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Systems Integration Group, Inc.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

MAY 28 1999

Karen Stumpf
Novartis Crop Protection, Inc.
P.O. Box 18300
Greensboro, NC 27419

Subject: Amended Registration for Tough 5EC Herbicide
Registration Number 100-880
Your submission dated February 26, 1999

Dear Ms. Stumpf:

The label amendment referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, is acceptable, provided that you adhere to the following requirements:

1. In the STORAGE AND DISPOSAL section of the booklet, delete the following:

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

2. The entire storage and disposal section, including the "Storage" and "Pesticide Disposal" sections and the "Do not contaminate water, food, or feed by storage or disposal" statement, must be added to the product label. Its presence on a removable booklet is not sufficient.

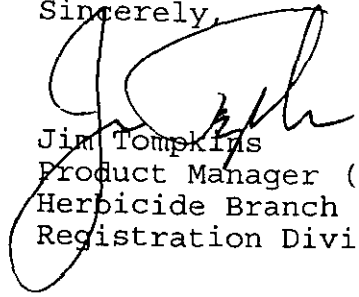
3. Submit one copy of your final printed labeling before you release the product for shipment.

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 bearing the amended labeling constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.

If you have any questions about this letter, please contact
Tobi Colvin-Snyder at 703-305-7801.

Sincerely,



Jim Tompkins
Product Manager (25)
Herbicide Branch
Registration Division (7505C)

Front Cover of Removable Booklet

Tough® 5 EC

HERBICIDE

For the postemergence control of annual weeds in peanut and corn

2.5 GALLONS
U.S. Standard Measure

| | |
|-------------------------------|--------|
| Active Ingredient: | |
| Pyridate (CAS No. 55512-33-9) | 55.8% |
| Other Ingredients: | 44.2% |
| Total: | 100.0% |

Contains 5 lbs. of pyridate per gallon of product.

KEEP OUT OF REACH OF CHILDREN.

WARNING/AVISO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

See additional precautionary statements and directions for use inside booklet.

EPA Reg. No. 100-880

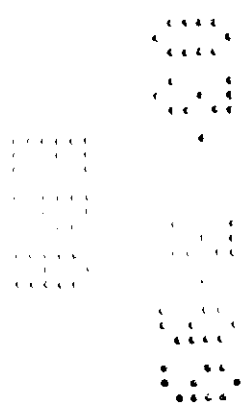
EPA Est. 407-IA-2

NCP

Made in Austria

**ACCEPTED
with COMMENTS
in EPA Letter Dated
MAY 28 1999**

Under the Federal Insecticide,
Fungicide, and Rodenticide Act
as amended, for the pesticide
registered under EPA Reg. No.
100-880



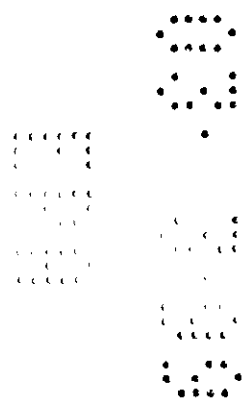
DIRECTIONS FOR USE AND CONDITIONS OF SALE AND WARRANTY

IMPORTANT: Read the entire **Directions for Use** and the **Conditions of Sale and Warranty** before using this product. If terms are not acceptable, return the unopened product container at once.

CONDITIONS OF SALE AND WARRANTY

The **Directions for Use** of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application all of which are beyond the control of Novartis Crop Protection, Inc. or the Seller. All such risks shall be assumed by the Buyer.

Novartis warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the **Directions for Use** subject to the inherent risks referred to above. **Novartis makes no other express or implied warranty of Fitness or Merchantability or any other express or implied warranty. In no case shall Novartis or the Seller be liable for consequential, special, or indirect damages resulting from the use or handling of this product.** Novartis and the Seller offer this product, and the Buyer and user accept it, subject to the foregoing **Conditions of Sale and Warranty**, which may be varied only by agreement in writing signed by a duly authorized representative of Novartis.



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

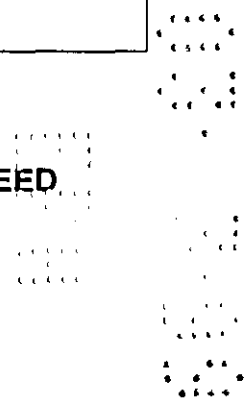
Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements 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
- Chemical-resistant gloves, such as viton or barrier laminate
- Shoes plus socks
- Protective eyewear

FAILURE TO FOLLOW THE DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL MAY RESULT IN POOR WEED CONTROL, CROP INJURY, OR ILLEGAL RESIDUES.



GENERAL INFORMATION

Tough 5 EC is a selective herbicide for postemergence control or suppression of actively growing annual broadleaf weeds in peanut, field corn, seed corn, and popcorn. Tough 5 EC is recommended to be used sequentially and tank mixed with other herbicides as part of a complete weed control program.

Tough 5 EC is an emulsifiable concentrate formulation containing 5 lbs. of pyridate per gallon of product.

Biological Activity: Tough 5 EC is a contact herbicide that is absorbed rapidly by the leaves of plants. Tough 5 EC does not offer any residual weed control. Therefore, weeds must have emerged at the time of application. Symptoms in sensitive weeds are evidenced by marginal yellowing, which is followed by yellowing and browning of the entire leaf, usually occurring within 4-7 days after application. Activity is more rapid at higher temperatures and under good growing conditions. Weed control under adverse conditions such as drought, low temperatures, etc. may be decreased. Rainfall or irrigation occurring 1-2 hours after application of Tough 5 EC has little effect on the degree of control.

Mixing Instructions

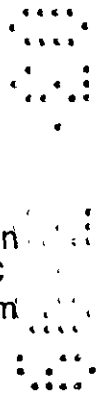
IMPORTANT: Follow the correct mixing order on the label or the material may not mix properly. Poor mixing may result in crop injury or poor product performance.

1. Make sure the spray tank is clean before mixing. If it is contaminated with other materials, mixing problems and/or clogging may occur, or injury to the crop may result.
2. Fill the spray tank $\frac{1}{4}$ - $\frac{1}{2}$ full with clean water and begin agitation.
3. Make certain that the agitation system is working properly and creates a rippling or rolling action on the liquid surface. Maintain agitation throughout the mixing and spraying process.
4. Add any products packaged in water-soluble film to the tank first. Allow the packets to completely dissolve and the contents of the packets to fully and uniformly disperse into the mix water.
Important: Water-soluble packets must always be the first material put into the spray tank after water. For products packaged in water-soluble packaging, do not tank mix with products containing boron and do not mix in equipment previously used to apply a product mixture containing boron unless the tank and spray equipment have been thoroughly cleaned.
5. While maintaining agitation, continue filling the spray tanks. When

the tank is ³/₄ full, add desired tank mix partners. Water-dispersible granules or other dry formulations should be added first. Allow material to disperse. Then add Tough 5 EC followed by other labeled emulsifiable concentrate tank mix partners.

- 6. Follow by adding either (a) a nonionic surfactant with a minimum of 80% of the constituents effective as a spray adjuvant (e.g., X-77®), at the rate of 1 qt./100 gals. of spray volume (0.25% volume/volume) or (b) a petroleum- or vegetable-based crop oil concentrate containing not less than 12% emulsifier at 1-4 pts./A as specified on the crop oil adjuvant label. The concentration of the crop oil concentrate should not exceed 2.5% volume/volume. In addition to crop oil concentrate or nonionic surfactant, liquid nitrogen fertilizer (28-34% nitrogen-ammonium form) may also be added at 2-4 qts./A. Instead of the liquid nitrogen fertilizer, spray grade ammonium sulfate may be used at the rate of 2-4 lbs./A. Liquid nitrogen fertilizers or ammonium sulfate should not be used as a substitute for crop oil concentrate or nonionic surfactant in the spray mixture. **Do not use liquid fertilizer as the spray carrier after crop emergence.**
- 7. If flowable or liquid formulations appearing on the Tough 5 EC label are desired as tank mix partners, add them next while continuing to agitate. When Tough 5 EC is used alone or in tank mix combinations, either crop oil concentrate or a nonionic surfactant should be included, with or without liquid nitrogen fertilizer or ammonium sulfate, as described in item 6 above. **Do not use crop oil concentrate as the spray adjuvant when using tank mixtures with Banvel®, Clarity®, or Marksman®.** Use a nonionic surfactant with or without liquid nitrogen fertilizer or ammonium sulfate as the additive in tank mixtures containing these products.
- 8. Complete filling the tank, maintaining sufficient agitation at all times to ensure surface action until the spray tank mixture is uniform.
- 9. An anti-foaming agent may be added to reduce excessive foaming if needed.
- 10. **Do not leave spray in the spray tank without continuous agitation.** Always maintain agitation to avoid separation and buildup of undesirable residues on the walls of the spray tank.
- 11. Tough 5 EC will remain active in the spray solution for at least 12 hours. Therefore, make only sufficient mixture that will be sprayed the day in which it will be mixed.

Application: Tough 5 EC is noncorrosive to spray equipment. Before preparing spray mixture, be sure all equipment is clean to prevent uneven applications, clogging of spray nozzles, or crop injury. Apply Tough 5 EC with a boom sprayer calibrated to a constant speed and constant, uniform



delivery. Tough 5 EC should be applied in sufficient water (15 gal./A; minimum; 20-30 gal./A recommended), at a pressure of 30-40 psi to ensure proper coverage. Thorough coverage of target weeds is required for optimum results. Use higher spray volumes when treating dense or tall vegetation. Large crop and weed canopies can shelter smaller weeds. Directed applications below large crop canopies are recommended for optimum coverage of target weeds.

Adjuvants (nonionic surfactants, crop oil, or liquid fertilizer) may be used with Tough 5 EC tank mixes where allowed by tank mix partners specified in this label. Refer to **Directions for Use** section for specific adjuvant recommendations for use in corn and peanut.

Do not apply this product when wind conditions will allow drift to adjacent susceptible vegetation. *

Do not use liquid fertilizer solutions as the spray carrier when applying Tough 5 EC after crop emergence since crop injury may occur.

For optimum control of broadleaf weeds, apply Tough 5 EC to actively growing weeds by the 4-leaf stage. A delay in spraying which permits weeds to grow beyond the proper application stage may result in decreased control. If weeds are under stress and not actively growing, they will be more difficult to control. Scout fields often to determine exact timing for application. If treatments must be made under adverse conditions or to larger weeds, use the higher rate allowed in this label. Cultivation may be necessary after application if all weeds are not properly controlled or if weeds regrow.

Tough 5 EC and tank mixes with herbicides not prohibiting band application may be applied as a band treatment.

Consult your state and local authorities for possible application restrictions and advice when applying Tough 5 EC and tank mixes.

Tough 5 EC rapidly decomposes in soil and has no residual activity. No crop rotation restrictions exist following normal harvest of treated crop. **DO NOT plant rotational crops other than peanut, field corn, seed corn, or popcorn within 30 days of the last application of Tough 5 EC.** Peanut, field corn, seed corn, or popcorn may be replanted immediately such as in catastrophic crop failure from hail, flood, etc. Multiple applications of Tough 5 EC may be made providing that the maximum annual use rate is not exceeded. Refer to the **Rates and Timings** section under corn and peanut.

DO NOT apply this product through any type of irrigation equipment.



FIELD CORN, SEED CORN*, AND POPCORN*

Prior to Tough 5 EC applications, preemergence herbicides such as Bicep II MAGNUM, Bicep Lite II MAGNUM, Dual II MAGNUM, or Dual II MAGNUM + AAtrex® should be applied for grass control and will improve control of several of the weeds listed in Tables 1 and 2. Consult their respective labels for directions, precautions, and limitations before applying.

Field corn is tolerant to Tough 5 EC at all stages of development. Tough 5 EC may be applied preplant burndown or postemergence to field corn, seed corn, and popcorn up to 68 days before harvest. Use Tough 5 EC in tank mixtures with other products for preplant burndown only if such use is allowed on the tank mix partner label. Timing of application must be based on the stage of weed growth for optimum weed control and minimal competition to the crop.

*Not all field corn inbred lines or popcorn hybrids have been tested for sensitivity to Tough 5 EC, nor does Novartis have access to all seed company data. Therefore, Novartis recommends that specific inbred lines and popcorn hybrids be thoroughly tested for potential sensitivity before treating large acreages.

Do not graze or otherwise feed treated corn grain, forage, or fodder to livestock within 68 days of application of Tough 5 EC.

General Weed List

Tough 5 EC, when applied as directed in this label, will control or suppress many annual broadleaf weeds, including but not limited to:



Table 1. Annual Broadleaf Weeds Controlled by Tough 5 EC

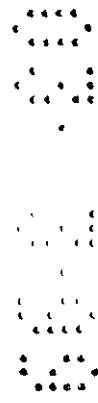
| | |
|---------------------------------------|-----------------------------|
| Amaranth, Palmer (Carelessweed) | Nightshade, American black |
| Amaranth, spiny (Spiny pigweed) | Nightshade, black |
| Bedstraw, catchweed | Nightshade, eastern black |
| Burcucumber | Nightshade, purple |
| Carpetweed | Nightshade, silverleaf |
| Chickweed, common | Pigweed, fringed |
| Cocklebur, common | Pigweed, prostrate |
| Corn, chamomile | Pigweed, redroot |
| Corn, spurry | Pigweed, smooth |
| Deadnettle, purple | Pigweed, tumble |
| Deadnettle, spotted | Pigweed, triazine resistant |
| Eclipta | Pigweed, ALS resistant* |
| Galinsoga, hairy | Purshlane, common |
| Galinsoga, small flower | Shepherdspurse |
| Hemp sesbania | Sunflower, common |
| Henbit | Sunflower, volunteer |
| Jimsonweed | Thistle, Russian |
| Kochia | Waterhemp, tall |
| Kochia, triazine resistant | Waterhemp, common |
| Kochia, ALS resistant* | Yellow rocket |
| Lambsquarters, common | |
| Lambsquarters, c., triazine resistant | |
| Mayweed chamomile | |

*ALS (acetolactate synthase) resistant weeds include those weeds having populations resistant to the sulfonylurea (e.g., Classic® and Glean®) and/or imidazolinone (e.g., Scepter® and Pursuit®) family of herbicides.

For best performance, apply Tough 5 EC when weeds are small (prior to the 4-leaf stage) and actively growing. Optimal weed control is obtained when Tough 5 EC is used in a weed control program following a broad-spectrum preemergence herbicide such as Dual II MAGNUM, Bicep II MAGNUM, Bicep Lite II MAGNUM, or Dual II MAGNUM + AAtrex.

Special Use Directions for Partial Control of Yellow and Purple

Nutsedge: Apply 24 fl. oz. of Tough 5 EC with 2 pts. of AAtrex 4L (atrazine) per treated acre when sedges are 6-8 inches high for partial control of yellow and purple nutsedge. The addition of a crop oil concentrate is recommended for improved activity. Tough 5 EC will burn back the top growth of the sedges. Regrowth may occur. Sedges must be actively growing without stress for optimum results. Partial control means significant activity, but not always at a level generally considered acceptable for commercial weed control.



Rates and Timings

Tough 5 EC may be applied postemergence up to 68 days before harvest.

Tough 5 EC at 12-24 fl. oz. per treated acre may be applied to actively growing broadleaf weeds at any stage of corn growth in all tillage systems (conventional, no tillage, or reduced tillage). Split applications of Tough 5 EC may be made, but do not exceed a total of 24 fl. oz. per treated acre per year. Consult the **Application** section of this label for best application timing for achieving optimum weed control.

Tank Mix Treatments in Corn

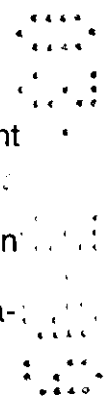
Tough 5 EC may be tank mixed with one or more of the following herbicides for control of additional broadleaf weeds and/or grasses. **Read and follow the label of each tank mix product used for precautionary statements, directions for use, rates and timings, and other restrictions.** Tank mixing Tough 5 EC with other corn herbicides can offer many benefits, including greater weed control spectrum, different modes of action to reduce or delay the development of herbicide resistance by weeds, optimizing performance of tank mix partners, etc. **Optimization of performance of postemergence applications is particularly beneficial when tank mixing with a residual herbicide such as atrazine.** Tank mixing of Tough 5 EC and members of the sulfonyleurea class of herbicides (i.e., Accent®, Beacon®, Exceed®, or Spirit™, etc.) may cause reduced velvetleaf control (antagonism).

Adjuvants (nonionic surfactants, crop oil, or liquid fertilizer) may be used with Tough 5 EC tank mixes where allowed by tank mix partners specified in this label. **Do not use liquid fertilizer solutions as the spray carrier when applying Tough 5 EC after corn emergence.** Read and carefully follow all restrictions and recommendations of tank mix partners. Use of tank mix partners is only allowed where permitted in each state.

Tough 5 EC + AAtrex⁴(atrazine): For additional broadleaf weed control (see Table 2), apply 12-24 fl. oz. of Tough 5 EC with 1-2 pts. of AAtrex 4L (atrazine) or the equivalent of 90DF per treated acre. The addition of a crop oil concentrate is recommended for optimum control. **Do not apply this tank mix to corn greater than 12 inches tall.**

Use the lower rates of Tough 5 EC and AAtrex 4L/atrazine when weeds have fewer than 4 leaves. For broadleaf weeds above 4-leaf stage, heavy weed infestation, or use under adverse conditions such as drought stress, use the higher rates of Tough 5 EC and AAtrex 4L/atrazine.

To control moderate infestations of escaped grasses following application of a preplant incorporated or preemergence grass herbicide, apply 12-24 fl. oz. of Tough 5 EC plus 2-3 pts. of AAtrex 4L/atrazine of the equivalent.



lent of 90DF per treated acre. Applications should be made before escaped grasses reach the 3-leaf stage (approximately 1.5 inches tall). The addition of a crop oil concentrate is recommended for optimum control of escaped grasses.

Follow all label restrictions as well as state and local restrictions on atrazine use.

Table 2: Additional broadleaf weeds controlled with Tough 5 EC + AAtrex 4L/atrazine tank mix

| | |
|---------------------------|-------------------------|
| Anoda, spurred | Mustard, wild |
| Buckwheat, wild | Ragweed, common |
| Knotweed, prostrate | Senna, coffee |
| Lady's Thumb | Sicklepod |
| Morningglory, entire leaf | Sida, prickly (teaweed) |
| Morningglory, ivyleaf | Smartweed, green |
| Morningglory, pitted | Smartweed, Pennsylvania |
| Morningglory, red | Velvetleaf |
| Morningglory, tall | |
| Mustard, white | |

Tough 5 EC + Accent (nicosulfuron)

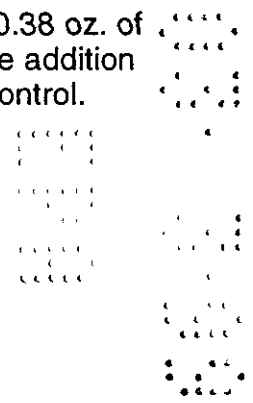
Apply 12-24 fl. oz. of Tough 5 EC with the recommended labeled rate of Accent per treated acre for broad spectrum weed control. The addition of a crop oil concentrate or a nonionic surfactant is recommended for optimum weed control. AAtrex 4L (atrazine) at 1-2 pts. or the equivalent of 90 DF per treated acre may be added to enhance control of velvetleaf and ragweed.

Tough 5 EC + Beacon (primisulfuron)

Apply 12-24 fl. oz. of Tough 5 EC with 0.38 to 0.76 oz. of Beacon per treated acre for broad spectrum weed control. The addition of a crop oil concentrate or a nonionic surfactant is recommended for optimum weed control.

Tough 5 EC + Accent + Beacon

Apply 12-24 fl. oz. of Tough 5 EC with 0.33 oz. of Accent and 0.38 oz. of Beacon per treated acre for broad spectrum weed control. The addition of a crop oil concentrate is recommended for optimum weed control.



Tough 5 EC + NorthStar™ (primisulfuron + dicamba)

Apply 12-24 oz. of Tough 5 EC with 5 oz. of NorthStar per treated acre for broad spectrum weed control. Crop oil concentrate or nonionic surfactant is recommended when corn is less than 12 inches tall. Use only nonionic surfactant with or without liquid nitrogen fertilizer or ammonium sulfate, when corn is greater than 12 inches tall.

Tough 5 EC + Spirit (prosulfuron + primisulfuron)

Apply 12-24 fl. oz. of Tough 5 EC with the recommended labeled rate of Spirit per treated acre for broad spectrum weed control. The addition of a crop oil concentrate or a nonionic surfactant is recommended for optimum weed control.

Tough 5 EC + Exceed® (prosulfuron + primisulfuron)

Apply 12-24 fl. oz. of Tough 5 EC with the recommended labeled rate of Exceed per treated acre for broad spectrum weed control. The addition of a crop oil concentrate or a nonionic surfactant is recommended for optimum weed control.

Tough 5 EC + Banvel® or Clarity® (dicamba)

Apply 12-24 fl. oz. of Tough 5 EC with 4 to 8 fl. oz. of Banvel or Clarity per treated acre for additional broadleaf weed control. Use only nonionic surfactant with or without liquid nitrogen fertilizer or ammonium sulfate.

Tough 5 EC + Marksman (dicamba + atrazine)

Apply 12-24 fl. oz. of Tough 5 EC with 1-2 pts. of Marksman per treated acre for additional broadleaf weed control. Use only nonionic surfactant with or without liquid nitrogen fertilizer or ammonium sulfate.

Tough 5 EC + Sencor® (metribuzin)

Apply 12-24 fl. oz. of Tough 5 EC with 1-2 oz. of Sencor DF (or the equivalent of 4L) per treated acre for additional broadleaf weed control.

Tough 5 EC + Resource® (flumiclorac pentyl ester)

Apply 12-24 fl. oz. of Tough 5 EC with 4-8 fl. oz. of Resource per treated acre for additional broadleaf weed control, particularly velvetleaf. The addition of a crop oil concentrate is recommended for optimum weed control.

Tough 5 EC + 2,4-D (amine or ester formulations)

Add the recommended labeled rate of 2,4-D to Tough 5 EC, or tank



mixtures with Tough 5 EC, to enhance broadleaf activity.

Precaution: Some products available for tank mixing with Tough 5 EC may cause injury to corn when applied. Consult labels of all products used for restrictions, injury descriptions, and recovery intervals.

PEANUT

Peanut is very tolerant to Tough 5 EC at all stages of development. Timing of application must be based on the stage of weed growth for optimum weed control and to minimize competition to the crop.

Adjuvants (nonionic surfactants, crop oil, or liquid fertilizer) may be used with Tough 5 EC tank mixes where required by tank mix partners specified in this label. Read and carefully follow all restrictions and recommendations of tank mix partners. Use of tank mix partners is only allowed where permitted in each state.

Do not graze or otherwise feed treated peanut hay and vines to livestock.

General Weed List

This is a general list of weed species which may be treated with Tough 5 EC in peanut as recommended under the **Rates and Timings** section in this label. Tough 5 EC, when applied as directed in this label, will control or suppress many annual broadleaf weeds, including but not limited to:

Table 3: Annual Broadleaf Weeds Controlled by Tough 5 EC

| | |
|---------------------------------|---------------------------|
| Amaranth, Palmer (Carelessweed) | Nightshade, black |
| Amaranth, spiny (Spiny pigweed) | Nightshade, eastern black |
| Beggarweed, Florida | Nightshade, purple |
| Carpetweed | Nightshade, silverleaf |
| Chickweed, common | Pigweed, fringed |
| Cocklebur, common | Pigweed, prostrate |
| Eclipta | Pigweed, redroot |
| Hemp sesbania | Pigweed, smooth |
| Jimsonweed | Pigweed, tumble |
| Lambsquarters, common | Purslane, common |
| Nightshade, American black | Senna, coffee |

For best performance, apply Tough 5 EC when weeds are small (prior to the 4-leaf stage) and actively growing.

Special Use Directions for Partial Control of Yellow and Purple

Nutsedge: Apply 24-36 fl. oz. of Tough 5 EC when sedges are 6-8 inches high for partial control of yellow and purple nutsedge. The addition

of a crop oil concentrate is recommended for improved activity. Tough 5 EC will burn back the top growth of the sedges. Regrowth may occur. Sedges must be actively growing without stress for optimum results. Partial control means significant activity, but not always as a level generally considered acceptable for commercial weed control.

Rates and Timings

Tough 5 EC may be applied to emerged weeds in peanut from cracking to 68 days before harvest.

Tough 5 EC is recommended to be used as part of a sequential and seasonal peanut herbicide program. Depending upon the weed spectrum and emergence, it should be applied to peanut at cracking or postemergence, following a standard recommended preplant, preplant incorporated, preemergence, or other at-cracking program of such herbicides as: Vernam® 7E, Dual MAGNUM, Sonalan™, and Prowl® 3.3EC. See all labels of products used for specific rates and timings.

Apply Tough 5 EC at 24-36 fl. oz. per treated acre to emerged actively growing target weeds in the 2 to 4-leaf stage and up to 3 inches in height. Split applications of Tough 5 EC may be made, but do not exceed a total of 48 fl. oz. per treated acre per year. Consult the **Application** section of this label for best application timing for achieving optimum weed control.

Tank Mix Treatments in Peanut

Tough 5 EC may be tank mixed with one or more of the herbicides listed below for control of additional broadleaf weeds and/or grasses. Tank mixing allows greater flexibility and a broader spectrum of weed control. **Read and follow the label of each tank mix product used for precautionary statements, directions for use, rates and timings, and other restrictions.** Suggested tank mixes include:

Tough 5 EC + 2,4-DB amine: For broad spectrum broadleaf weed control, apply 24-36 fl. oz. of Tough 5 EC with 0.2-0.25 lb. acid equivalent of 2,4-DB per treated acre. A nonionic surfactant or crop oil concentrate may be added to improve weed control. The addition of spray additives will increase the hormonal 2,4-DB response in peanut. In areas where lambsquarter and pigweed are the primary weed problems, apply 18 fl. oz. of Tough 5 EC tank mixed with 0.2-0.25 lb. acid equivalent of 2,4-DB per treated acre.

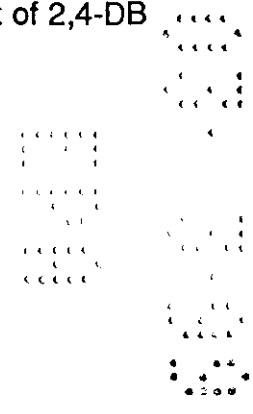


Table 4: Additional broadleaf weeds controlled with Tough 5 EC + 2,4-DB

| | |
|----------------------------|-------------------------|
| Anoda, spurred | Mallow, venice |
| Morningglory, entire leaf | Ragweed, common |
| Morningglory, ivyleaf | Ragweed, giant |
| Morningglory, red | Sida, prickly (Teaweed) |
| Morningglory, palmleaf | Sicklepod |
| Morningglory, pitted | Velvetleaf |
| Morningglory, small flower | Watermelon, wild |
| Morningglory, tall | |

Tough 5 EC + Dual MAGNUM

For grass control, apply 24 fl. oz. of Tough 5 EC with the recommended labeled rate of Dual MAGNUM per treated acre at cracking and before grass emergence.

Tough 5 EC + Basagran® (bentazon)

For additional broadleaf weed control and nutsedge activity, apply 24-36 fl. oz. of Tough 5 EC with 1-2 pts. of Basagran per treated acre. The addition of a crop oil concentrate is recommended for optimum weed control.

Tough 5 EC + Blazer® (acifluorfen)

Apply 16-32 fl. oz. of Tough 5 EC with 1-1.5 pts. of Blazer per treated acre for additional broadleaf control. The addition of a nonionic surfactant or a crop oil concentrate is recommended for optimum weed control.

Tough 5 EC + Storm® (acifluorfen + bentazon)

Apply 16-32 fl. oz. of Tough 5 EC with 1-1.5 pts. of Storm per treated acre for additional broadleaf weed control. The addition of a nonionic surfactant or crop oil concentrate is recommended for optimum weed control.

Tough 5 EC + Pursuit® (imazethapyr)

Apply 16-32 fl. oz. of Tough 5 EC with 2-4 fl. oz. of Pursuit per treated acre for additional broadleaf weed control. The addition of a nonionic surfactant or crop oil concentrate is recommended for optimum weed control.

Tough 5 EC + Starfire® (paraquat dichloride)

Apply 16-32 fl. oz. of Tough 5 EC with 11 fl. oz. of Starfire per treated acre for additional broadleaf weed control. The addition of a nonionic



surfactant is recommended for optimum weed control.

Precaution: Some products available for tank mixing with Tough 5 EC may cause injury to peanut when applied. Consult labels of all products used for restrictions, injury descriptions, and recovery intervals.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

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

Storage

Store unused product in original container only in cool, dry area out of reach of children and animals. Keep storage locked.

Pesticide Disposal

Wastes resulting from the use of this product may be disposed of on-site or at an approved disposal facility.

Container Disposal

Triple rinse (or equivalent) adding rinsate to spray tank, then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

WARNING/AVISO

Causes skin injury and substantial but temporary eye injury. Harmful if swallowed or absorbed through skin. Do not get on skin, in eyes, or on clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wear goggles or face shield when handling.

Statement of Practical Treatment

If in eyes: Hold eyelids open and flush with a steady, gentle stream of



water for 15 minutes. Get medical attention.

If on skin: Wash thoroughly with soap and water. Get medical attention.

If swallowed: Drink promptly a large quantity of milk, egg white, gelatin solution, or, if these are not available, drink large quantities of water. Avoid alcohol.

Note to Physician: Treat symptomatically. There is no specific antidote. If this product is ingested, induce emesis or lavage stomach. The use of an aqueous slurry of activated charcoal may be considered. May cause chemical pneumonitis if aspirated. If lavage is performed, suggest endotracheal and/or esophagosopic control.

Personal Protective Equipment

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category G on an EPA chemical resistance category selection chart.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves, such as viton or barrier laminate
- Shoes plus socks
- Protective eyewear

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.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Environmental Hazards

Do not contaminate water intended for irrigation or domestic purposes. Runoff may adversely affect nontarget plants. 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 by cleaning of equipment or disposal of equipment wash water. This pesticide is toxic to estuarine organisms.

Physical or Chemical Hazards

Keep away from heat or open flame.

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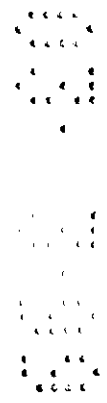
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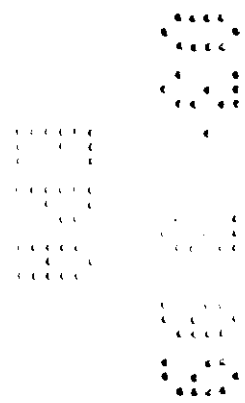
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Greensboro, North Carolina 27419

NCP

[QUARK/TOUGH/TOUGH 5 EC-A] - ccg - 2/12/99



Container Label

Tough® 5 EC

HERBICIDE

For the postemergence control of annual weeds in peanut and corn

2.5 GALLONS
U.S. Standard Measure

| | |
|-------------------------------|--------|
| Active Ingredient: | |
| Pyridate (CAS No. 55512-33-9) | 55.8% |
| Other Ingredients: | 44.2% |
| Total: | 100.0% |

Contains 5 lbs. of pyridate per gallon of product.

KEEP OUT OF REACH OF CHILDREN

WARNING/AVISO

Precautionary Statements

Hazards to Humans and Domestic Animals

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Note to Physician: Treat symptomatically. There is no specific antidote. If this product is ingested, induce emesis or lavage stomach. The use of an aqueous slurry of activated charcoal may be considered. May cause chemical pneumonitis if aspirated. If lavage is performed, suggest endotracheal and/or esophagoscopy control.

Environmental Hazards

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Physical or Chemical Hazards

Keep away from heat or open flame.

Chemigation Prohibition

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

Container Disposal

Triple rinse (or equivalent) adding rinsate to spray tank, then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

See directions for use in attached booklet.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to supplemental labeling under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

EPA Reg. No. 100-880

EPA Est. 407-IA-2

Made in Austria

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