

NOV 1972

United States Department of Agriculture  
Registration Division  
Pesticide Registration Branch  
EPA Reg. No. 55947-4

**SANDOZCROP PROTECTION**

# Banvel® 4-S

**HERBICIDE**

**FOR COMMERCIAL USE ONLY**

**ACTIVE INGREDIENTS:**

Dimethylamine salt of dicamba (3,6-dichloro- <i>o</i> -anisic acid)*	48.2%
Dimethylamine salts of related acids	12.0%

<b>INERT INGREDIENTS:</b>	<u>39.8%</u>
TOTAL	100.0%

\*Equivalent to 40.0% 3,6-dichloro-*o*-anisic acid (dicamba) or 4 pounds per gallon.

KEEP OUT OF REACH OF CHILDREN

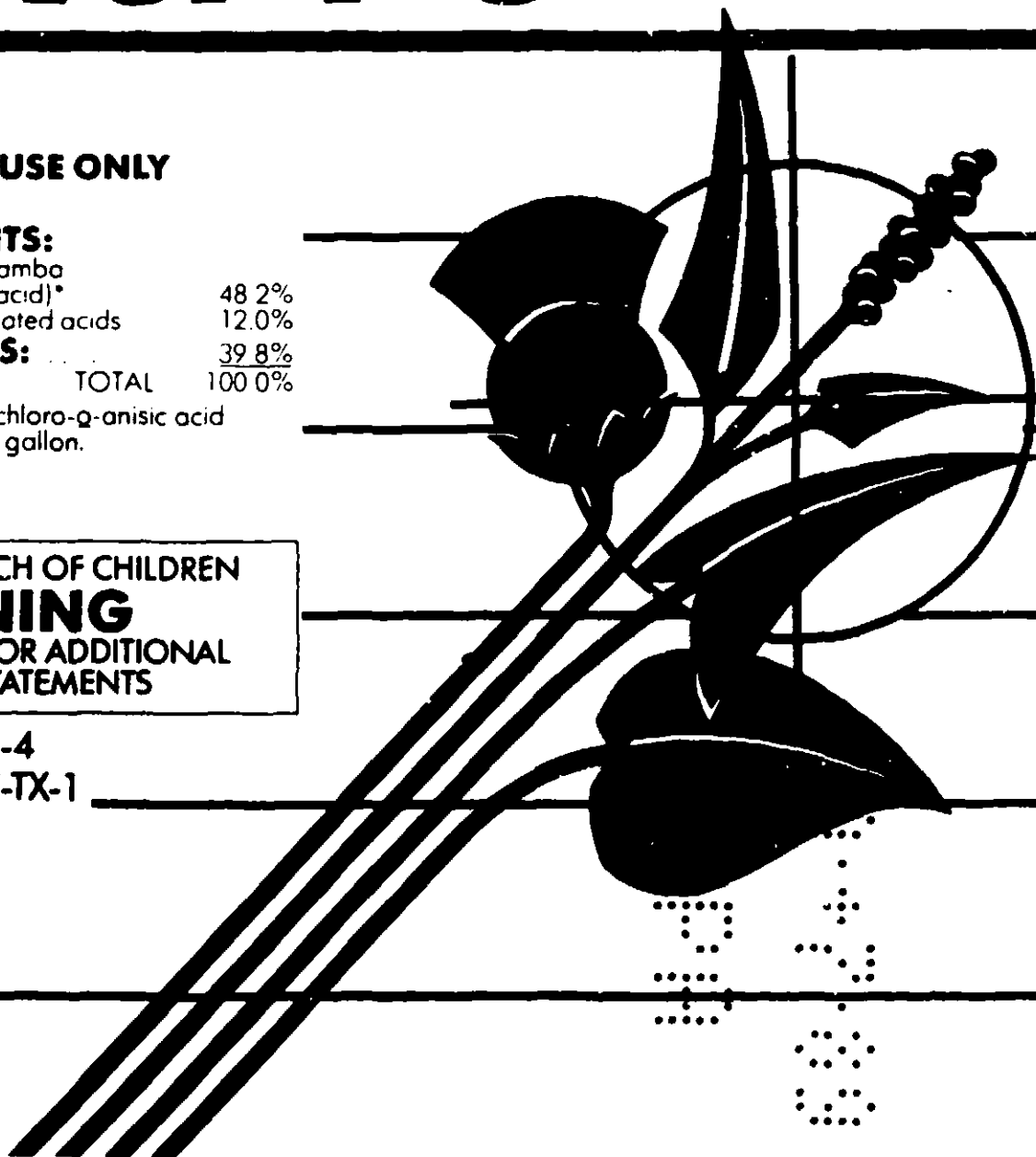
**WARNING**

SEE SIDE PANEL FOR ADDITIONAL  
CAUTION STATEMENTS

EPA Reg. No. 55947-4

EPA Est. No. 55947-TX-1

NET CONTENTS:



**PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS AND  
DOMESTIC ANIMALS**

**WARNING**

Causes eye irritation. Do not get in eyes, on skin, or on clothing. Harmful if swallowed. Avoid breathing spray mist. Wash thoroughly after handling. In case of contact, wash skin with soap and water, for eyes flush with water for 15 minutes and get medical attention.

**ENVIRONMENTAL HAZARDS**

Keep out of lakes, streams or ponds. Do not contaminate water by the cleaning of equipment or disposal of wastes. Apply this product only as directed on label.

**STORAGE AND DISPOSAL**

**PROHIBITIONS**

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

**STORAGE**

Store in original container in a well ventilated area separately from fertilizer, feed and foodstuffs. Avoid cross-contamination with other pesticides. Spillage or leakage should be contained and absorbed with clay granules, saw dust, or equivalent material for disposal.

**PESTICIDE DISPOSAL**

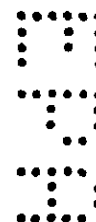
Triple rinse pesticide from containers and use rinsates in the pesticide application. Wastes which can not be used according to label instructions may be disposed of on site or at an approved waste disposal facility.

**CONTAINER DISPOSAL**

**Plastic or Metal:** After triple rinsing (or equivalent), offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities, such as burning of plastic containers. If burned stay out of smoke.



**SANDOZ**  
CROP PROTECTION  
CORPORATION  
500 NORTH 4TH ST



**SANDOZ**

**B**

**HERE**

**FOR CC**

**ACTIVE**

Dimeth  
3.5  
Dimeth

**INERT**

\*Equivalent  
id. camb

**KEEP**

**SE**

**EPA Re**

**EPA Est**

**NET CC**

### 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 through any type of irrigation system.

Refer to the DIRECTIONS FOR USE Booklet attached to this container for proper use directions and additional precautionary statements.

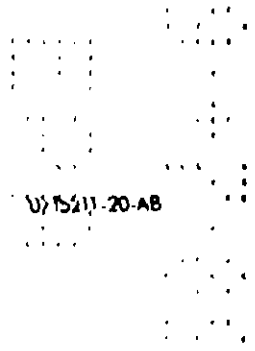
For additional copies of the DIRECTIONS FOR USE booklets, write to the manufacturer.

### LIMITED WARRANTY AND LIABILITY

**NOTICE:** Read this Limited Warranty and Liability before buying or using this product. If terms are not acceptable, return it at once, unopened.

It is critical that this product be used and mixed only as specified on the label. The laws of a State may make some or all of this paragraph inapplicable or may give you rights in addition to your rights hereunder. Except to the extent prohibited by applicable law, the exclusive remedy of the user or buyer and the limit of liability of this Company or any other Seller for any and all losses, personal injuries or damages resulting from the use of this product, shall be the purchase price paid by the user or buyer for the quantity of product involved. Except to the extent prohibited by State Law, there is no warranty, and this Company and other Sellers disclaim all liability for losses, personal injury or damages: (i) arising from any use of this product in a manner or for a purpose not recommended in its label directions, or from mixing this product before use with any substance except as recommended by the product's label; (ii) arising from handling or storage in violation of label instructions; (iii) for all indirect, special or consequential damages; (iv) when not reported to this Company within one year of discovery. **THERE ARE NO IMPLIED WARRANTIES AND NO WARRANTIES OF MERCHANTABILITY OR FITNESS.**

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SANDOZ  
CROP PROTECTION  
CORPORATION  
900 NORTH ZEEB RD  
KANSAS CITY, MO 64114



PROPER WITH PESTICIDES  
BY USING THEM PROPERLY  
READ AND FOLLOW LABEL  
DIRECTIONS

ACCEPTED

NOTICE: Read "LIMITED  
WARRANTY AND LIABILITY" on the  
container before buying or using.  
If terms are not acceptable,  
return at once unopened.

THIS LABELING MUST BE IN THE  
POSSESSION OF THE USER AT THE  
TIME OF THE PESTICIDE APPLICATION

SANDOZ CROP PROTECTION

# Banvel<sup>®</sup> 4-S

HERBICIDE

FOR TURF AND LAWNS



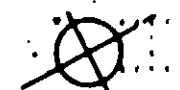
### DIRECTIONS FOR USE

IT IS A VIOLATION OF FEDERAL LAW  
TO USE THIS PRODUCT IN A MANNER  
INCONSISTENT WITH ITS LABELING

E.P.A. Reg. No. 55047-4

THIS LABELING MUST BE IN THE POSSESSION OF  
THE USER AT THE TIME OF PESTICIDE APPLICATION

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RON K. GRAPHIC SERVICES, LTD.  
DISC San002 — File No. 127  
11-28-88 jk Hal.-14(1)  
Job No 881385 Sandoz Banvel 4-S Boulder - Corrections  
Galley 01

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BEFORE USING BANVEL 4-S HERBICIDE  
READ AND FOLLOW THE PRECAUTIONS  
APPEARING ON THE CONTAINER.

### IMPORTANT

Do not contaminate irrigation ditches or water used for domestic purposes.

BANVEL 4-S may cause injury to desirable trees or plants: notably beans, cotton, flowers, fruit trees, grapes, ornamentals, peas, potatoes, soybeans, sunflowers, tobacco, maize and other broadleaf plants when contacting their roots, stems or foliage. Plants are most sensitive to BANVEL 4-S during their development or growing stage. Follow the cautions listed below when using BANVEL 4-S.

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

Do not apply to areas where the possible downward soil movement or surface washing may cause contact of BANVEL 4-S with the roots of desirable plants, such as trees and shrubs.

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### PROCEDURE FOR CLEANING SPRAY EQUIPMENT

The equipment used for mixing and application of BANVEL 4-S should be thoroughly cleaned prior to reuse for mixing and application of other pesticides. BANVEL 4-S left in the equipment can contaminate other pesticide applications and cause injury to sensitive crops.

The steps listed below are suggested for thorough cleaning of spray equipment following applications of BANVEL 4-S or tank mixtures with other water soluble products such as 2,4-D amine.

- 1) Hose down thoroughly the inside as well as outside surfaces of equipment while filling the spray tank half full of water. Flush by operating sprayer until the system is purged of the rinse water.
- 2) Fill tank with water while adding 1 quart of household ammonia for every 25 gallons of water. Operate the pump to circulate the ammonia solution through the sprayer system for 15 to 20 minutes and discharge a small amount of the ammonia solution through the boom and nozzles. Let the solution stand for several hours, preferably overnight.
- 3) Flush the solution out of spray tank through the boom.

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Avoid making applications when spray particles may be carried by air currents to areas where sensitive crops and plants are growing. Always make applications when there is some air movement to determine the direction and distance of possible spray drift. Leave an adequate buffer zone between area to be treated and sensitive plants. Course sprays are less likely to drift out of target area. Drift reducing additives such as NALCO-TROL<sup>®</sup> (Trademark of NALCO CHEMICAL COMPANY) may be used.

To avoid injury to desirable plants, equipment used for BANVEL 4-S should be thoroughly cleaned (see Procedure for Cleaning Spray Equipment on pages 4 and 5 of this label) before reuse with other chemicals.

Application of BANVEL 4-S to newly seeded grasses should be delayed until after the second mowing. Furthermore, application rates in excess of 1 pint (1/2 lb. a.i.) per treated acre may cause noticeable stunting or discoloration of sensitive grass species such as bermudagrass. Treatments will kill or injure alfalfa, clovers, lespedeza, wild winter peas, vetch and other legumes.

Consult your local or state authorities for possible application restrictions and advice concerning special local use situations.

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- 4) Remove the nozzles and screens and flush the system with two full tanks of water.

The steps listed below are suggested for thorough cleaning of spray equipment used to apply BANVEL 4-S as a tank mix with wettable powders (W.P.), emulsifiable concentrates (E.C.), or other types of water dispersible formulations. Water dispersible formulations require the use of a water-detergent rinse.

- 5) Complete step 1.
- 6) Fill tank with water while adding 2 lbs. of detergent for every 40 gallons of water. Operate the pump to circulate the detergent solution through the sprayer system for 5 to 10 minutes and discharge a small amount of the solution through the boom and nozzles. Let the solution stand for several hours, preferably overnight.
- 7) Flush the detergent solution out of the spray tank through the boom.
- 8) Repeat step 1 followed by steps 2, 3, and 4.

REFER TO THE CONTAINER LABEL FOR INSTRUCTIONS CONCERNING DISPOSAL OF WASTE AND CLEANING RINSES.

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### COMPATIBILITY TEST

It is advisable that a compatibility test be made whereby all components of the finished spray are mixed in proportionate quantities (see following table) in a small container before mixing in spray tank.

Amount of Herbicide to Add to One Pint of Spray Carrier (Assuming Volume to 25 Gallons/Acre)

HERBICIDE	RATE/ACRE	LEVEL TEASPOONS
<b>Waterable</b>		
Powders	1 pound	1 1/2
	2 pounds	3
	4 pounds	6
<b>Liquid</b>		
Formulations	1 pint	1/2
	1 quart	1
	1 gallon	4

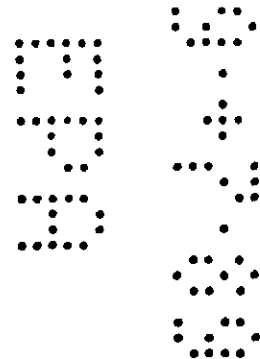
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The amount of herbicide to be tested in the above table is based on 25 gallons of finished spray per treated acre. When using lower or higher spray volumes, make appropriate changes in the ingredients of the compatibility test.

If herbicide(s) do not ball-up or form flakes, sludge, gels, oily films or layers, or other precipitates, then the tested spray mix is compatible. Usually incompatibility in any of the above described forms will occur within five minutes after mixing.

If incompatibility occurs, the use of a compatibility agent such as Comper® (Trademark of KALO LABORATORIES) is recommended. Run the above Compatibility Test with a suitable compatibility agent (1/4 teaspoon is equivalent to 2 pints per 100 gallons of spray solution).

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## MIXING

LANVEL 4-S is a water soluble formulation which requires no special mixing instructions. However, when tank mixing with other pesticides, read and follow the instructions on the label of all products used concerning mixing and application.

LANVEL 4-S can be applied using water or sprayable fluid fertilizer as a carrier. A compatibility test (see COMPATIBILITY TEST on pages 6 and 7 of the label) should be made prior to tank mixing. Apply 30 to 200 gallons of diluted spray per treated acre, depending on density and height of weeds treated, and the type of equipment used.

Spray additives may be used for wetting, penetration, or drift control. A surfactant such as ACCUTROL® or X-77® (Trademark of KALO LABORATORIES), may be used to enhance activity while NALCO-TROL® (Trademark of NALCO CHEMICAL COMPANY) may be used to aid in reducing spray drift. If spray additives are used, read and follow all use recommendations and precautions on product label.

The following RATE CONVERSION TABLE may be used to aid in preparing spray mixture for treating small areas. Mix the EQUIVALENT RATE for size area to be treated with appropriate volume of spray carrier required to spray area.

LABEL RATE* PER ACRE (Parts)	EQUIVALENT RATE PER: 4500 sq. ft.    900 sq. ft.    450 sq. ft.		
	(TEASPOONS)		
4 (1/4 lb a.i.)	2 1/2	1/2	1/4
1 (1/4 lb a.i.)	5	1	1/2
1/2 (1/4 lb a.i.)	10	2	1
2 (1 lb a.i.)	20	4	2

Select LABEL RATE from APPLICATION RATES AND TIMINGS sections of this label. For turf and lawn uses refer to pages 16-18 and for non-cropland uses refer to pages 20-23. When using higher LABEL RATES than those given in this table, increase EQUIVALENT RATE proportionately.

## WEEDS CONTROLLED

Banvel 4-S, when applied in accordance with this label, will give control or growth suppression of many ANNUAL, BIENNIAL, and PERENNIAL broadleaf weeds, and many WOODY brush and vine species including:

### ANNUALS

amaranth, spiny	pepperweed, Virginia
aster, slender	pigweed, redroot (candleweed)
broomweed, common	pigweed, tumble
buckwheat	poonoo
buffalobur	puncturevine
burclover, California	purslane, common
buttercup, roughseed	ragweed, common
carpetweed	ragweed, giant
catchfly, nightflowering	rubberweed, bitter (britchweed)
chamomile, com.	sesbania, hemp
chickweed, common	shepherdspurse
clever (annual)	sida, prickly (leafweed)
cockle, com.	smartweed, green
cockle, cow	smartweed, Pennsylvania
cocklebur, common	sneezeweed, bitter
crack, woolly	sowthistle, annual
deary, English	

eveningprimrose, cutleaf	sowthistle, spiny
feebars, annual	spineseedles
henbit	spineweed, common
knawel (German moss)	spurge, prostrate
knweed	spurry, com.
lochia	sunflower, rough
lambquarters, common	sunflower, common
mayweed	thistle, Russian
momingglory, hybrid	velvetleaf
momingglory, tall	waterhemp
mustards (yellowtops)	waterprimrose, winged
pennycrees, field	wormwood, annual

burdock, common	plantain, bracted
carrot, wild (Queen Anne's Lace)	ragwort, taney
cockle, white	sternhille, yellow
eveningprimrose, common	sweetclover
geranium, Carolina	teasel
knapsack, diffuse	thistle, bull
knapsack, spotted	thistle, musk
mallow, dwarf	thistle, plumose

### BIENNIALS

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WEEDS CONTROLLED (continued)

PERENNIALS

*alfalfa	knapweed, black
aster, spiny	knapweed, Russian
aster, whitehead	lespedeza
bedstraw, smooth	lupine, silvery
bindweed, field	mare's tail (horseweed)
bindweed, hedge	milweed, climbing
bindweed, Texas	milweed, common
bur sage, skeletonleaf	milweed, western whorled
(bur ragweed, povertyweed)	nettle, stinging
bur sage, woollyleaf	nightshade, silverleaf
(larkweed)	onion, wild
*buttercup, tall	*plantain, buckhorn
campan, bladder	*plantain, broadleaf
choisy	pokeweed
chickweed, field	ragweed, western
chickweed, mouseear	ragwort
*clover, hop	smartweed, swamp
crab, hoary (wheatop)	snakeweed, broom
*dandelion, common	*sorrel, red (sheep sorrel)
dock, curly	spurge, leafy
dogbane, hemp	sundrop, halfshrub
*dogfennel (cypressweed)	(eveningprimrose)

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eupatorium, late	thistle, Canada
(thoroughwort)	toadflax, Darnley
fern, bracken	vetch
garlic, wild	waterhemlock
goldenrod, Canada	waterprimrose, creeping
goldenrod, Missouri	*woodsorrel, common yellow
goldenweed, common	wormwood, common
hawkweed	wormwood, Louisiana
horsenettle, Carolina	*yankeweed
ironweed	yarrow, common

\*Noted weeds may be controlled using lower rates of SANVEL 4-S (see APPLICATION RATES AND TIMINGS on pages 18-19 and 20-23 of this label).

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## FOR ORNAMENTAL TURF AND LAWNS

### APPLICATION RATES AND TIMINGS

Application rates and timings for BANVEL 4-S use on ornamental turf and lawns including golf course fairways, aprons, tees and rough are given below. Use the higher level of listed rate ranges when treating dense vegetative growth.

- For control of listed ANNUAL broadleaf weeds, apply  $\frac{1}{2}$  to 1 pint ( $\frac{1}{4}$ - $\frac{1}{2}$  lb. a.i.) per treated acre of BANVEL 4-S when weeds are small and actively growing. Apply 1 to  $1\frac{1}{2}$  pints ( $\frac{1}{2}$ - $\frac{3}{4}$  lb. a.i.) per treated acre when treating established weed growth.
- For control of listed BIENNIAL broadleaf weeds, apply  $\frac{1}{2}$  to 1 pint ( $\frac{1}{4}$ - $\frac{1}{2}$  lb. a.i.) per treated acre of BANVEL 4-S when rosettes (first year growth) are less than 3 inches in diameter. Apply 1 to 2 pints ( $\frac{1}{2}$ -1 lb. a.i.) per treated acre when rosettes are 3 inches or more in diameter. For best performance, make application when BIENNIAL weeds are in the rosette stage.
- For control of noted (\*) PERENNIAL broadleaf weeds, apply 1 to 2 pints ( $\frac{1}{2}$ -1 lb. a.i.) per treated acre. These rates will give suppression or top growth control of the other listed PERENNIAL broadleaf weeds. For best performance, make application when weeds are actively growing.

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Retreatments may be made as needed, however, do not exceed 2 pints (1 lb. dicamba a.i.) per treated acre during a growing season. Do not apply in excess of  $\frac{1}{4}$  pint ( $\frac{1}{8}$  lb. a.i.) of BANVEL 4-S per treated acre on light, coarse textured soils, or in excess of  $\frac{1}{2}$  pint ( $\frac{1}{4}$  lb. a.i.) per treated acre on fine textured, clay-type soils in areas where the roots of sensitive plants extend. Do not make repeat applications in these areas until previous applications of BANVEL 4-S have been washed into the soil by rain or irrigation.

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### TANK MIX TREATMENTS

Tank mix treatments of BANVEL 4-S may be made with 2,4-D, MCPA, MCPP, or Bromoxynil for control of additional weeds listed on the tank mix product label.

Apply  $\frac{1}{4}$  to  $\frac{1}{2}$  pint ( $\frac{1}{8}$ - $\frac{1}{4}$  lb. a.i.) per acre of BANVEL 4-S with  $\frac{1}{2}$  to  $1\frac{1}{2}$  lb. acid equivalent of 2,4-D, MCPA, MCPP or Bromoxynil. Use the higher level of the listed rate ranges when treating established weeds. Repeat treatments may be needed for control of perennial broadleaf weeds, however, do not exceed 2 pints (1 lb. a.i.) of BANVEL 4-S per treated acre nor the labeled maximum of the tank mix product during a growing season.

READ AND FOLLOW TANK MIX PRODUCT LABELING FOR PRECAUTIONARY STATEMENTS AND RESTRICTIONS

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