

PM 25

352-317

9/10/99

1 of 8



Sinbar®

herbicide

Wettable Powder

Active Ingredient	By Weight
Terbacil	
[3-tert-butyl-5-chloro-6-methyluracil]	80%
Inert Ingredients	20%
TOTAL	100%

EPA Reg. No. 352-317

NOTIFICATION

APR 09 1999

ACCEPTED
 SEP 10 1999
 Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. **352-317**

KEEP OUT OF REACH OF CHILDREN

CAUTION

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Harmful if swallowed. Causes moderate eye irritation. Avoid contact with eyes, skin or clothing.

STATEMENT OF PRACTICAL TREATMENT

If swallowed: Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger, or if available by administering syrup of ipecac. If person is unconscious, do not give anything by mouth and do not induce vomiting.

If on skin: Wash with plenty of soap and water. Get medical attention, if irritation persists.

If in eyes: Flush eyes with plenty of water. Call a physician if irritation persists.

For medical emergencies involving this product, call toll free 1-800-441-3637.

PERSONAL PROTECTIVE EQUIPMENT

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants.
- Waterproof gloves.
- Shoes plus socks.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

USERS SHOULD: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

ENVIRONMENTAL HAZARDS

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

Terbacil has properties that may result in surface water contamination via dissolved runoff and runoff erosion. Practices should be followed to minimize the potential for dissolved runoff and/or runoff erosion. This chemical also has properties and characteristics associated with chemicals detected in ground water. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground-water contamination.

IMPORTANT

Injury to or loss of desirable trees or other plants may result from failure to observe the following:

Do not apply (except as recommended for crop use), 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 use on lawns, walks, driveways, tennis courts, or similar areas. Do not use in home planting of fruits, nuts or other crops nor in apple or peach orchards interplanted with other trees or desirable plants. Prevent drift of dry powder or spray to desirable plants. Do not contaminate any body of water. Keep from contact with fertilizers, insecticides, fungicides, and seeds. Thoroughly clean all traces of DuPont SINBAR® from application equipment immediately after use. Flush tank, pump, hoses, and boom with several changes of water removing nozzle tips and screens (clean these parts separately).

GENERAL INFORMATION

DuPont SINBAR® Herbicide is a wettable powder to be mixed in water and applied as a spray for selective weed control in alfalfa, apples, asparagus, blueberries, caneberries, mint, peaches, and sugarcane. It is non-volatile, non-flammable, and non-corrosive to equipment.

SINBAR® controls susceptible weeds for an extended period of time; the degree of control and duration of effect will vary with the amount of chemical applied, soil texture, rainfall and other conditions. Soils high in clay or organic matter require higher dosages than soil low in clay or organic matter to obtain equivalent herbicide performance. Moisture is required to activate the chemical; best results occur if rainfall (or sprinkler irrigation) occurs within 2 weeks of application.

Observe all cautions and limitations on labeling of all products used in mixtures.

RESISTANCE MANAGEMENT

When herbicides with the same mode of action are used repeatedly over several years to control the same weed species in the same field or site, naturally-occurring resistant weed biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in that field or site. These resistant weed biotypes may not be adequately controlled. Cultural practices such as tillage, preventing weed escapes from going to seed, and/or using herbicides with different modes of action can aid in delaying the proliferation and possible dominance of herbicide resistant weed biotypes.

If weed control is unsatisfactory, it may be necessary to respray problem areas using a product with a different mode of action. If resistant weed biotypes such as lambsquarters, prickly lettuce, and pigweed are suspected or known to be present consider using another herbicide treatment or add a tank mix partner to help control these biotypes.

It is advisable to keep accurate records of pesticides applied to individual fields to help obtain information on the spread and dispersal of resistant biotypes.

INTEGRATED PEST MANAGEMENT

DuPont recommends the use of Integrated Pest Management (IPM) programs to control pests. This product may be used as part of an Integrated Pest Management (IPM) program which can include biological, cultural, and genetic practices aimed at preventing economic pest damage. Application of this product should be based on IPM principles and practices including field scouting or other detection methods, correct target pest identification, population monitoring, and treating when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop or site systems in your area.

DIRECTIONS FOR USE

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls.
- Waterproof gloves.
- Shoes plus socks.

DuPont SINBAR® Herbicide should be used only in accordance with recommendations on this label, or in separate published DuPont recommendations available through local dealers.

DuPont will not be responsible for losses or damages resulting from use of this product in any manner not specifically recommended by DuPont. User assumes all risk associated with such non-recommended use.

Do not use in the state of California.

SELECTIVE USE IN CROPS

WEED CONTROL

Best results are obtained if application is made shortly before or shortly after weed growth begins; if dense growth is present, remove tops and spray the ground. Control of perennial grasses may be improved by cultivation prior to treatment; otherwise, avoid working the soil as long as weed control continues or else effectiveness of the treatment may be reduced. For alfalfa, the soil should not be disturbed. See "Crops" section for recommended use rates for specific crops.

DuPont SINBAR®, at rates of 1/2 to 1 1/2 lbs. per acre controls annual weeds including species of:

- | | |
|--------------------------|------------------|
| chickweed | mustard |
| crabgrass | peppergrass |
| downy brome (cheatgrass) | prickly lettuce |
| flixweed | ryegrass |
| foxtail | shepherd's-purse |
| henbit | snowweed |
| Jim Hill mustard | tansymustard |
| lambsquarters | wild barley |
| marestail | yellow rocket. |

Treatment will not control established perennial bindweeds johnsongrass and Canada thistle.

Rates of 1 to 4 lbs. per acre control annual weeds including species of:

- | | |
|---|-----------------------------------|
| American burnweed
(fireweed <i>Erechtites hieracifolia</i>) | johnsongrass seedlings |
| barnyardgrass (watergrass) | junglerice |
| bluegrass (<i>Poa</i> annual) | knotweed |
| chickweed | lambsquarters |
| China lettuce | mustard |
| clover | natalgrass |
| crabgrass | nightshade |
| crotolaria | orchardgrass. |
| crowfootgrass | panicum |
| dogfennel | pigweed |
| fiddleneck | plantain |
| Flora's paintbrush | purslane |
| Florida pusley | ragweed |
| foxtail | sandbur (sandspur) |
| guineagrass | seedling dandelion |
| henbit | signalgrass (<i>Brachiaria</i>) |
| horsetweed | smartweed |
| jimsonweed | wild geranium |

In addition, treatment usually provides partial control of species of groundsel, horsenettle, quackgrass, red sorrel, and yellow nutsedge.

Rates of 2 to 3 lbs. per acre control weeds including species of:

- | | |
|--------------------|------------------------------------|
| annual sedge | quackgrass |
| cinquefoil | red sorrel |
| hawkweed | redroot |
| perennial ryegrass | (<i>Lachnanthes caroliniana</i>) |

EQUIPMENT- SPRAY VOLUMES AND PRESSURES

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

Apply with a fixed-boom power sprayer properly calibrated to a constant speed and rate of delivery. Use sufficient water (minimum 20 gals. per acre) to provide thorough and uniform coverage of the ground. On alfalfa, mint and sugarcane, preemergence broadcast applications may be made by aircraft (5 to 10 gals. spray per acre).

Continuous agitation in the spray tank is required to keep the material in suspension. Avoid overlapping, and shut off spray booms while starting, turning, slowing or stopping, or injury to the crop may result.

SPRAY PREPARATION

Mixing in water - Fill tank 1/2 full with water. Start agitation system, add SINBAR® and continue adding water. Add separately each additional component of any tank-mix while adding water. Continue agitation throughout.

USE RATES

All dosages of SINBAR® are expressed as broadcast rates; for band treatment, use proportionately less. Where a range of dosages is given, use the lower rate on coarse textured soils (low in clay or organic matter) and the higher rate on fine textured soils (high in clay or organic matter).

SOIL LIMITATIONS

Crop injury may result from failure to observe the following: Unless otherwise directed, do not use on sand, loamy sand or gravelly soils, nor on soils low in organic matter (less than 1%).

REPLANTING

Unless otherwise directed, do not replant treated areas to any crop within 2 years after last application as injury to subsequent crops may result.

CROPS

ALFALFA

Established Alfalfa(Established 1 year or longer)

U.S. (Except NORTHEAST)

Make a single application of 1/2 to 1 1/2 lbs per acre in the fall after plants become dormant or in the spring before new growth starts. For semi-dormant and non-dormant varieties, apply in fall or winter after last cutting or in the spring before new growth starts. Apply before or after emergence of weeds but before they are 2" in height or width.

Do not apply to established stands after new growth starts in the spring, as injury to the crop may result.

NORTHEAST

Apply SINBAR® at the rate of 3/4 to 1 1/2 lbs per acre (ground application only) to alfalfa that is dormant (fall through winter). Alternately, make the application in the spring before initial new growth exceeds 2 inches in height or to stubble after cutting, following hay removal and before regrowth exceeds 2 inches in height. Two applications may be made but should be at least 60 days apart and must not exceed 1 1/2 lbs per year.

For winter annual weeds and early germinating summer annuals, applications of SINBAR® during dormancy or before new spring growth exceeds 2 inches in height provides the best results. Late germinating annual grasses and broadleaf weeds are controlled with an after cutting

treatment. Where an early application is made for control of winter annual weeds and early germinating summer grasses and broadleaves are expected to be a problem, a second application (after cutting) may be applied for improved results, provided the total applied does not exceed 1 1/2 lbs per year.

Postharvest Applications -Oklahoma Only

DuPont SINBAR® Herbicide is recommended as a postharvest application on alfalfa, only in Oklahoma, for the control of pigweed (Amaranthus spp.) and the suppression * of other warm season annual weeds such as crabgrass and foxtails.

Apply SINBAR® at the rate of 1/2 to 3/4 lb per acre to alfalfa stubble after cutting, following hay removal, and before alfalfa regrowth exceeds 2" in height. Two applications (dormant and/or postharvest) may be made but must be at least 60 days apart and must not exceed 2 lbs per year.

Best results are obtained when SINBAR® is applied prior to weed emergence but before weeds are 2" in height or width, and 3/4" of rainfall or sprinkler irrigation occurs within two weeks of application.

Do not apply after June 15 or to first year, spring-seeded alfalfa.

Do not apply more than 1/2 lb per acre to fall seeded, first year stands of alfalfa.

*Suppression: Weed suppression is a visual reduction in weed competition (reduced population and/or vigor) as compared to an untreated area. Degree of suppression and duration of effect on weeds will depend on weed density, condition of seed bed, timing, and amount of rainfall following application and growing conditions following application.

Seedling Alfalfa(Established less than 1 year)

Oregon and Washington:

SINBAR® when applied at reduced rates of 1/4 to 1/2 lb per acre (depending on organic content of the soil and tap root depth) selectively controls downy brome, henbit, flixweed, Jim Hill mustard and shepherd's-purse in seedling alfalfa.

Apply SINBAR® after alfalfa is dormant in late winter or early spring but before alfalfa has more than 2" of new growth.

For best results on Downy Brome, apply SINBAR® at 1/2 lb per acre for preemergence and early postemergence control if sufficient rainfall occurs to move SINBAR® into the root zone before downy brome is beyond the 2-leaf stage. For control of downy brome on soils where lower rates of SINBAR® must be used, tank mix with "Kerb 50-W" herbicide.

Sandy Soils with 0.5 - 0.9% Organic Matter -

Apply 1/4 - 1/3 lb per acre to seedling alfalfa stands which have a minimum 6" tap root depth throughout the field.

First time application should be limited to a small area to determine crop safety.

Note: User must accept risk of possible crop damage on these low organic matter sandy soils. Crop injury may result in areas of spray overlap.

Soils with at least 1% Organic Matter -

Apply 1/4 - 1/3 lb per acre on sandy soils where seedling alfalfa has a minimum 4" tap root depth throughout the field.

Apply 1/2 lb per acre on loam, silt and clay soils where seedling alfalfa has a minimum 4" tap root depth throughout the field.

Note: It is very important to determine seedling alfalfa tap root length throughout the field before using SINBAR®.

Alfalfa growing on north facing slopes, areas that do not receive enough moisture or are poorly drained and areas where weed competition is heavy can have smaller root systems compared to other areas of the field. Significant crop injury can occur in areas where the alfalfa root system is smaller than specified.

Tank Mixtures : With 2,4-DB

SINBAR® in combination with rates as low as 1/2 lb active ingredient per acre (1 qt of 2 lbs per gallon product)of 2,4-DB may be used.

Pennsylvania and Virginia:

Seedling and Established Stands - Common chickweed and henbit may be selectively controlled using SINBAR® in alfalfa at reduced rates of 1/3 to 1/2 lb per acre.

- Apply SINBAR® to alfalfa seeded from late summer to early fall that is at least 2" in height and has a minimum of 4 trifoliolate leaves. Applications should be made in the fall or early spring before weeds exceed 2" in height.
- Apply SINBAR® to spring seeded alfalfa that has been established for 6 months or longer. Spring applications should be made before new growth exceeds 2" in height. Fall applications should be made to the stubble after the last cutting following hay removal, and before new growth exceeds 2" in height.

TANK MIXES AND SEQUENTIAL TREATMENTS (Seedling and Established Alfalfa)

SINBAR® can be applied either alone or in a program involving tank mixes and/or sequential treatments with other herbicides, fungicides, or insecticides registered for use on alfalfa. DuPont recommends that you first consult your state experiment station, university, or extension agent, or fieldman as to expected crop response to mixtures or sequential treatments. If no information is available, limit the initial use to a small area.

Important Precautions for Alfalfa

- Use on sand, loamy sand or gravelly soils, or on soils low in organic matter (less than 1 percent), may result in severe crop injury.
- Tank mixes and sequential treatments with other herbicides can increase the risk of crop injury. To avoid crop injury, when using in a tank mix with other herbicides, use the lower end of the use rate range for DuPont SINBAR® unless prior experience supports higher rates.
- When using any tank mix or sequential treatment for the first time, limit use to a small area to determine crop safety before treating large areas.
- Do not apply SINBAR® and "Gramoxone" (paraquat) as a sequential treatment as severe crop injury can occur.
- Do not use on alfalfa-grass mixtures or other mixed stands.
- Do not use with surfactants, unless specified otherwise in this labeling, or other supplemental labeling.
- Do not apply on snow covered or frozen ground, as injury to the crop or poor weed control may result.
- Applications should be made to young, actively growing weeds before they exceed 2" in height. Applications made at other growth stages may result in reduced weed control depending on the species, stage of growth and/or environmental conditions.
- Applications made to plants under stress and/or cold temperatures (less than 40° F) may result in reduced or no control.
- Avoid overlap as severe crop injury may result.
- Temporary yellowing, stunting and/or reduction of first cutting yield may occur when applications are made to new alfalfa growth, or actively growing seedling alfalfa.

APPLES, PEACHES

Use SINBAR® alone, or apply as a tank mixture with "Karmex DF" Herbicide. Make a single band or broadcast application as a directed spray; avoid contact of foliage and fruit with spray or mist. Apply either in the spring or after harvest in the fall before weeds emerge or during early seedling stage of weed growth. Where complete weed control to harvest is desired, additional weed control measures may be required during the growing season.

Where crop is grown under furrow irrigation or under raised-berm flood irrigation (trees 4" to 6" above waterline), apply only as a band treatment. Do not treat trees planted in the bottom of irrigation furrows or trees grown under flat flood or basin irrigation, and do not use on eroded areas where subsoil or tree roots are exposed, as injury to trees may result. Do not graze or feed forage from treated areas to livestock. Do not apply within 60 days of harvest.

SINBAR® Alone--Use only under trees established in the orchard for at least 3 years.

Lbs. SINBAR® Per Acre

Soil Texture	1 to 2%	More Than 2%
Description	Organic Matter	Organic Matter
Sandy loam	2	3
Loam, silt loam, silt	2 1/2	3 1/2
Clay loam, clay	3	4

SINBAR® + "Karmex DF"-- Use only under trees established in the orchard for at least 2 years.

Lbs. SINBAR® + "Karmex DF" Per Acre

Soil Texture	1 to 2%	More Than 2%
Description	Organic Matter	Organic Matter
Sandy loam	1 + 1	1 1/2 + 1 1/2
Loam, silt loam, silt	1 1/2 + 1 1/2	2 + 2
Clay loam, clay	2 + 2	2 + 2

ASPARAGUS

Direct Seeded--Plant seed 1 1/2 inches deep in coarse soils and 1 inch deep in fine soils. During planting operation, spray activated charcoal (such as Aqua NuChar[†] or Gro-Safe[™]) as a 1 inch band on soil surface directly over rows at a rate of 300 lbs. per acre (broadcast basis equivalent to 15 lbs. per acre where row spacing is 20 inches). Follow with SINBAR® as a single spray at 1 to 2 lbs. per acre. Use the lower rate on coarser soils and the higher rate on finer soils.

Established Beds--Apply 1 1/2 to 2 1/2 lbs. SINBAR® per acre prior to spear emergence. Application may be made immediately after clean cutting. Use the lower rate on coarse textured soils and the higher rate on fine soils.

Do not apply more than 1 1/2 lbs per acre per application.

In the Columbia Basin, use SINBAR® at 0.75 to 1.0 lb per acre on coarse textured soils and 1.5 to 2.5 lbs per acre on fine textured soils.

Apply before weeds emerge or to small weeds (1/2 to 2 inches tall or across).

High organic soils absorb SINBAR® so that it is substantially inactivated as a soil residual herbicide. On these soils, weed control is provided by postemergence foliar uptake only. Apply 1 to 2 applications of SINBAR® not exceeding 2 1/2 lbs. per acre per year.

Note: Do not use on areas where subsoil or roots are exposed. Do not use on plants that are diseased or lacking in vigor, as injury to the crop may result. Do not harvest within 5 days after application. Treated areas may be planted to asparagus one year after application. Otherwise, do not replant to any other crop within two years after last application.

[†] Aqua NuChar - Registered trademark of Westvaco Corp.

[™] Gro-Safe - Registered trademark of ICI Americas, Inc.

BLUEBERRIES

Treat only plantings established for 1 year or more. Make a single band or broadcast application to ground beneath bushes; avoid contact of foliage and fruit with spray or mist. Apply either in the spring or after harvest in the fall before weeds emerge or during early seeding stage of weed growth. Do not use on eroded areas where subsoil or roots are exposed, nor on plants that are diseased or lacking in vigor, as injury to the plants may result. Treated areas may be planted to blueberries one year after last application.
U.S.

Lbs. DuPont SINBAR® in Min. 25 Gals. Water Per Acre

<i>Soil Texture</i>	<i>1 to 3%</i>	<i>More Than 3%</i>
	<i>Organic Matter</i>	<i>Organic Matter</i>
Sand, Loamy Sand	Do not use	2
Sandy Loam, Loam, Silt Loam,	2	3
Silt, Sandy Clay,		
Sandy Clay Loam, Silty Clay, Silty	3	3
Clay Loam, Clay,		
Clay Loam	3	3

MAINE, MARYLAND, NEW JERSEY

Apply as directed above, or, for broader spectrum weed control apply as a tank mix with "Karmex DF":

Lbs. SINBAR® + "Karmex DF" Per Acre

<i>Soil Texture</i>	<i>1 to 3%</i>	<i>More Than 3%</i>
	<i>Organic Matter</i>	<i>Organic Matter</i>
Sand, Loamy Sand	Do Not Use	2 + 2
Sandy Loam	2 + 2	2-1/2 + 2
Loam, Silt Loam,		
Silt, Sandy Clay,	2-1/2 + 2	3 + 2
Sandy Clay Loam		
Silty Clay,		
Silty Clay Loam,	3 + 2	3 + 2
Clay, Clay Loam		

Do not replant areas treated with SINBAR® + "Karmex DF" to crops other than blueberries within two years after application, as injury to those crops may result.

CANE BERRIES

(Blackberries, Boysenberries, Dewberries, Loganberries, Raspberries, Youngberries)--Treat only plantings established for 1 year or more. Make a single band or broadcast application of 1 to 2 lbs. per acre in a minimum of 20 gals. of water to the soil beneath the canes in the fall or early spring before fruitset and before weeds emerge or during the early stage of weed growth. Do not spray foliage nor use on eroded areas where subsoil or roots are exposed, nor apply to plants that are diseased or lacking vigor as injury to the plants may result. Treated areas may be planted to mint, alfalfa, blueberries, apples or peaches 1 year after last treatment. Do not replant to other crops within 2 years of last application. Do not apply within 70 days before harvest.

MINT (Peppermint, Spearmint)

Preemergence Application: Make a single broadcast application of 1 to 2 lbs. per acre before mint emerges.

Midwest: Apply in the spring just after the last cultivation.

Pacific Northwest:

West of Cascade Mountains--Apply in spring or fall after last cultivation.

East of Cascade Mountains--Apply any time after the first settling rain in the fall, but not when ground is frozen. If moisture is inadequate to activate the chemical, irrigation by sprinkler must follow fall or winter treatment as soon as soil thaws in the spring (or promptly after spring treatment) or poor weed control may result.

Weeds Controlled in Mint (Pacific Northwest): Weeds controlled by SINBAR® at 1 to 2 lbs per acre in the Pacific Northwest are dogfennel, nightshade, henbit, chickweed, tansymustard, annual pepperweed, shepherds purse, mustard (Jim Hill) and filaree. Weeds partially controlled or suppressed by SINBAR® are Russian thistle, nutsedge, annual bluegrass, barnyardgrass, knotweed, vetch, lambsquarters, downy brome, quackgrass and false flax.

Postemergence Application (Midwest and Pacific Northwest): Apply 1 to 1-1/2 lbs. per acre before weeds are 2" tall (or across) and grasses are 1" tall (or across). Add 1/2 to 1 pt. surfactant to each 25 gals. of spray; non-phytotoxic superior-type spray oil may be substituted at the rate of 1 gal. per acre. If preemergence treatment has not been applied, a second postemergence application may be made but do not exceed 2 lbs. total per acre per season. Do not apply within 60 days of harvest.

Preemergence + Postemergence: Apply as directed above. Do not apply more than 2 lbs. total per acre per season; do not apply within 60 days of harvest.

Note: For either newly planted roots or established mint, soil must be well prepared before preemergence application. Crop injury and/or poor weed control may result if application is made to ground which is cloddy or compacted, resulting in exposed or improperly covered roots. Do not apply to newly planted roots that are diseased or lacking in vigor, nor on thinly covered or exposed subsoil areas as injury to the crop may result. Use of insecticides in fields where SINBAR® is applied may result in injury to the mint; observe use limitations on insecticide labels. Treated areas may be planted to mint one year after last application.

SUGARCANE

Because sugarcane varieties vary in their resistance to herbicides, determine tolerance to SINBAR® prior to adoption as field practice to prevent possible crop injury. For additional information, review the local university variety/herbicide guidelines for sugarcane. Do not use on varieties which are known to be susceptible to herbicide, such as 48-103 (Louisiana), 50-28 (Texas), 53-263 (Hawaii) or P.R. 1048 (Puerto Rico). Do not use where cane is grown on thinly covered sub-soils or rocky areas as injury to cane may result. Do not replant treated areas to any crop other than sugarcane or pineapple within 2 years after last application as injury to subsequent crops may result. Do not exceed 3 lbs. SINBAR® per acre per year. Do not apply within 120 days of harvest.

Louisiana--For best control of seedling johnsongrass, apply at 1 to 1 1/2 lbs per acre in the fall after planting and before cane emerges; repeat application at same rate in the early spring before weeds emerge.

As a layby treatment immediately after last cultivation, apply 1/2 lbs per acre as a directed spray to row middles (treated area not to exceed 50% of row width). Do not apply over the top of cane as injury to the crop may result.

Texas--Apply broadcast at 1 to 1 1/2 lbs. per acre in the fall to stubble cane or to plant cane before emergence; repeat application at same rate in early spring. Use 1/3 of above broadcast rates when band-treating 1/3 of the area.

Hawaii--Make a single preemergence broadcast application of 1 to 1 1/2 lbs. per acre on plant or ratoon cane before cane emerges. Longevity of control is enhanced if application is made during the relatively dry season (March through October).

Puerto Rico--Make a single preemergence broadcast application of 1 to 2-1/2 lbs. per acre on plant cane only.

SPRAY DRIFT MANAGEMENT

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

AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR.

IMPORTANCE OF DROPLET SIZE

The most effective way to reduce drift potential is to apply large droplets (>150 - 200 microns). The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. **APPLYING LARGER DROPLETS REDUCES DRIFT POTENTIAL, BUT WILL NOT PREVENT DRIFT IF APPLICATIONS ARE MADE IMPROPERLY OR UNDER UNFAVORABLE ENVIRONMENTAL CONDITIONS!** See **Wind, Temperature and Humidity, and Surface Temperature Inversions** sections of this label.

Controlling Droplet Size - General Techniques

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. **WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE.**
- **Nozzle Type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles.

Controlling Droplet Size - Aircraft

- **Number of Nozzles** - Use the minimum number of nozzles with the highest flow rate that provide uniform coverage.
- **Nozzle Orientation** - Orienting nozzles so that the spray is emitted backwards, parallel to the airstream will produce larger droplets than other orientations.
- **Nozzle Type** - Solid stream nozzles (such as disc and core with swirl plate removed) oriented straight back produce larger droplets than other nozzle types.

BOOM LENGTH AND HEIGHT

- **Boom Length (aircraft)** - The boom length should not exceed 3/4 of the wing length, using shorter booms decreases drift potential. For helicopters use a boom length and position that prevents droplets from entering the rotor vortices.
- **Boom Height (aircraft)** - Application more than 10 ft above the canopy increases the potential for spray drift.
- **Boom Height (ground)** Setting the boom at the lowest height which provides uniform coverage reduces the exposure of droplets to evaporation and wind. The boom should remain level with the crop and have minimal bounce.

WIND

Drift potential increases at wind speeds of less than 3 mph (due to variable direction and inversion potential) or more than 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. **AVOID APPLICATIONS DURING GUSTY OR WINDLESS CONDITIONS.**

Note: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they effect spray drift.

TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, set up equipment to produce larger droplets to reduce effects of evaporation.

SURFACE TEMPERATURE INVERSIONS

Drift potential is high during a surface temperature inversion. Surface inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Surface inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates a surface inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are preventing drift and not interfering with uniform deposition of the product.

AIR ASSISTED (AIR BLAST)

FIELD CROP SPRAYERS

Air assisted field crop sprayers carry droplets to the target via a downward directed air stream. Some may reduce the potential for drift, but if a sprayer is unsuitable for the application and/or set up improperly, high drift potential can result. It is the responsibility of the applicator to determine that a sprayer is suitable for the intended application, is configured properly, and that drift is not occurring.

Note: Air assisted field sprayers can affect product performance by affecting spray coverage and canopy penetration. Consult the application equipment section of this label to determine if use of an air assisted sprayer is recommended.

AIR ASSISTED (AIR BLAST) TREE AND VINE SPRAYERS

Air assisted tree and vine sprayers carry droplets into the canopy of trees and vines via a radially or laterally directed air stream. These sprayers are not suitable for applying herbicides.

In addition to the general drift management principles already described, the following specific practices will further reduce the potential for drift.:

- *Adjust deflectors and aiming devices so that spray is only directed into the canopy.*
- *Block off upward pointed nozzles when there is no overhanging canopy.*
- *Use only enough air volume to penetrate the canopy and provide good coverage.*
- *Do not allow spray to go beyond the edge of the cultivated area. Spray the outside row only from outside the planting.*

SENSITIVE AREAS

Pesticides should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

SPRAY TANK CLEANOUT

Thoroughly clean all traces of SINBAR® from application equipment immediately after use. Flush the tank, pump, hoses, and boom with several changes of water after removing nozzle tips and screens (clean these parts separately). Dispose of the equipment wash water by applying it to a use-site listed on this label.

STORAGE AND DISPOSAL

STORAGE: Store product in original container only. Do not contaminate water, other pesticides, fertilizer, food or feed in storage.

PRODUCT DISPOSAL: Do not contaminate water, food, or feed by storage or disposal. Wastes resulting from use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

NOTICE TO BUYER: Purchase of this material does not confer any rights under patents of countries outside of the United States.

- 1 Registered trademark of Rohm and Haas Company
- 2 Registered trademark of Zeneca
- 3 Registered trademark of Griffin LLC

LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read This Limitation of Warranty and Liability Before Buying or Using This Product. If the Terms Are Not Acceptable, Return the Product at Once, Unopened, and the Purchase Price Will Be Refunded.

It is impossible to eliminate all risks associated with the use of this product. Such risks arise from weather conditions, soil factors, off target movement, unconventional farming techniques, presence of other materials, the manner of use or application, or other unknown factors, all of which are beyond the control of DuPont. These risks can cause: ineffectiveness of the product; crop injury, or; injury to non-target crops or plants.

DuPont does not agree to be an insurer of these risks. **WHEN YOU BUY OR USE THIS PRODUCT, YOU AGREE TO ACCEPT THESE RISKS.**

DuPont warrants that this product conforms to the chemical description on the label thereof and is reasonably fit for the purpose stated in the Directions for Use, subject to the inherent risks described above, when used in accordance with the Directions for Use under normal conditions.

DUPONT MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR OF MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

IN NO EVENT SHALL DUPONT OR SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT. BUYER'S OR USER'S BARGAINED-FOR EXPECTATION IS CROP PROTECTION. THE EXCLUSIVE REMEDY OF THE USER OR BUYER AND THE EXCLUSIVE LIABILITY OF DUPONT OR SELLER, FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY OR CONTRACT, NEGLIGENCE, TORT OR STRICT LIABILITY), WHETHER FROM FAILURE TO PERFORM OR INJURY TO CROPS OR OTHER PLANTS, AND RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT, OR AT THE ELECTION OF DUPONT OR SELLER, THE REPLACEMENT OF THE PRODUCT.

DuPont or its Ag Retailer must have prompt notice of any claim so that an immediate inspection of buyer's or user's growing crops can be made. Buyer and all users shall promptly notify DuPont or a DuPont Ag Retailer of any claims, whether based on contract, negligence, strict liability, other tort or otherwise or be barred from any remedy.

This Limitation of Warranty and Liability may not be amended by any oral or written agreement.

D-675 032999

For product information call 1-888-6-DUPONT

© 1999 E. I. du Pont de Nemours and Company, Agricultural Products, Wilmington, Delaware 19898