

2,4-D/TOX  
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Releasable

25

DATE: July 9, 1979

SUBJECT: EPA Reg. No. 538-28 SCOTTS TURF BUILDER PLUS 2  
Caswell #315, 559

FROM: B.T. Backus  
IRB/TSS

TO: Ms. Willa Garner  
Product Manager 23

Registrant: O.M. Scott & Sons  
Marysville, OH 43040

Active Ingredients:

2,4-Dichlorophenoxyacetic Acid.....	0.99%
2-(2-Methyl-4-chlorophenoxy)propionic acid.....	0.99%
Inert Ingredients:.....	98.02%

Recommendations:

1. The Eye Irritation study conducted at Raltech indicates that this product can cause corneal opacity in rabbits which is reversible within 7 days. The appropriate signal word is WARNING, as the registrant has indicated on the proposed label.
2. IRB/TSS has no objection, on the basis of hazards to man and the environment, to the proposed minor change in formulation, the additional target pests, or to the proposed label revisions involving the signal word and precautionary statements. We would agree that the signal word and precautionary labeling revisions proposed would more accurately address the product's potential eye hazards.
3. We would appreciate knowing whether the Raltech Eye Irritation study was conducted on the "old" formulation (0.95% of each active) or the proposed formulation (0.99% of each active). This is simply information for our files, and will not alter our decisions here.
4. The Acute Oral LD50, Acute Dermal LD50, and Skin Irritation studies, conducted at WARF, are acceptable. It should be noted however that the Dermal LD50 study was marginal in that apparently no abraded animals were used, and that two of the males had initial weights of under 2 kgs.
5. The WARF Eye Irritation study has been classified as supplementary data, since it has been superseded by the Raltech study indicating the product is in toxicity category II with respect to this exposure route.

Review:

The Acute Oral LD50, Acute Dermal LD50, Dermal and Eye Irritation studies conducted by WARF (cover sheet dated October 20, 1977; reference No. F-7988) were presumably conducted on the product with 0.95% of each active ingredient.

An additional eye irritation study was conducted at Raltech (reported January 15, 1979).

These studies were received April 18, 1979, and are in Acc. No. 238175.

1. Acute Oral Toxicity, Rat

Procedure: 5M, 5F Sprague-Dawley rats received a dosage of 5 gm/kg as a 1:3 concentration in corn oil, and were observed for 14 days.

Results: No mortalities. Body weight averages increased. Necropsy noted congested lungs, mottled kidneys and livers in males, no remarkable changes in females. Oral LD50 above 5 gm/kg.

Study Classification: Core Minimum Study

Product Classification: Tox. Cat. IV:CAUTION

2. Acute Dermal Toxicity, Rabbit

Procedure: 3M, 3F New Zealand white rabbits, supposedly weighing 2.0-3.0 kg each (but note body weight data for males, particularly initial weights) received a dermal dosage of 21 gm/kg of the product, with 24-hour exposure.

Results: No mortalities. Necropsies indicated 2 of the males had dark colored lungs, mottled kidneys and light brown adrenals. Some weight losses in some subjects over the 2-week observation period.

Study Classification: There are a number of discrepancies and problems associated with this study. One of these was the lack of abraded skin exposure, another the use of 2 males with initial body weights below the 2 kg level (despite the given protocol). However, the study does indicate a Dermal LD50 in excess of 2 gm/kg, adequately defining the toxicity of this product. On this basis, the study is classified as Core Minimum Data.

Product Classification: Tox. Cat. III. (FR43, #163, August 27, 1978; pp. 37344-37345) CAUTION

### 3. Primary Skin Irritation, Rabbit

Procedure: 0.5 gm was applied to both an intact and an abraded area on each of 6 New Zealand white rabbits, with 24-hr exposure.

Results: All scores zero. Primary Skin Irritation Index = 0.

Study Classification: Core Minimum Data

Product Classification: Tox. Cat. IV: CAUTION (Registrant has proposed, and we do not object to, Tox. Cat. III precautionary statements with respect to this route of exposure).

### 4. Eye Irritation, Rabbit (study conducted by WARF)

Procedure: 0.1 gm was instilled in one eye of each of 9 rabbits; 3 had eyes washed with distilled water 20 seconds after instillation of test material. Draize eye scoring at 24, 48, and 72 hrs.

Results: All eye irritation scores zero.

Study Classification: Core Supplementary Data, as this study has been superseded by a subsequent study (see below).

### 5. Eye Irritation, Rabbit (study conducted by Raltech)

Procedure: 0.1 gm was instilled in one eye of each of 9 rabbits; 3 had eyes washed for 1 minute beginning 30 seconds after instillation.

Results: Corneal opacity in all unwashed eyes at 24 hrs, clearing by 7 days. All washed eyes were clear at 48 hrs.

Study Classification: Core Guideline Data

Product Classification: Tox. Cat. II:WARNING

*Byron T. Backus*

Byron T. Backus  
IRB/TSS

FRONT:

plus lawn fertilizer  
weed control  
Treats 5,000 sq ft (465 sq meters)  
Turf Builder (R)  
plus 2 (R)  
Scotts (R)

(Scotts (R))

TURF BUILDER

plus 2 (R)  
BRAND

weed control plus lawn fertilizer

ILLUS.)

Clears out dandelions—and other weeds  
listed on other side.

Apply when weeds are in active growth.

Provides full feeding of Turf Builder—  
America's favorite fertilizer for developing  
thick, green lawns.

NET WEIGHT 17 5/16 LBS (7.85 Kg.)

26-3-3

KEEP OUT OF REACH OF CHILDREN

WARNING

PRECAUTIONARY STATEMENTS

Hazard to Humans and Domestic Animals: Causes eye irritation. Do not get in eyes, on skin or on clothing. In case of contact immediately wash eyes or skin with plenty of water. Get medical attention if irritation persists. May be harmful if swallowed. Do not contaminate feed or foodstuffs. Do not graze treated area. Do not feed clippings to livestock.

Environmental Hazards: Keep out of lakes, streams or ponds. Do not apply when weather conditions favor drift from target area.

Storage and Disposal: Do not contaminate water, food or feed by storage, disposal or cleaning of equipment. Do not reuse empty container. Wrap container and put in trash container.

FRONT. CONTINUED;

Active ingredients: 2,4-Dichlorophenoxyacetic acid . . . . .	0.99%
2-(2-Methyl-4-chlorophenoxy) propionic acid . . . . .	0.99%
Inert ingredients: . . . . .	98.02%
US Composition Pat No 3,083,089      EPA Reg No 538-28 EPA Est 538-OH-1	Total 100.00%

Turf Builder plus 2

26-3-3

### Guaranteed Analysis

Total nitrogen (N) . . . . .	26%
0.7% ammoniacal nitrogen	
18.8% water soluble nitrogen	
6.5% water insoluble nitrogen	
Available phosphoric acid ( $P_2O_5$ ) . . . . .	3%
Soluble potash ( $K_2O$ ) . . . . .	3%
Derived from: monoammonium phosphate, methylene ureas, urea, muriate of potash.	
Potential acidity equivalent to 1,000 lbs calcium carbonate per ton.	
US Process Pat No 3,076,700      Product of USA      O M Scott & Sons, Marysville, Ohio 43040	

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(Scotts (R))	TURF BUILDER	weed
	plus 2	control
	(R)	plus lawn fertilizer

XXXX

GUSSETS:

(Scotts (R))1 TURF BUILDER  
plus 2 (R)

weed  
control  
plus lawn fertilizer

XXXX

weed  
control  
plus lawn fertilizer

(Scotts (R)) TURF BUILDER  
plus 2 (R)

XXXX

plus 2  
Treats 5,000 sq ft (465 sq meters)  
(Scotts (R)) Turf Builder  
weed control plus lawn fertilizer

TURF BUILDER  
(Scotts (R)) plus 2(R)  
BRAND  
weed control plus lawn fertilizer

OPEN BAG  
PULL  
WHITE  
TAPE  
Turf Builder  
Plus 2 is a  
weed control plus  
fertilizer for use only  
on lawns. To fertilize  
vegetables, flowers,  
shrubs and trees, look  
for these specially formulated  
products from Scotts.  
• Vegetable Garden Fertilizer  
• Grow Flowers  
• Grow Shrubs & Trees  
• Grow Acid-Loving Plants  
• Grow Transplants

#### WEEDS CONTROLLED

aster	cudweed	knotweed (seedling)	pepperweed	shepherdspurge
black medic	curly dock	lambsquarters	pigweed	smartweed
bittercress	English daisy	lippia	prickly lettuce	stitchwort
bull thistle	eveningprimrose	mallow	purslane	thyme-leaved sandwort
carpetweed	filaree	moneywort	ragweed	vetch
chicory	fleabane	morningglory	scarlet pimpernel	yellow rocket
cinquefoil	healall	mustard	shadflower	
	henbit	pennywort		

#### How to Use

- |   |  |
|---|--|
| DO use when weeds are <u>actively growing</u> , but not before dandelion blossom time.  | DON'T use when rain is expected within 24 hours.   |
| DO apply only when lawn is wet from dew, rain or thorough watering (very important so that the Turf Builder Plus 2 particles will stick to the weed leaves instead of falling to the soil). | DON'T use in a period of extreme heat and humidity.  |
| DO withhold watering lawn for at least 24 hours <u>after</u> application (to avoid washing particles off the weed leaves).  | DON'T use when grass is so tall it touches bottom of spreader (mow lawn first in such situations).   |
| DO apply on a calm day.   | DON'T apply with a rotary-type spreader.   |
| DO apply at Scotts Spreader (Standard, Automatic or Precision Flow Control Model) setting .... <input checked="" type="checkbox"/> X (treats 5,000 sq ft)                                   | DON'T use on a newly seeded or sodded lawn until the new grass has been mowed at least four times. If seeding in late spring, delay weed control application until early fall. If seeding in the late fall, delay weed control application until spring. |
| DO slightly overlap spreader's wheel tracks or you may have "stripes" of untreated lawn.  | DON'T seed right after using Turf Builder Plus 2. Wait at least one month.   |
|   | DON'T use on flowers, shrubs, fruit, vegetables plants, or on lawns of creeping bentgrass, clover, dichondra, St. Augustine or carpetgrass.  |

# What to expect

This product does not work overnight. It is designed to provide slow, steady controlled action. Stems and leaves of weeds may begin to twist and curl in a few days, but a month or more may be required for complete control, especially when weather is dry or cold.

It is not necessary to rake out dead weeds. They will eventually disintegrate and disappear.

This product works only through the growing leaves of plants. It does not prevent weed seeds from producing new plants, whether such seeds are on the surface or buried in the soil.

If particles become washed off weed foliage within 24 hours after application, control may be less effective. If there is no indication that it is working after 3 or 4 weeks of good growing weather, another treatment may be needed.

A few weeds may be resistant to control. If this happens, please forward specimens so we can identify them and advise you further.

After weed control is achieved, you are urged to follow through on the basic needs of every lawn—fertilizer, water and regular mowing.

## Free bulletin service

As a Scotts user, you are entitled to a free subscription to Lawn Care, which has been helping lawnowners for over 50 years.

Unless you already receive Lawn Care, send us this coupon and we'll mail you the seasonal issues prepared especially for your region.

Cut out and mail to SCOTT'S, Dept. XX,  
Marysville, Ohio 43040.

NAME (please print)

ADDRESS

CITY

STATE

ZIP

XXXX

## Scotts Policy No-Quibble Guarantee

If for any reason you are not satisfied with results after using this product, you are entitled to get your money back. Simply send us evidence of purchase and we will mail you a refund check promptly.

SCOTT'S...the lawn people  
MARYSVILLE, OHIO 43040

XXXX (Scotts (R)) TURF BUILDER  
plus 2  
(R)

weed  
control  
plus lawn fertilizer