

US EPA ARCHIVE DOCUMENT

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

2,4-D/TOX

000456

42

DATE: January 9, 1981

SUBJECT: EPA Registration Symbol: 538-RAI
Improved Super Turf Builder Plus 2: Caswell # 315,559

FROM: Deloris F. Graham
FHB/TSS

DJG 1/21/81
E 1/21/81

315

Releaseable

TO: Richard Mountfort
Product Manager (23)

Applicant: O.M. Scott & Sons Company
Marysville, Ohio 43041
Attention: Michael P. Kelty

Active Ingredient:

2,4-Dichlorophenoxyacetic acid.....	1.60%
2-(2-Methyl-4-chlorophenoxy) propionic acid.....	1.06%
Inert Ingredients.....	97.34%

Background: Submitted Acute Oral, Acute Dermal, Dermal Irritation and three Eye Irritation studies to support the conditional registration of this product. All studies were conducted by Raltech Laboratories, except two eye studies. One eye study was conducted by Cannon Laboratories and the other by WIL Research Laboratories. These data are under accession 243675. Alternate method of support is used. An Acute Inhalation study was not submitted. Acute studies were done in the formulation with DOW as supplier of 2,4-D according to Mike Kelty of O.M. Scott & Sons.

Recommendations:

(1) FHB/TSS finds the acute oral, acute dermal, dermal irritation and three eye irritation studies acceptable to support conditional registration of this product. ~~The~~ ^{Submit} Acute Inhalation Study was not submitted and one must be submitted or a justification for not needing an Inhalation study.

Label:

- (1) The appropriate signal word is WARNING.
- (2) The statement "Do not contaminate feed or food stuff" must be deleted from under the heading "Hazards to Humans and Domestic Animals" and placed under general directions for use.

(3) The statement "Do not use on creeping bentgrass or clover lawns. Avoid applications on garden plants, flowers, and shrubs" must be deleted from under the heading "ENVIRONMENTAL HAZARDS" and placed under general directions for use.

(4) The heading "Storage and Disposal" must appear in the directions for use immediately before specific directions for use or at the end of directions for use.

Review:

(1) Acute Oral Toxicity Study: Raltech Scientific Services, Inc., RT Lab. #759034; December 12, 1979.

Procedure: 5M and 5F Sprague-Dawley rats weighing between 215 and 300 g received a 5g/kg dose orally. Body weight recorded. Observations made at 1, 2.5 and 4 hours and daily thereafter for 14 days. Necropsies were performed on all animals.

Results: No mortalities. Animals gained weight. Diarrhea and hypoactivity observed. Necropsy revealed mild hydrometro. LD50 for males and females was greater than 5g/kg.

Study Classification: Core Guideline Data.

Toxicity Category: IV-CAUTION.

(2) Acute Dermal Toxicity Study: Raltech Scientific Services, Inc.; RT Lab. #759034; February 29, 1980.

Procedure: 5M and 5F New Zealand white rabbits weighing between 2301 and 2815g received a 2.0g/kg dose at abraded skin sites. Treated areas were placed under occlusive wrap for 24 hour exposure period. Observations were made daily for 14 days. Necropsy performed on all animals.

Results: No mortalities. Animals gained weight. At 24 hours slight to well defined erythema and edema. Erythema and edema had cleared by day 6. Very slight-slight desquamation present. Diarrhea, soft stools, dehydration, hypoactivity also observed. It was concluded that the LD50 for males and females was greater than 2.0g/kg.

Study Classification: Core Guideline Data.

Toxicity Category: III-CAUTION.

(3) Eye Irritation Study: Raltech Scientific Services, Inc.; RT Lab. #759034; December 18, 1979.

Procedure: 9 New Zealand white rabbits received a 0.1g dose of the test material in one eye of each rabbit. The animals were divided into two groups, Group I consisting of 6 rabbits with treated washed eyes and Group II consisting of 3 rabbits with treated washed eyes.

Observations were made at 24, 48, 72 and 96 hours, and at 7 days after treatment. If injury present at day 7, observations were made at 14 and 21 days.

Results: In Group I at 24 hours, 6/6 animals had corneal opacity (1/6 = 1.25, 1/6 = 2.5, 1/6 = 5.0, 1/6 = 7.5, 2/6 = 15), 5/6 iris irritation (5/6 = 5) and 6/6 conjunctive redness (1/6 = 1.5, 3/6 = 2.0, 2/6 = 2.5), chemosis (2/6 = 1.5, 2/6 = 2.0, 2/6 = 2.5) and discharge (1/6 = 1.0, 1/6 = 1.5, 2/6 = 2.0, 1/6 = 2.5, 1/6 = 3.0). Corneal opacity present through day 21, iris irritation and conjunctival irritation present through day 7.

In Group II at 24 hours, 3/3 animals had corneal opacity (1/3 = 7.5, 1/3 = 11.25, 1/3 = 15.0), 3/3 iris irritation (3/3 = 5), 3/3 conjunctive redness (1/3 = 1.5, 1/3 = 2.0, 1/3 = 2.5), chemosis (2/3 = 1.5, 1/3 = 2.5) and discharge (2/3 = 1.0, 1/3 = 2.0). Corneal opacity clear at 48 hours; iris irritation persisting through 48 hours. Conjunctive redness through 96 hours. Other symptoms observed included blanching, purulent discharge, clear discharge.

Study Classification: Core Guideline Data.

Toxicity Category: II - WARNING *DANGER*

4) Eye Irritation Study: Cannon Laboratories, Inc.; May 28, 1980;

Procedure: 9 New Zealand white rabbits received a 0.1 g of the test material instilled into one eye of each rabbit. Animals were divided into two groups, Group I consisting of 6 animals with treated unwashed eyes. Observations were made at 24, 48 and 72 hours as well as 4,7,10,13,16,19 and 21 days after instillation of the test material.

Results: At 24 hours in Group I, 6/6 animals had corneal opacity (1/6 = 5, 1/6 = 10, 3/6 = 15, 1/6 = 20); 6/6 iris irritation (6/6 = 5); 6/6 conjunctival redness (6/6 = 5), chemosis (4/6 = 2, 2/6 = 3) and discharge (6/6 = 3). Corneal opacity persisted through day 19. Iris irritation cleared by day 7 and conjunctival irritation by day 13.

At 24 hours in Group II, 2/3 corneal opacity (1/3 = 5, 1/3 = 15), 1/3 iris irritation (1/3 = 5), 3/3 conjunctive redness (3/3 = 2), chemosis (3/3 = 1) and discharge (3/3 = 1). Corneal opacity cleared by 72 hours, iris irritation by 48 hours and conjunctival irritation by day 7. Pannus was also observed.

Study Classification: Core Guideline Data.

Toxicity Category: II - WARNING

45) Eye Irritation Study: WIL Research Laboratories, Inc.; WIL - 80122; May 28, 1980.

Procedure: 9 New Zealand white rabbits received a 100 mg in the right eye of each animal. Animals were divided into two groups, Group I consisted of 6 animals with treated unwashed eyes, and Group II consisted of 3 animals with washed eyes. Observations were made frequently during the day of dosing and at least twice daily thereafter for 14 days.

Results: At 24 hours, 4/6 animals had corneal opacity (3/6 = 5, 1/6 = 10); no iris irritation; 6/6 conjunctive redness (3/6 = 2, 3/6 = 3); 6/6 conjunctive chemosis (5/6 = 2, 1/6 = 3) and 4/6 conjunctive discharge (2/6 = 1, 2/6 = 3). Corneal opacity clear in all animals except 1 on day 10. All conjunctive irritation clear by day 7.

In Group II, no corneal opacity or iris irritation. 3/3 had conjunctive redness (2/3 = 1, 1/3 = 2) and chemosis (2/3 = 1, 1/3 = 2). All irritation clear by day 4.

Study Classification: Core Guideline Data

Toxicity Category: II - WARNING

*6) Dermal Irritation Study: Raltech Scientific Services, Inc.; RT Lab. #759034; November 30, 1979.

Procedure: 3M and 3F New Zealand white rabbits were applied a 0.5 g dose of the test material at 2 abraded and 2 intact areas per animal. The treated areas were placed under occlusive wrap for the 24 hour exposure period.

Results: Barely perceptible to slight erythema and edema at 24 hours. Irritation had cleared in all but one animal by 72 hours. Dermal Irritation Score was 0.1.

Study Classification: Core Guideline Data.

Toxicity Category: IV - CAUTION.

FRONT:

ML
(N) 2 IMPROVED SUPER TURF BUILDER PLUS 2 (R) (SCOTTS (R))

Treats 5,000 sq. ft. (465 m²)

(Scotts (R))

Improved

(XXXX)

Super

Turf

Builder

Plus 2 (R)

(PHOTO ILLUS)

TREATED

UNTREATED

Scotts most effective weed and feed

Controls dandelions and 54 other weeds (listed on back)

Gives your lawn a full feeding of Scotts (R) Super Turf Builder (R)

A SCOTTS (R) LAWN PRO (R) PRODUCT

Available only at authorized Lawn Pro (R) stores

NET WEIGHT 16 1/8 LBS (7.31 kg)

KEEP OUT OF REACH OF CHILDREN

31-3-3

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. Harmful if swallowed. Do not contaminate feed or foodstuffs.

Environmental Hazards: Do not contaminate water used for irrigational or domestic purposes. Do not use on creeping bentgrass or clover lawns. Avoid application on garden plants, flowers, and shrubs.

Storage and Disposal: Do not reuse empty container. Wrap container and put in trash container.

FRONT CONTINUED:

ACTIVE INGREDIENTS:

2,4-Dichlorophenoxyacetic acid	1.60%
2-(2-Methyl -4- chlorophenoxy) propionic acid	1.06%

INERT INGREDIENTS:	97.34%
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EPA Reg No 538-	EPA Est 538-OH-1	Total	100.00%
Improved Super Turf Builder plus 2	31-3-3		
Guaranteed Analysis			

Total nitrogen (N)	31%
0.7% ammoniacal nitrogen	
20.2% water soluble nitrogen	
10.1% water insoluble nitrogen	

Available phosphoric acid (P ₂ O ₅)	3%
Soluble potash (K ₂ O)	3%
Derived from: monoammonium phosphate, urea, methylene ureas, potassium sulfate.	

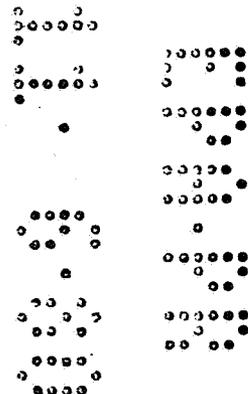
US Process Pat Nos 3,231,363;3,705,794;3,989,470

Product of USA The O M Scott & Sons Company, Marysville, Ohio 43041

XXXX

(Scotts (R)) Improved Super
Turf Builder plus 2 (R)

(Scotts)
(Lawn Pro)
TM)



GUSSETS:

000456

IMPROVED SUPER TURF BUILDER PLUS 2
(R)

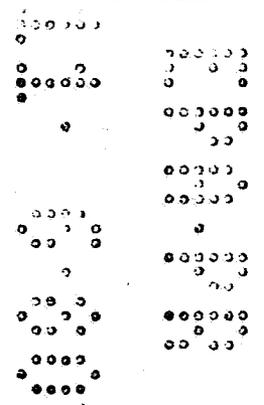
IMPROVED SUPER TURF BUILDER PLUS 2
(R)

A SCOTTS
LAWN PRO
(R)
PRODUCT

A SCOTTS
LAWN PRO
(R)
PRODUCT

XXXX

XXXX



XXXX ISTB+2

5M
EASY
OPEN BAG
PULL
WHITE
STRING

(Scotts (R)) Improved Super Turf Builder Plus 2 (R)
Treats 5,000 sq. ft. (465 m²)

(Scotts(R))
Improved
Super
Turf
Builder
Plus 2 (R)
BRAND

XXXX

Weeds Controlled

- | | | | |
|----------------------------|------------------|----------------------|---------------------------|
| ster | clover (white) * | knotweed (seedlings) | ragweed* |
| indweed * | cudweed | lambquarters * | red sorrel (sheep sorrel) |
| ittercross | curly dock * | lippia (matchweed) | scarlet pimpernel |
| lack medic * | dandelion * | mallow | shadflower (whitlowwort) |
| uckhorn * | English daisy * | moneywort* | shepherdspurse |
| ull thistle | eveningprimrose | morningglory* | smartweed (seedling) |
| uttonweed | filaree | mustard* | sowthistle* |
| arpetweed | fleabane * | pennywort | stitchwort |
| atsear (coast dandelion) * | ground ivy | pepperweed* | thymeleaf sandwort |
| hicory * | hawkweed * | pigweed * | threeseeded mercury* |
| hickweed * | healall * | plantain* | vetch |
| inqufoil * | henbit * | prickly lettuce* | yarrow* |
| lover (hop) * | horseweed * | purslane | yellow rocket* |
| lover (red) | knawel | pussytoes* | |

*If these are the only weeds in your lawn, then application to dry foliage will give effective control. However, if you want superior control of all weeds listed, apply to moist foliage (see directions for use).

Directions for Use

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

How to use

- DO Use when weeds are actively growing but not before dandelions develop yellow blossoms. Mow first if grass is tall enough to touch the bottom of the spreader
- DO Apply when the grass is still wet from dew, rain or thorough watering, but do not water for 24 hours after application and don't apply if rain is expected within 24 hours.
- DO Apply at Scotts Spreader (standard, Automatic or Precision Flow Control Model) setting 5 1/4. Follow straight lines and overlap wheel tracks slightly to avoid stripes of untreated lawn. Do not use a rotary (broadcast) spreader.

Why

- Weeds must be in a growth cycle to absorb the ingredients for effective control. This product will not control dormant weeds or prevent weed seeds from growing.
- Product particles must be in contact with weed leaves (about 24 hours) so control ingredients can be absorbed. Adequate contact occurs on a dry lawn for control of some weeds (see list), but particles stick even better to wet leaves for more absorption and better control.
- A Scotts drop type spreader provides precise distribution over the lawn and weeds. Rotary spreaders may throw particles onto leaves of flowers, shrubs and other desirable plants and should not be used.

CONTINUED:

DO NOT use as a fertilizer for vegetables, flowers, shrubs, trees or ground covers. Don't apply on windy days to avoid drift onto desirable plants.

DO NOT use on newly seeded or sodded lawns until after the fourth mowing, don't plant grass seed for one month after using this product and don't apply when daytime temperatures are consistently 85 degrees or above.

DO NOT expect this product to work overnight. Weed stems and leaves may begin to twist and curl in a few days, but a month or more may be required for complete control. A few weeds may be resistant to control. If this happens, please forward specimens so we can identify and advise you further.

This product is a weed control as well as a fertilizer and will affect many nongrass plants. To fertilize such plants, use Scotts GROW Fertilizers.

Young grass needs a brief period to outgrow any initial sensitivity. Established grass is not affected by the weed controls in this product, except during periods of high heat and humidity.

This product is designed to provide steady controlled action so that all the weed, including the roots, is eliminated while it feeds nearby grass plants to thicken and fill in as the weed disintegrates.

A SCOTTS (R) LAWN PRO (R) PRODUCT

Available only at authorized Lawn Pro stores

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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
SCOTTS...the lawn people. Marysville, Ohio 43041

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 Scotts, Marysville, Ohio 43041

NAME (please print) _____

ADDRESS _____

CITY _____

STATE _____ ZIP _____

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XXXX (Scotts (R)) Improved Super Turf Builder Plus 2 (R) BRAND

(Scotts)
(Lawn Pro)
TM)