southern States including Alabama, Arkaness, Delaware, Georgia,</u> <u>Leuisiane, Maryland, Missiesippi, North-Careline, Oklahoma,</u> <u>South-Careline, Tennessee, Texas and Virginie:</u> To control susceptible woody plants and broadleaf weeds, apply, Tordon 101 Mixture helibioide at a rate of 5 to 12 quarts per acre. To broaden the spectrum of woody plants and broadleaf weeds controlled, apply 6 to 8 <u>quarts per acre of</u> Tordon 101 Mixture heribieide- in tank mix combination with 2 to 4 quarts of, Garton 4 heribieide- in tank mix control is also desired, Tordon 101 Mixture heribieide, alone _r in <u>combination with</u> Garton 4 heribieide, may be tank mixed with 1 to 4 quarts per acre of Accord or Roundup heribicides, or 8 to 16 fluid ounces per acre of Arsenal Applicator's Concentrate heribicide. Susceptible woody plants, broadleaf weeds and grasses may also be controlled using a tank mix of 6 to 10 quarts per acre of Accord or Roundup Heribieides, or 16 to 24 fluid ounces of Arsenal Applicator's Concentrate. When applying tank mixes, follow use directions and precautions on each product label.

In Western, Northeestern, North Central and Lake States (States Not Listed Above As Southern States): To control susceptible woody plants and broadleaf weeds, apply Tordon 101 Mixture herbicide at a rate of 4 to 8 quarts per acre. To broaden the spectrum of woody plants and broadleaf weeds controlled, apply to 8 quarts per acre of Tordon 101 Mixture herbicide in tank mix combination with 1.5 to 3 quarts per acre of Garlon 4 herbicide. Where grass control is also desired, Tordon 101 Mixture herbicide, some or in tank mix combination with Garlen 4 herbicide, may be applied with 1 to 3 quarts per acre of Accord or Humdup herbicide, 2 to 4 ounces per acre of Oust, a combination of Acepted (or Roundup) plus Oust at the rates listed, or 8 to 16 fluid ounces of Arsenal Applicator's Concentrate. When applying tank mixes, follow the use directions and precautions on each product label.

Conifer Strip Thinning in the Northeastern United States

To thin stands of naturally regenerated spruce and fir by applying herbicide in treated bands or strips which alternate with untreated bands or strips, apply fordon 101 Mixture such that the application rate in the treated bands or strips is 2 to 3 gallons of herbicide per acre in a total spray mixture volume of 12 to 20 gallons. For best results, apply during the period of active conifer growth. To obtain the precise placement of spray mixture in the treated bands that is required for this technique, period applications should be made using a helicopter equipped with Microleu or Thru-Valve boom. Multiple treated bands may be obtained within a single spray swath by establishing alternation series of flowing and blocked spray nozzles.

NOTE: Injury or death of desired resolution confers may result if spray mixture is permitted to contact their foliage as a result of inaccurate flight guidance during aerial application or as a result of spray drift from treated into untreated strips.

Cut Surface Treatments

In forest and other non-step areas to kill unwanted trees such as elm, maple, oak and pine apply. Tordon 101 Mixture, either undituted or diluted in a 1 to 1 ratio with water, as directed below.

With Tree Injector Method

Application should be made by injecting 1/2 milliliter or undiluted Tordon 101 Mixture or 1 milliliter of the diluted solution through the bark at intervals of 3 inches between edges of the injector wound. The injections should completely surround the tree at any convenient height.

With Frill or Girdle Method

Make a single girdle through the bark completely around the tree at a convenient height. Wet the cut surface with the diluted solution.

Stump Treatment

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Spray or paint to wet the cut surfaces of freshly cut stumps or stubs with Tordon 101 Mixture undiluted or diluted 1:1 in water. All of the cambium area next to the bark is the most vital area to wet.

The above methods may be used successfully at any season except during periods of heavy sap flow of certain species such as maples or during drought periods. Untreated trees within a few feet of the treated trees or stumps may be injured or killed.

Broadcast Cut Stubble Treatment

To prevent resprouting of susceptible woody species alter mowing or ha.d cutting on non-scop areas and rights-of-way, use Tordon 101 Mixtu:s at the rate of 2 to 4 gallons per area in 25 or more gallons of a water spray mixture. Best results may be obtained when applications are made before or during periods of active-cost growth. Applications should not be made when the soil surface is frozen or overed by snow or standing water. It is recommended that applications be made soon apercutting, before sprouting of woody species has occurred.

Use Precautions

Use this product only as specified on this label. Observe any special use and application restrictions and limitations, including method of application and permissible areas of use as promulgated by state authonities.

Be sure that use of this product conforms to all applicable regulations.

Do not make application when circumstances favor movement from treatment site.

Do not contaminate water intended for irrigation or domestic purposes. To avoid injury to crops or other desirable plants, do not the utility 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 apply to show or frozen ground.

Do not apply or otherwise permit, Tordon 101 Mixture or sprays containing, Tordon 101 Mixture to contact crops or other desirable broadleaf plants including but not limited to alfalfa, beans, cotton, grapes, melons, peas, polatoes, safflower, sojuvans, sugar beets, sunflower, tobacco, tomatoes, and other vegetable crops, flowers, fruit plants, omamentals or shade trees.

_____Tordon 101 Mixture should not he spplied on residential or commercial lawns or near ornejments; trees and shrubs. Untreated trees can occasionally be affected by root up also c? herbicide through movemunt into the top soil or by excretion of the product from the routs of nearby treated trees. Do not hond, Tordon ,101 Mixture within the root zone of desirable trees unless such injury can be followed.

Avoid injurious spray drift. Applications should be made only when there is little or no hazard from spray drift. Very small quantities of spray, which may not be visible, may seriously injure susceptible crops or omamental plants near enough to be injured. It is suggested that a continuous smoke column at or near the spray little una smoke generator on the spray equipment be used to detect him moment, lapse conditions, or temperature inversions (stable air). If the smoke layers or indicates a potential of hazardous spray drift, do not spray

Aerial Application

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For aerial application on rights of way or other-areas near susceptible crops, use Nalco-Trol drift control additive as recommended by the manufacturer or apply the Microfoil or Thru-Valve boom or use an equivalent drift control system. Thickened sprays prepared by using high viscosity invert systems or other drift control additives or systems may be utilized if drift control is comparable to that obtained with Nalco-Trol or the Microfoil or Thru-Valve boom. If a spray thickening agent is used, follow all use recommendations and precautions on the product label. Do not use a thickening agent with the Microfoil borm, or other systems that cannot accommodate thick sprays.

With aircraft, drift can be lessened by applying a coarse spray; by using spray pressures no greater than are required to obtain adequate plant coverage; by using straight stream nozzles directed straight back; by spraying only when wind velocities are low; or by using approved drift control system.

Ground Equipment

To aid in reducing spray drift, Tordon 101 Mixture should not be used in thickened (high viscosity) spray mixtures using Nalco-Trol drift control additive or equivalent as directed by the manufacturer. With ground equipment, spray drift can be reduced by keeping the spray boom as low as possible; by applying 20 gallons or more of spray per acre; by using spray pressures no greater than are required to obtain adequate plant coverage; and by spraying when wind velocity is low. Do not apply with hollow cone-type insecticide or other nozzles that produce a fine droplet spray.

High Volume Leaf-Stem Treatment

Spray drift may be minimized by using spray pressures no greater than are required to obtain adequate plant coverage and spraying no higher than brush tops. Avoid excessive pressures which result in formation of fine spray mists. Nalco-Trol thickening agent or equivalent may be used to reduce spray drift. Do not apply this product through a mist blower.

Conifer planting intervals vary. Pines planted sooner than six months after treatment with Tordon 101 Mixture may be injured, in the south or west of the Cascode Mountains. Other conifers, west of the Cascade Mountains, may be injured if planted conner than 8 to 9 months after treatment. For all conifers, the waiting period treatment and planting cheuld be 11 to 12 months in the area between the Cascade and Rodoy Meuntains and 8 to 9 menths in the lake States and the Northeastern U.S.

Do not rotate 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 move treated soil to other areas or use it to grow plants if they are not registered for use with picloram until an adequate sensitive bioassay or chemical test shows that no detectable picloram is present in the soil.

Do not spray if the loss of forage legumes cannot be tolerated. Tordon 101 Mixture may injure or kill legumes. New legume seedlings may not grow within 2 years following application of this herbicide.

Do not transfer livestock from treated grazing areas onto sensitive broadleaf crop areas without first allowing 7 days of grazing on an untreated grass pasture. Otherwise, urine may contain enough picloram to cause injury to sensitive broadleaf plants.

Do not use manure from animals grazing treated areas 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.

Mixing and Loading

Most cases of groundwater contamination involving phenoxy herbicides such as 2,4-D have been associated with mixing/loading and disposal sites. Caution should be exercised when handling 2,4-D pesticides at such sites to prevent contamination of groundwater supplies. Use of closed systems for mixing or transferring this pesticide will reduce the probability of spills. Placement of the mixing/loading equipment on an impervious pad to contain spills will help prevent groundwater contamination.

Warranty Disclaimer

DowElanco warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, surject to the inherent risks set forth below. DOWELANCO MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

Inherent Risks of Use

It is impossible to eliminate all risks associated with use of this product. Plant injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperature, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of DowElanco or the seller. All such risks shall be assumed by Buyer.

Limitation of Remedies

The exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at DowElanco's election, one of the following:

1. Refund of purchase price paid by buyer or user for product bought, or 2. Replacement of amount of product used.

DowElanco shall not be liable for losses or damages resulting from handling or use of this product unless DowElanco is promptly notified of such loss or damage in writing. In no case shall DowElanco be liable for consequential or incidental damages or losses.

The terms of the "Warranty Disclaimer" above and this "Limitation of Remedies" cannot be varied by any written or verbal statements or agreements. No employee or sales agent of DowElanco or the seller is authorized to vary or exceed the terms of the "Warranty Disclaimer" or this "Limitation of Remedies" in any manner.

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LABEL CODE 143-25-005 EPA APPROVAL 05/48/01

DATE CODE 492 Replaces 148-25-801your a

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Revisions Inslude:

- Replaced the word "Killer" in product name with the word "Harbiside".
- 2) Added "Breadcest Treatmonte for Forest Site Proparation" to Directions for Use costion.

2) Revised Pesticide Dispesal costion.

Revisions:

1) New alternate brand label for "Forestry Tordon 101 Mixture" for southern forestry use based on the Tordon 101 Mixture label. All non-southern forestry uses deleted:



Insert 1.

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A weed and brush herbicide for use on forest planting sites, forest roadsides, and wildlife openings in forest areas in southern. states

insert 2.

Forestry Tordon 101 Mixture herbicide is recommended for control of unwanted annual and perennial broadleaf weeds and woody plants and vines on forest planting sites, forest roadsides, and wildlife openings in forest areas in the following southern states: Alabama, Arkansas, Delaware, Georgia, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas and Virginia.

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