

Shell Chemical Company  
A Division of Shell Oil Company  
Agricultural Division



San Ramon, California

ACCEPTED  
OCT 11 1973  
EPA REGISTRATION NO. 201-239

WEEDS CONTROLLED

Grasses

Johnsongrass (from Rhizome)

BROADCAST RATES IN PINTS PLANAVIN® 4 WATER DISPERSIBLE LIQUID HERBICIDE

PER ACRE FOR BAND APPLICATION, USE PROPORTIONATELY LESS

Crops	In Cotton Growing Areas Soil Type			Special Information
	Sandy and Sandy loam (Light)	Loam (Medium)	Silt and Clay (heavy)	
Double rows for the control of rhizome Johnsongrass in soybeans in: Alabama Arkansas Louisiana Mississippi Missouri Tennessee	2	3	4	<p>Before applying PLANAVIN 4 the soil should be crusted or tilled deeply to thoroughly break up Johnson grass rhizomes to destroy emerged plants and to obtain good soil tilth. PLANAVIN 4 should then be thoroughly incorporated by discing in two directions (cross discing) when it also is to penetrate no more than two inches. Banding after application is allowable on heavy soils, but light and medium soils should be planted without bedding (flat-planted).</p> <p>Applications to heavy soil may be made anytime from before or up to planting time. On light and medium soils, applications should be made within the period of a 48-hour period before planting or up to planting time.</p>

PLANAVIN® 4 WATER DISPERSIBLE LIQUID HERBICIDE

A selective herbicide for preemergence application to control annual grasses and broadleaf weeds. Read all label directions carefully.

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JUN 27 1973  
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ACTIVE INGREDIENTS

4-(methylsulfonyl)-2,6-dinitro-N,N-dipropylaniline

PERCENT BY WEIGHT

42.5

INERT INGREDIENTS

57.5

TOTAL

100.0%

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Net Contents: 1 Gallon

CAUTION: KEEP OUT OF REACH OF CHILDREN. See other cautions on side panels.

PLANAVIN® 4 Water Dispersible Liquid Herbicide applied according to directions will control the following weeds:

WEEDS CONTROLLED

Grasses

- Annual Bluegrass
- Annual Ryegrass
- Barnyardgrass (Watergrass)
- Brachiaria
- Crabgrass
- Cupgrass
- Downey Brome
- Foxtails
- Goosegrass
- Johnsongrass (From Seed)
- Junglerice
- Wild Oats
- Witchgrass

Broadleaf Weeds

- Bull Mallow
- Carpeweed
- Cress
- Curly Dock (From Seed)
- Fiddleneck
- Florida Pusley
- Groundsel
- Henbit
- Knotweed
- Lambsquarters
- Pigweeds
- Plantains
- Prickly Lettuce
- Purslane
- Shepherdspurse

PLANAVIN® Herbicide - A registered trademark of Shell Chemical Company.  
Covered by U.S. Patent No. 3,227,734.

(Side Panel)

GENERAL DIRECTIONS

PLANAVIN 4 controls susceptible annual grasses and broadleaf weeds without crop injury when applied according to directions. The area to be treated should be free of established weeds and excessive crop residues such as stalks, straw, and ash. Thoroughly mix such residues into the soil by deep plowing or discing before application. The soil should be in good tilth, firm and free of clods when PLANAVIN 4 is applied.

To avoid misapplication, consult specific recommendations on this label for use of PLANAVIN 4 on the crop to be treated. Select the proper dosage for the soil type, calibrate and frequently check the spray delivery rate, and incorporate as recommended. Incorporation should be thorough and shallow (never exceed 1-1/2 inches in surface soil). Incorporation may be accomplished by rain, overhead sprinkling, or by mechanical means, and should follow the application of PLANAVIN 4 within two days. If appropriate to cultural practices, rolling or cultipacking following incorporation improves performance. Follow local Extension Service recommendations on planting dates and use of fungicides for seedling disease control. When applied according to directions and under normal growing conditions, PLANAVIN 4 will not harm the treated crop. Seedling disease, unfavorable growing conditions, or excessive fertilization may weaken crop seedlings and increase the possibility of injury, particularly when PLANAVIN 4 is incorporated too deeply. Shallow cultivation following crop emergence will assist in weed control and is recommended. When mechanical incorporation follows planting, care must be taken to prevent disturbing the seeds or injuring the emerging seedlings or the transplanted crop. Deep cultivation and exposure of untreated soil should be avoided.

Do not apply more than once a year unless the second application is a fall application for spring planted cotton or soybeans. PLANAVIN 4 can be used postemergence on a number of crops, but it must be applied after cultivation and before weed emergence. Do not replant to cucumbers and watermelons within one year after last application. Consult the specific recommendations for postemergence dosage and use for each crop.

Do not use PLANAVIN 4 on peat or muck soils.

MIXING AND APPLICATION DIRECTIONS

SHAKE WELL BEFORE USING

Mixing may be accomplished by adding PLANAVIN 4 to a partially filled spray tank (1/2 full or less) with bypass or mechanical agitation running, then complete filling. Pre-mixing PLANAVIN 4 with an equal volume of water before pouring into the spray tank helps assure a rapid uniform suspension and is recommended. Rinse empty containers and pour rinsings into the spray tank. Mix the required amount of PLANAVIN 4 in sufficient water (five gallons per acre minimum for aerial application or 10 gallons minimum per treated acre for ground rig) to provide uniform spray coverage of the soil surface. Agitation of the dilute spray mixture before and during application is recommended. If PLANAVIN 4 is allowed to stand in a spray tank or nurse tank for an extended period (several hours or overnight), good agitation is required to obtain a uniform suspension.

INCORPORATION DIRECTIONS

On light or medium soil, PLANAVIN 4 should be thoroughly incorporated 1 to 1-1/2 inches deep on the finished seedbed within two days after application. Do not apply prior to bedding on light or medium soil except in Texas and the San Joaquin Valley of California. If, within two days after application, rain or sprinkle irrigation has wet the soil to a depth of 1-1/2 inches or made the field too wet for mechanical incorporation, no mechanical incorporation will be necessary. For broadcast application, satisfactory shallow (1 to 1-1/2 inches) incorporation on light and medium soils can be accomplished by ground-driven rotary hoes, rolling blades followed by harrow (such as the Do-All), and power-driven tillers. For band applications on finished beds on light and medium soil, power-driven tillers, ground-driven rotary hoes, or tandem blades such as the Yellow Devil, give adequate incorporation. With ground-driven equipment, high speeds will give more complete mixing. Where planting flat on light or medium land, a disc set to penetrate no more than two inches and operated in two directions is acceptable. On heavy land and on soils of Texas and the San Joaquin Valley of California, power-driven tiller incorporation or shallow cross discing prior to bedding is satisfactory. A power-driven tiller is required for band incorporation on heavy soil.

When incorporating PLANAVIN 4 in soil with established row crops, the implement should be adjusted to throw treated soil toward the crop plants in the row. Clean cultivate established crops before application since PLANAVIN 4 does not control established weeds.

CAUTIONS IN USING

Avoid contact with skin. Avoid contact with the eyes. In case of contact with skin or eyes, flush with plenty of water; with eyes, get medical attention. Keep away from excessive heat or flames. Wash thoroughly with soap and water after handling and then before eating or smoking. Do not contaminate water or food consumed by man. If swallowed, induce vomiting immediately and get medical attention. DESTROY USED CONTAINERS. Do not re-use for any purpose. Destroy containers by burning or burying in an isolated area. If burned, keep out of smoke.

NOTICE OF WARRANTY

SHELL CHEMICAL COMPANY MAKES NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PURPOSE, OR OTHERWISE, EXPRESS OR IMPLIED, concerning this product or its uses which extend beyond the use of the product under normal conditions in accord with the statements made on this label.

BROADCAST RATES IN POUNDS PLANAVIN® 4 WATER DISPERSIBLE LIQUID HERBICIDE PER ACRE

FOR BAND APPLICATION, USE PROPORTIONATELY LESS

Crops	In Cotton Growing Areas Soil Type			Outside Cotton Growing Areas Soil Type				Special Information
	Sandy and Sandy Loam (Light)	Loam (Medium)	Silt and Clay (Heavy)	Sandy and Sandy Loam (Light)	Loam (Medium)	Low Organic Silt and Clay (Heavy)	High Organic Silt and Clay (Heavy)	
<u>Field Crops</u>  Cotton	1	1-1/2	2					Apply PLANAVIN 4 anytime from six weeks prior to planting, at planting, immediately after planting, or at layby, but not less than 90 days before harvest. Layby applications are for use in Texas, New Mexico, Arizona, and California. Layby sprays should be directed to the soil between rows and beneath emerged cotton plants. Note fall and winter application instructions listed below in this table.
Soybeans	1	1-1/2	2	1	1-1/2	2	3	Apply PLANAVIN 4 anytime from six weeks prior to planting to immediately before crop emergence. Note fall and winter application instructions listed below in this table.

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<p>Fall and Winter Applications:  <b>Cotton and Soybeans</b>          (for use on heavy soils only in the following states)          Alabama          Arkansas          Louisiana          Mississippi          Southeastern Missouri          Tennessee          Texas</p>			2-1/2					<p>Apply PLANAVIN 4 as a broadcast treatment from October 15 to six weeks prior to planting in the specified area. Incorporate within two days with disc or power-driven tiller. If bedding is practiced, bed the soil as soon as possible. Prior to planting eliminate any established weeds and knock down the beds to the desired planting height. Do not plant any food or cover crop on fall and winter treated land prior to planting cotton or soybeans. Do not re-apply before planting cotton or soybeans.</p>
Dry Beans	1	1-1/2	2	1	1-1/2	2	3	<p>Apply PLANAVIN 4 anytime from six weeks prior to planting to immediately before crop emergence.</p>
Safflower	1	1-1/2	2	1	1-1/2	2	3	
Peanuts	1	1-1/2	2					

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Alfalfa (Established)	1	1-1/2	2	1	1-1/2	2	3	Use only on pure stands. Apply PLANAVIN 4 with ground equipment when alfalfa is dormant or after last cutting. Do not make application within 45 days of cutting or grazing. Incorporate with a mulch treader, springtooth harrow (set to minimize injury to crop and yet to incorporate into first inch of soil), or rotary hoe.
Guar	1	1-1/2	2	1	1-1/2	2	3	Apply PLANAVIN 4 anytime from six weeks prior to planting to immediately before crop emergence.
<u>Vegetable Crops</u> Broccoli Brussels Sprouts Cabbage Cauliflower	1	1-1/2	2	1	1-1/2	2	3	Apply PLANAVIN 4 anytime from six weeks prior to planting to immediately after planting.
Okra	1	1-1/2	2	1	1-1/2	2	3	Apply PLANAVIN 4 anytime from six weeks prior to planting to immediately before crop emergence.
Watermelon Cucumbers	1	1-1/2	2	1	1-1/2	2	3	Apply PLANAVIN 4 after planting but before emergence. If PLANAVIN 4 is not incorporated by rain or sprinkler irrigation, incorporate with a rotary hoe or rolling cultivator after crop emergence.

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Tomatoes (Established Seedlings)	1	1-1/2	2	1	1-1/2	2	3	Apply PLANAVIN 4 as a directed spray to the soil between rows and beneath the plants after thinning.
Lima Beans Peas Snap Beans Southern Peas	1	1-1/2	2	1	1-1/2	2	3	Apply PLANAVIN 4 anytime from six weeks prior to planting to immediately before crop emergence. Use only ground equipment for application to peas.
<u>Transplanted</u> Broccoli Brussels Sprouts Cabbage Cauliflower Peppers Tomatoes	1	1-1/2	2	1	1-1/2	2	3	Apply PLANAVIN 4 anytime from six weeks prior to transplanting up to transplanting. PLANAVIN 4 may be applied as a directed spray to the soil between rows and beneath the plants immediately after transplanting.
<u>Fruits and Nuts</u> Grapes (Calif. only)	4-8	4-8	4-8	4-8	4-8	4-8	4-8	Apply PLANAVIN 4 as a directed spray to soil beneath and between plants. Application should be made after harvest and before June 1 of the following year.
(California only) Almonds Apples Apricots Citrus Peaches Pears Pecans Plums Walnuts	4-8	4-8	4-8	4-8	4-8	4-8	4-8	Apply PLANAVIN 4 before planting or in established plantings. In established plantings apply PLANAVIN 4 as a directed spray to soil beneath and between trees. PLANAVIN 4 may be applied twice a year as a split application, if desired. For citrus, pecans and walnuts do not apply PLANAVIN 4 to trees that will bear fruit within one year of application. For almonds, apples, apricots, peaches, pears and plums, application should be made after harvest and before June 1 of the following year.
<u>Miscellaneous</u> Gladioli	1	1-1/2	2	1	1-1/2	2	3	Apply PLANAVIN 4 anytime from six weeks prior to planting to immediately before crop emergence.