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45639-54

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SUPPLEMENTAL LABELING

**ANTOR 4ES
EMULSIFIABLE SOLUTION
(Contains 4 Pounds ANTOR Per Gallon)**

**EPA REGISTRATION NO. 45639-54
EPA ESTABLISHMENT NO. 407-MN-1**

This labeling must be in possession of the user at the time of pesticide application. All applicable directions, restrictions, and precautions on the EPA registered label are to be followed.

**HERBICIDE FOR SELECTIVE WEED CONTROL
IN BERMUDAGRASS GROWN FOR SEED**

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling. Read entire Directions for Use and Disclaimer of Warranties before using this product.

GENERAL INFORMATION

ANTOR 4ES is an effective preemergence herbicide for use in established bermudagrass grown for seed (Cynodan dactylan). ANTOR 4ES controls germinating weeds only after shoot and root absorption. It should be applied in the irrigation water (water run) prior to weed germination.

WEED SPECIES CONTROLLED:

Annual Grass Weeds

**Sprangletop
Watergrass
Canarygrass**

Leptochloa spp.
Echinochloa oryzoides
Phalaris spp.

Annual Broadleaf Weeds

Redroot pigweed **Amaranthus retroflexus**

ACCEPTED
DEC 14 1984
Under the Federal Insecticide,
Fungicide, and Rodenticide Act,
as amended, this pesticide
is registered under the
EPA Registration No. **45639-54**

APPLICATION RATE

Spring Application:

For early season weed control meter 2.0-4.0 quarts per acre of ANTOR 4ES into the irrigation water of established bermudagrass prior to weed emergence. Use the higher rate for extended residual control, heavy weed pressure, or on heavy soil types. Refer to the flow chart and sample calculation in the appendix for additional information.

Spring and Summer Application:

For control of weeds in both the spring and early summer months, meter ANTOR 4ES at a rate of 2.0 quarts per acre in the first spring irrigation followed by a second application in 6-8 weeks of 2.0 quarts per acre applied into the irrigation water. Refer to the flow chart and sample calculation in the Appendix for additional information. ✓

Fall Application:

For control of cool season winter weeds, meter 2.0-4.0 quarts per acre of ANTOR 4ES into the irrigation water prior to weed emergence. Application timing may coincide with the last irrigation of the year. Use the higher rate for extended residual control, heavy weed pressure or on heavy soil types. Refer to the flow chart and sample calculation in Appendix for additional information. ✓

Application made after weed emerge ce may result in unacceptable weed control.

APPLICATION METHODType of Device:

The constant flow device is recommended for metering ANTOR 4ES into the irrigation water for water-run applications of border type flood irrigation. This device is not recommended for other types of irrigation systems.

The necessary hardware is a length of pipe to reach from the chemical drum to just above the water level, a petcock valve, screen to prevent particles from clogging the flow orifice and a coupling to hold the orifice disc in place. Once the flow has begun by opening the petcock, open the venting petcock above the T coupler. This forms a constant head siphon, the flow rate governed by the orifice aperture. ✓

Set Up and Calibration:

Set the ANTOR 4ES drum on planks over the ditch with the constant flow device pointed downward. Place the drum behind a gate or near some structure where there is turbulence for mixing of the herbicide. Start the herbicide flow to commence with the start of the irrigation cycle calibrated to finish with the end of the irrigation period. ✓

To calibrate, estimate the length of time of the irrigation and number of acres to be treated. Calculate the flow rate for the amount of ANTOR 4ES to be applied and check the flow chart for the appropriate size orifice. (Refer to flow rate chart and sample calculation in Appendix.) Select the appropriate orifice and measure the flow of herbicide for 1 minute in the measuring cup. Compare this to your calculations and adjust the orifice accordingly so that the correct amount is metered during the irrigation cycle. Tail water (run-off) from flood irrigation should be recirculated or controlled so that it does not leave the field.

Flow Rates For Antor 4ps Using Various Tee Jet Orifices**

Tee Jet Orifice	CC Per Minute	Ounces Per Minute	Tee Jet Orifice	CC Per Minute	Ounces Per Minute
.015	10	.34	.048	105	3.55
.016	11	.37	.049	116	3.92
.018	14	.47	.051	122	4.13
.020	18	.61	.052	128	4.33
.022	23	.78	.054	139	4.70
.024	25	.85	.055	147	4.97
.026	34	1.15	.057	156	5.27
.028	38	1.28	.059	169	5.71
.030	44	1.49	.061	177	5.98
.032	48	1.62	.063	188	6.36
.034	55	1.36	.065	196	6.63
.035	59	1.99	.067	211	7.13
.037	63	2.13	.070	237	8.01
.040	76	2.60	.075	273	9.23
.041	80	2.71	.080	302	10.21
.043	86	2.91	.086	339	11.46
.045	95	3.21	.093	384	12.98
.046	98	3.31	1.03	477	16.13

** Figures were taken at 60°F and are approximate.
Occasionally check to measure flow in the field to make sure you have the correct orifice and because rates vary with temperatures.

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Sample Calculation

The following sample calculation is appropriate for Antor 4ES applied as water-run with a constant flow device in bermudagrass grown for seed.

1. Size of block to be watered in one irrigation setting.
eg. 10 acres
2. Antor 4ES rate per acre.
eg. 2 quarts
3. Total amount of Antor 4ES to be applied to 10 acre block.
eg. 2 qts/A x 10 acres = 20 quarts
4. Amount of time to irrigate the 10 acre block.
eg. 3 hours
5. Amount of Antor 4ES applied per hour.
eg. 20 qts ÷ 3 hours = 6.67 quarts/hr.
6. Ounces of Antor 4ES applied per hour.
eg. 6.67 qts/hr x 32 oz/qt = 213.4 oz./hr.
7. Ounces of Antor 4ES applied per minute.
eg. 213.4 oz/hr ÷ 60 min/hr = 3.56 oz/min.
8. Cubic centimeters (CC) of Antor 4ES per minute.
eg. 3.56 oz/min x 29.6 ml/oz. = 105.37 ml/min.
9. Check flow chart for flow rate.
eg. 105.37 ml/min. ≈ orifice No. 0.48
10. Always calibrate the orifice before beginning because of differences in orifice flow rate.

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GENERAL USE PRECAUTIONS

Do not apply ANTOR 4ES more than three times per season.

Apply ANTOR 4ES to bermudagrass which has been established for a minimum of 4 months. If applied earlier, crop injury may occur.

Take steps to insure that tail water does not reach other crops.

RESTRICTION

Do not graze or feed treated crop, forage, or hay to livestock. The treated crop is to be used only for seed production.

ENVIRONMENTAL HAZARDS

Do not apply directly to any body of water except as specified on this label.

POSTING REQUIREMENTS

Areas being treated with pesticides applied through irrigation systems must be posted at the usual entrances to the area, at bulletin boards where workers assemble and where the treated area lies adjacent to roads, residential areas, or any other areas such as schools, parks or other public facilities. Posted signs must be legible from 25 feet away and be printed in English and any other appropriate language such as Spanish. Signs must be posted prior to application, during application and for at least one week after application, but may remain in place indefinitely. The sign must indicate the following:

<p>NOTICE</p> <p>Pesticides are applied in irrigation water in this field.</p> <p>Do not enter this field when the irrigation system is operating.</p> <p>Do not drink, bathe in or play in water in furrows, puddles, ponds, canals or ditches associated with this irrigation system.</p>
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