



AGRICULTURAL BULLETIN

DU PONT

HYVAR® X WEED KILLER
WEED CONTROL UNDER
SURFACING MATERIALS

SUPPLEMENTAL LABELING
EPA REG. NO. 352-287

HYVAR® X WEED KILLER
FOR WEED CONTROL UNDER ASPHALT, CONCRETE,
AND POND LINERS

DIRECTIONS FOR USE

ACCEPTED

SEP 30 1983

Under the Federal Insecticide,
Fungicide, and Rodenticide Act,
as amended, for the pesticide
registered under
EPA Reg. No. 352-287

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

Du Pont Hyvar® X Weed Killer is recommended for weed control under asphalt, concrete, and pond liners to extend the useful life of the surfacing material by preventing weeds from emerging through it.

HOW TO USE

Remove vegetation and debris from the subgrade. Uniformly apply "Hyvar" X to the area to be surfaced, including the shoulder areas, at the following rates:

- 6 - 10 pounds per acre for control of annuals such as cheat, crabgrass, downy brome, foxtail, lambsquarters, puncturevine, ragweed, ryegrass, turkey mullein, and wild oats;
- 10 - 15 pounds per acre for control of perennials such as bahiagrass, broomsedge, dandelion, dogfennel, goldenrod, plantain, purpletop, quackgrass, redtop, smooth brome, and wild carrot;
- 25 - 30 pounds per acre for control of bermudagrass, bouncingbet, bracken fern, dallisgrass, dogbane, horsetail, johnsongrass, nutsedge, saltgrass, and vaseygrass.

For Herbicide Activation:

- On moist subsoils, apply "Hyvar" X after final grading and immediately before laying asphalt or liner surface. Apply uniformly using at least 100 gallons of water per acre.
- If moisture is not present, incorporation of "Hyvar" X is needed for activation. "Hyvar" X can be incorporated into the soil to a depth of 4-6 inches using a rototiller or disc. Rainfall or irrigation of 2 inches will also provide uniform incorporation. Do not allow treated soil to wash or move into untreated area

7/7/83

NOTES:

"Hyvar" X is intended for use under asphalt, pond liners, and other pavement only in industrial sites or where the pavement has a suitable barrier along the perimeter that prevents encroachment of roots of desirable plants.

The product is not recommended for use under pavement in residential properties such as driveways or parking lots, nor is it recommended for use in recreational areas such as under jogging or bike paths, tennis courts, or golf cart paths, or where landscape plantings could be anticipated.

Injury or death of desirable plants may result if this product is applied where roots are present or where they may extend into treated area. Roots of trees and shrubs may extend a considerable distance beyond the branch extremities or so-called "dripline".

Where hard-to-control perennials such as peppervine, trumpetcreeper, field bindweed and Smilax spp. (greenbrier) are in the treated area, another suitable herbicide should be applied.

Do not use in California.

IMPORTANT

BEFORE USING "HYVAR" X, READ AND CAREFULLY OBSERVE THE CAUTIONARY STATEMENTS AND ALL OTHER INFORMATION APPEARING ON THE PRODUCT LABEL.

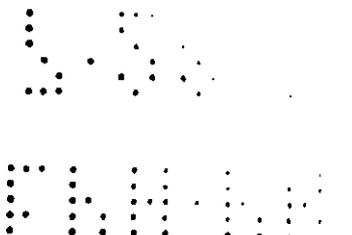
This bulletin contains new or supplemental instructions for use of this product which may not appear on the package label. Follow the instructions carefully.

This labeling must be in possession of the user at the time of pesticide application.

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CONTINUED FROM BACK PANEL

Note: Partial control usually occurs with a single treatment; repeat applications are required to control perennials. Hyvar controls the following:

Bermudagrass All areas (U.S.)

Terpedograss (paragrass)

Parigrass

Bahagrass

Johnsongrass

Nutsedge

Florida

Texas

California

For control of perennials, apply Hyvar to the soil surface in the spring or fall. For control of annuals, apply Hyvar to the soil surface in the spring or fall. For control of nutsedge, apply Hyvar to the soil surface in the spring or fall.

Terpedograss Control —

Burner Strip Treatment

For control of terpedograss, apply Hyvar to the soil surface in the spring or fall. For control of paragrass, apply Hyvar to the soil surface in the spring or fall. For control of parigrass, apply Hyvar to the soil surface in the spring or fall. For control of bahagrass, apply Hyvar to the soil surface in the spring or fall. For control of johnsongrass, apply Hyvar to the soil surface in the spring or fall. For control of nutsedge, apply Hyvar to the soil surface in the spring or fall.

PINEAPPLE

Do not treat any treated area for any other than pineapple within 2 years after last application. An injury to subsequent crops may result.

Hawaii and Florida: For control of seedling weeds such as amaranthus, barnyard grass, crabgrass, Florida panicum, Florida goosegrass, (paragrass) and Florida apple, 1.5 lbs. per acre broadcast after the planting material begins to grow. Use the lower rates in low rainfall areas (5 to 10 inches annually) and on clean culture fields. Use the higher rates in high rainfall areas (above 10 inches annually) and for trashy fields. Follow with 2 to 4 lbs. per acre as pre- and/or post-planting spray as needed prior to differentiation. Or apply 2 lbs. per acre broadcast as needed after plants are 8 months old but before differentiation. Do not apply more than 16 lbs. total per acre per planting crop.

For ratoon crop, apply 1 to 4 lbs. per acre broadcast after harvesting plant crop but before differentiation. Do not apply more than 4 lbs. total per acre per ratoon crop.

Puerto Rico: For control of seedling weeds such as crabgrass, goosegrass, johnsongrass, pigweed and purslane, apply 1 to 4 lbs. per acre broadcast immediately after planting and before planting material begins to grow.

NOTICE TO BUYER

Purchase of this material does not constitute an acknowledgment of ownership in the United States.

STORAGE AND DISPOSAL

STORAGE: Store product in original container only, away from other pesticides, fertilizer, food, or feed.

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

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.

ACCEPTED
SEP 30 1983
This is the Federal Insecticide, Fungicide and Rodenticide Act as amended for the pesticide registered under EPA Reg. No. 101-101-01



HYVAR X

WEED KILLER

WETTABLE POWDER

ACTIVE INGREDIENT:
Bromacil (5-bromo-3-sec-butyl-6-methyluracil) 80%

INERT INGREDIENTS 20%

EPA Reg. No. 101-101-01

Keep out of reach of children.
PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS

CAUTION! MAY IRRITATE EYES, NOSE, THROAT, AND SKIN
Avoid breathing dust. Avoid contact with skin, eyes or clothing.
Wash thoroughly with soap and water after handling.

STATEMENT OF PRACTICAL TREATMENT

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

ENVIRONMENTAL HAZARDS

Do not contaminate water by cleaning of equipment or disposal of wastes.

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. Prevent drift of dry powder or spray to desirable plants. Do not contaminate domestic waters. Keep from contact with fertilizers, insecticides, fungicides, and seeds. Thoroughly clean all traces of "Hyvar" X from application equipment immediately after use. Flush tank, pump, hoses, and boom with several changes of water after removing nozzle tip and screens (clean these parts separately).

NET 4 LBS.

E. I. du Pont de Nemours & Co. (Inc.)
Agricultural Chemicals Dept., Wilmington, Delaware

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PRECAUTIONS

Varieties of wheat and barley differ in their tolerance to herbicides. When using "Finesse" for the first time on a particular variety, limit initial use to one 16 oz jug. If no symptoms of crop injury occur 14 days after treatment, balance of acreage can be treated.

Do not apply "Finesse" to wheat and barley that is stressed by severe weather conditions, drought, low fertility, water saturated soil, disease or insect damage as crop injury may result. Severe winter stress, drought, disease, or insect damage following application may also result in crop injury.

Do not use on soils with pH greater than 7.5. Do not exceed 0.5 oz/A per crop or fallow period on soils of pH 7.5 or less. Whenever "Glean" and "Finesse" are used on the same land, the combined total use rate per crop or fallow period should not exceed 0.5 oz/A.

Do not apply to wheat or barley undersown with legumes and/or grasses as injury to the forage may result.

Do not apply to frozen ground where surface runoff may occur.

Do not apply to snow covered ground

Do not apply to irrigated land where tail water will be used to irrigate other crop land

Do not use on fields that have variable soil conditions where large areas are gravelly or sandy, have eroded knolls, calcium deposits, or widely variable pH readings or organic matter content. Use of "Finesse" on fields with these conditions may result in injury to the crop or following crops.

Under certain conditions such as heavy rainfall, prolonged cool weather (daily high temperatures less than 50° F) or wide fluctuations in day/night temperatures just prior to or soon after treatment, temporary discoloration and/or crop injury may occur. Risk of injury is greatest when crop is in 1 to 5 leaf stage.

Tank mixtures of "Finesse" and organophosphate insecticides (such as methyl or ethyl parathion, malathion or doryson, etc.) may cause temporary discoloration or crop injury. Preemergence applications of 2,4-D or herbicides containing 2,4-D made within two weeks of planting spring cereals may cause crop injury when used in conjunction with preemergence or early postemergence applications of "Finesse".

Whenever land has been or will be treated with "Assert" herbicide and "Finesse", plant only wheat until a field bioassay (see "Field Bioassay" section of label) demonstrates that other crops can be successfully grown. On land that is frequently rotated to crops other than wheat, do not use "Finesse" wherever "Assert" has been or will be used. The additive effect of soil residues from these treatments has not been determined and crop rotation guidelines and minimum rotation intervals are not known; injury to rotational crops may occur.

Fall applications on coarse textured soils (especially those having a pH of greater than 7.0) may not provide adequate control or suppression of spring germinating weeds.

To reduce the potential for movement of treated soil due to wind erosion, do not apply to powdery dry or light sandy soils until they have been stabilized by rainfall, trashy mulch, reduced tillage or other cultural practices. Injury to adjacent crops may occur when treated soil is blown onto land used to produce crops other than cereal grains.

For ground applications applied postemergence to weeds when dry, dusty field conditions exist, control of weeds in wheel track areas may be reduced. The addition of 2,4-D should improve weed control under these conditions.

To prevent cold weather related crop injury, avoid making preemergence or early postemergence (2-4 leaf) applications during late fall, winter and early spring months when cold weather conditions are unpredictable and can be severe. The combined effects of herbicide stress plus winter stress can result in greater crop injury than either stress factor alone.

Weed control or suppression may be unsatisfactory on soils containing 5% or more organic matter.

The "Finesse" volumetric measuring cylinder is to be used only as a guide as the degree of accuracy varies by plus or minus 10%. For more precise measurement, use scales calibrated in ounces.

FIELD BIOASSAY

"Finesse" is a useful tool for weed control in wheat or barley; however, under some conditions small amounts of "Finesse" can remain in the soil and injure crops other than wheat or barley for 2-3 years after application; therefore, before you use "Finesse", you should carefully consider your crop rotation plans during the 2-3 year period following treatment.

A field bioassay will be necessary if crops other than wheat or barley are to be planted on land previously treated with "Finesse".

A bioassay involves growing test strips of the crop or crops you plan to grow in fields previously treated with "Finesse". Crop response will indicate whether or not to rotate to the crop(s) grown in the test strips.

"Finesse" breaks down more rapidly in soils having a pH less than 7.0 and in areas having 20" or more of annual rainfall and a long growing season with warm soil temperatures. "Finesse" residues break down more slowly as soil pH increases above 7.0. Other contributing factors that slow the disappearance of "Finesse" are low rainfall and prolonged periods of soil temperatures less than 40° F.

Of the key factors that influence the rate of disappearance, only soil pH remains relatively constant from year to year. Soil temperature, and to a larger degree soil moisture, can vary greatly from year to year, and from area to area. Consequently, it is not always possible to accurately predict when areas treated with "Finesse" can be rotated to crops other than those listed on label.

A bioassay of your "Finesse" treated field is the only sure way of determining when crops other than those listed on the label can be grown and is conducted as follows:

1. The accuracy and reliability of any field bioassay is largely dependent on the location and number of strips planted. Be sure to select areas of the field previously treated with "Finesse" that are representative of the various field conditions. Be sure to consider factors such as field size, soil texture, drainage, turnaround areas, eroded knolls or alkaline spots when selecting the sites that are most representative of the soil conditions in the field.

Even in small fields, more than one test strip is required to accurately determine whether it is safe to rotate to a noncereal crop. On large fields, several test strips will be needed in order to obtain reliable results based on the field variables mentioned above.

2. Plant the test strips perpendicular to the direction in which the field was sprayed. Each strip should be long enough to cross the width of several spray swaths. A large test strip area is more reliable than a small one. Suggested size is 1/4 to 1/2 acre per site.
3. Use standard tillage and seeding equipment to plant the bioassay crop(s).
4. Prepare a seed bed and plant the crops and varieties you want the option of growing the following year. It is important to use the same planting time, conditions, techniques and cultural practices you normally use to plant and grow the bioassay crop(s). If possible, plant into an adjacent area not treated with "Finesse" to use as a comparison.
5. Do not overspray the test strips with herbicides that may damage the bioassay crop(s).
6. If the crop(s) in the test strips grow to maturity with a normal harvest, the assay is positive and you may now rotate to the new crop. However, if crop(s) in the test strips die, are stunted, or fail to yield a normal harvest, the assay is negative and you should not rotate to the new crop(s). Run the assay until positive results are obtained before rotating to the new crop(s).
7. If the bioassay indicates that "Finesse" residues are still present, do not rotate to crop(s) other than those listed on the label until bioassay results indicate that the assay crops are growing normally.

STORAGE AND DISPOSAL

STORAGE: Store product only in original container, away from other pesticides, fertilizer, food or feed.

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

Triple rinse (or equivalent) the container. Then offer for recycling or reconditioning, or puncture and dispose of 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.

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