

**BASF**

February 8, 1994

# Pyramin® FL

**herbicide**

For weed control in sugar beets and red table beets.

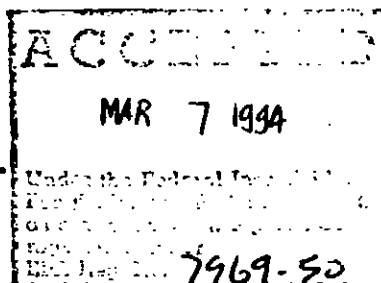
A liquid flowable formulation containing:

<b>Active Ingredients*</b>	<b>41.3%</b>
Pyrazon(5-amino-4-chloro-2-phenyl-3(2H)-pyridazinone)	(35.5%)
Related aminochloro and dichlorophenyl pyridazinones	(5.8%)
<b>Inert Ingredients</b>	<b>58.7%</b>
<b>Total</b>	<b>100.0%</b>

\*Equivalent to 4.2 pounds per gallon of pyrazon and related aminochloro and dichlorophenyl pyridazinones. Pyrazon ANSI equals chloridazon BSI *et al.*

EPA Reg. No. 7969-50

**KEEP OUT OF REACH OF CHILDREN.**  
**CAUTION**

**Precautionary Statements**

Harmful if swallowed or absorbed through the skin. Avoid contact with skin, eyes and clothing.

**Statement of Practical Treatment**

**If swallowed:** induce vomiting by touching the back of the throat. Never induce vomiting or give anything by mouth to an unconscious person. Get medical attention.

**If on skin:** Wash with plenty of soap and water.

**If in eyes:** Flush with plenty of water. Get medical attention if irritation persists.

See the attached booklet for complete Precautionary Statements, Directions for Use, and Conditions of Sale and Warranty.

Net Contents 2½ gallons

Made in Germany

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**BASF Corporation**

PO Box 13528, Research Triangle Park, North Carolina 27709-3528

Specimen Label

## Precautionary Statements

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

#### Environmental Hazards

Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

Do not contaminate water used for irrigation or domestic purposes.

#### Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

#### Storage and Disposal

**Storage:** Do not store near fertilizers, seeds, insecticides or fungicides. Do not contaminate water, food, or feed by storage or disposal.

**Disposal:** Wastes resulting from the use of this product may be disposed of on-site or at an approved waste disposal facility.

Triple-rinse container (or equivalent). Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill or by incineration or, if allowed by state and local authorities, by

burning. If burned stay out of smoke.

#### General Information

Pyramin® FL herbicide is a flowable liquid for the control of certain broadleaf weeds in sugar beets and red table beets. Application methods include preplant incorporation, pre emergence, and postemergence applications. Among the weeds controlled by Pyramin FL herbicide are lambsquarters, pigweed, ragweed, shepherdspurse, fanweed, purslane, nightshade, mustard, henbit, smartweed, nettleleaf, goosefoot and velvetleaf (Michigan and Ohio only).

Pyramin FL will not consistently provide acceptable control of annual grasses. Where grasses are a serious problem, follow directions on this label for control of grasses with specific combinations featuring Pyramin FL or use a separate treatment for grasses labeled for use in Sugar Beets or Red Table Beets.

The correct method of application for Pyramin FL varies depending on area and cultural practices. Always follow the label recommendations which fit your area and cultural system. Check with local experts to ensure that you are applying Pyramin FL according to label

directions.

See sections entitled **Mixing Directions** and **Precautions**. For band treatments see section entitled **Band Treatment** in each crop section.

#### Mixing Directions

Shake well before using.

Use 20 to 40 gallons of water per acre, broadcast basis, or proportionately less for banded applications.

Fill sprayer tank halfway with water. Start agitation with a mechanical or good bypass agitator. Assure adequate hydraulic agitation. While agitating add the required amount of Pyramin FL. Add water to fill tank to required volume. Continue agitation during spraying. Mix only the amount of spray that will be used immediately.

#### Restrictions and Limitations

Do not use this product on soils classified as sands or loamy sands because this may result in crop injury. Do not use preemergence on muck and peat.

Do not use on soils with organic matter higher than 5% except in the Red River Valley (see special section), or less than 2½% in Michigan/Ohio for velvetleaf control (see special section).

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since this may result in unsatisfactory weed control or crop injury.

Do not use Pyramin FL as a broadcast treatment in the dry irrigated regions.

If the beet crop is lost due to climatic or soil conditions following application of Pyramin FL, do not plant other crops in the band treated with Pyramin FL during the same season. If fields are replanted to sugar beets, re-seed into the treated band. Do not use Pyramin FL again as a preemergence treatment on the replanted beets because crop injury may result.

Do not use the same spray equipment for other purposes unless thoroughly cleaned. Coarse sprays are less likely to drift.

Where this material is used in combination with TCA, do not use treated beet tops for feed or forage.

Always follow the restrictions and limitations for all products used in a tank mixture. The most restrictive labeling applies in the case of a tank mixture.

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

## **Sugar Beets**

Two applications of Pyramin FL can be used in the Central and Eastern states only. Do not apply more than a total of 7½ quarts per acre per season as excessive chemical residue may result.

## **Preemergence Applications**

**Central and Eastern States (MI, MN, ND, OH)**

### **General Information**

**Preemergence without irrigation:** Apply Pyramin FL at the rate of 3 to 3½ quarts per acre in enough water for good coverage. Use the lower rate on sandy loam soils. Spray immediately after beet seeds are planted and before beets and weeds emerge. Where dry weather follows application and weeds emerge use a shallow cultivation before weeds are 2 inches tall. Otherwise do not disturb or cover the treated band.

### **Minnesota and North Dakota**

For soils with organic matter of 5% to 7%: In the Red River Valley only, for the control of redroot and prostrate pigweeds, common lambsquarters and wild mustard in soils with organic matter content of 5% to 7% apply Pyramin FL at the rate of 7½ quarts per acre as a

single preemergence application.

Spray immediately after beet seeds are planted and before beets and weeds emerge. Do not follow with a postemergence treatment of Pyramin FL. Do not use the 7½ quarts rate on soils with organic matter higher than 7% or less than 5% since this may result in unsatisfactory weed control or crop injury, respectively.

Where dry weather follows application or where annual grasses are also a problem, refer to section entitled **Preemergence Without Irrigation**.

### **Michigan and Ohio**

**For velvetleaf control:** In Michigan and Ohio only, for the control of velvetleaf, apply Pyramin FL at the rate of 5¾ quarts per acre as a single preemergence application. Spray immediately after beet seeds are planted and before beets and weeds emerge. Do not use the 5 quarts rate on soils with organic matter higher than 5% or less than 2½% since this may result in unsatisfactory weed control or crop injury, respectively.

Where dry weather follows application or where annual grasses are also a problem, refer to section entitled **Preemergence Without**

## Irrigation.

### Plains, Mountain and Western States (CA, CO, ID, KS, NE, OR, TX, UT, WA, WY)

**Preemergence with sprinkler irrigation:** If sprinkler irrigation is used, apply Pyramin FL as a banded surface preemergence application. Do not incorporate Pyramin FL where sprinkler irrigation is to be used, as crop injury may result. Do not use broadcast treatments. Prepare the seedbed and pre-irrigate to the field capacity of the soil. Plant seed  $\frac{3}{4}$  to 1 inch deep.

Immediately, or within 3 days after planting, apply Pyramin FL at the rate of  $3\frac{1}{2}$  quarts per acre on low organic matter loam soils or 3 quarts per acre on loam and clay soils. Follow directions for banded treatments (see section entitled **Band Treatment**) and adjust application rates accordingly. Follow with no more than  $\frac{3}{4}$  inch of sprinkler irrigation per set before beets and weeds emerge as greater amounts may cause beet injury. Repeat as needed to get good beet emergence. Do not exceed  $\frac{3}{4}$  inch of sprinkler irrigation per set until the beets have 2 true leaves. (Do not count the cotyledonary leaves, which are the first 2 leaves to appear).

**Preplant incorporation with furrow irrigation:** On fields to receive furrow irrigation, use the following planting procedure. Prepare seedbed or form beds for planting. On low organic matter and sandy loam soils, apply and incorporate Pyramin FL at the rate of 3 quarts per acre. On loams, silt loams and clays, use the  $3\frac{1}{2}$  quarts per acre rate. Follow directions for banded treatments (see section entitled **Band Treatment**) and adjust application rates accordingly. Use a rotary tiller type of incorporator and incorporate not more than 2 inches deep. Plant beets and furrow irrigate. Since Pyramin FL must have moisture to control weeds effectively, irrigate until tops of beds are thoroughly wetted.

Repeat furrow irrigation as often as necessary to ensure good beet emergence and growth. Sprinkler irrigation can be substituted for furrow irrigation after the beets have developed 2 true leaves. (Do not count the cotyledonary leaves, which are the first 2 leaves to appear.)

To assure planting into treated bands, do the following things all in one tractor operation: (1) spray Pyramin FL, (2) incorporate, and (3) plant beets. Treat a band 1 or 2 inches wider than the tiller head used. Do not incorporate Pyramin FL with a

disk because unsatisfactory weed control and sugar beet injury may result.

## Tank Mixes

### Pyramin FL + TCA Herbicides (Michigan, Minnesota, N. Dakota, Ohio)

Where annual grasses are also a problem, apply 4 lbs to 8 lbs per acre of TCA with the recommended rate of Pyramin FL. Follow label directions for both products.

**Pyramin FL + Nortron® EC herbicides for winter-grown sugar beets in California:** In fields where wild oats and volunteer cereals are expected to be a problem, use a tank mixture of Pyramin FL plus Nortron at recommended rates listed in **Application Rate Table 1**. When mixing Pyramin FL in the spray tank with Nortron, add Pyramin FL first and agitate spray solution thoroughly; then add Nortron. See **Application Rate Table 1**. Under sprinkler irrigation or where natural rainfall is adequate, apply this tank mix **preemergence**. See **Preemergence with Sprinkler Irrigation** above for directions and precautions regarding application of sprinkler irrigation. Where furrow irrigation is to be used, apply this tank mix preplant. See **Preplant Incorporation with Furrow Irrigation** above for

directions and precautions regarding application of furrow irrigation. Do not use the mixture under conditions where Nortron alone is not recommended. Before use, read label for Nortron for additional information and precautions.

### **Pyramin FL + Antor® 4ES herbicides (In California, Northwest, Intermountain States, Michigan and Ohio)**

For control of a mixed population of weeds included on the labels for Pyramin FL and Antor 4ES herbicides, apply a tank mix according to the directions presented below by region. Observe all cautions and limitations on labeling of both products

**Mixing directions:** Add Pyramin FL to half the spray volume of water, agitate spray solution thoroughly, and then add Antor 4ES. Agitate while filling to final spray volume and during spraying.

**California:** For preplant incorporation with furrow irrigation, apply the tank mix to the soil surface prior to, or at time of planting and incorporate to a depth of 1 to 2 inches using a rotary-type tiller. Use the recommended rates in Application Rate Table 2. Irrigate until tops of beds are

thoroughly wetted.

For preemergence application with sprinkler irrigation, apply the tank mix to the soil surface at time of planting or shortly after, but prior to weed germination, using the rates recommended in Application Rate Table 2. Irrigate prior to crop and weed germination. Follow directions and precautions on this label for use preemergence with sprinkler irrigation. Do not exceed  $\frac{3}{4}$  inch of sprinkler irrigation per set until the sugar beets have two true leaves.

**Northwest, Intermountain States:** For use preemergence under sprinkler irrigation only, apply the tank mix to the soil surface at the time of planting or shortly after, but prior to weed germination, using the rates recommended in Application Rate Table 2. Irrigate prior to crop and weed germination. Follow directions and precautions on this label for use preemergence with sprinkler irrigation. Do not exceed  $3\frac{3}{4}$  inch of sprinkler irrigation per set until the sugar beets have two true leaves.

**Michigan and Ohio:** For use preemergence without irrigation, apply the tank mix to the soil surface at the time of planting or shortly after, but prior to weed germination using rates recommended in Application Rate Table 2.

## **Postemergence Application (All States)**

### **General Information**

Timing is very important. Observe weed growth daily. Treat after beets have 2 expanded true leaves (do not count the cotyledonary leaves, which are the first 2 leaves to appear) and before any weeds have more than 2 to 4 true leaves. Treatments on larger weeds will not be effective.

Good soil moisture prior to treatment is necessary. If soil is dry, irrigation is recommended prior to chemical application. For optimum performance, a postemergence application should be followed with moisture. Where furrow irrigation is possible, irrigate shortly after application to the point that top surface of beds has reached maximum water-holding capacity. If sprinkler irrigation is used, do not apply more than  $\frac{3}{4}$  inch of water on the first set after the herbicide is applied.

Do not apply Pyramin FL if weeds are stressed by lack of moisture, excessive heat, high winds, frost or low temperature, as insufficient weed control may result. Wait until more favorable conditions prevail before applying.

**Table 1.**  
**Tank Mix of Pyramin FL + Nortron EC**  
**Application Rate Table**

Soil Texture	Pyramin FL per Acre		Nortron EC <sup>(1)</sup> per Acre	
	Broadcast (for calibration purposes only)	10-inch Band Width <sup>(1)</sup> 30" Row	Broadcast (for calibration purposes only)	10-inch Band Width <sup>(1)</sup> 30" Row
<b>Coarse Textured Soils:</b> Sands, loamy sands and sandy loams	<b>NOT RECOMMENDED</b>			
<b>Medium Textured Soils:</b> Silt loams, clay loams which contain less than 3% organic matter	3 Quarts	1 Quart	4 Quarts	2½ Pints
<b>Fine Textured Soils:</b> Clay loams which contain more than 3% organic matter and clays	3 Quarts	1 Quart	5 Quarts	3½ Pints
<sup>(1)</sup> For other band or row widths, adjust rates in proportion to the area actually treated. Do not apply this mixture broadcast. <sup>(2)</sup> Nortron EC (1.5 lbs active ingredient per gallon).				

**Table 2.**  
**Tank Mix of Pyramin FL + Antor 4ES**  
**Application Rate Table**

Area	Soil Texture	Broadcast Rate (Quarts/Acre) <sup>(1)</sup>	
		Pyramin FL	Antor 4ES
California, Northwest, Intermountain States, Michigan and Ohio	<b>Coarse:</b> Sandy loams only.	2½	2
	<b>Medium:</b> Loams, silt loams and clay loams containing less than 3% organic matter.	3	2 to 3 <sup>(2)</sup>
	<b>Fine:</b> Clay loams and clays containing 3-5% organic matter	3	3
<sup>(1)</sup> See section of both labels on Band Application for calculation of proportional amounts. <sup>(2)</sup> Use higher rate on clay loam soils.			

In the Central and Eastern States these combinations can follow preemergence use of Pyramin FL provided a total of 7¼ quarts Pyramin FL per acre per season is not exceeded. The addition of a surfactant, or its equivalent, often improves results of postemergence treatments. However, certain surfactants will seriously injure sugar beets. Consult your Experiment Station or Extension Service Weed Specialist for the suggested surfactant in your area.

## Tank Mixes

**Pyramin FL + Nonphytotoxic Emulsifiable Oil:** Addition of a nonphytotoxic emulsifiable oil to Pyramin FL may improve broadleaf weed control and allow greater flexibility in timing of successful applications relative to size of weeds. Apply 3 to 3½ quarts Pyramin FL per acre according to soil type and organic matter content with 1 gallon of nonphytotoxic, emulsifiable oil per acre (broadcast basis). Use sufficient spray solution for good coverage, 40-100 gallons per acre treated.

Use a nonphytotoxic oil containing 2% emulsifier and characterized as having an unsulphonated residue of over 95%.

Add Pyramin FL first to half the spray volume of water and mix thoroughly in the

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spray tank; then add the emulsifiable oil with the agitator running. Finally, fill the tank with water to required volume. Do not use oil when maximum temperatures are expected to exceed 90°F at any time during the five-day period following the application, as excessive crop injury may result.

For specific directions for using a nonphytotoxic oil with Pyramin FL in your locality and for recommended brands of oil to use, consult your local sugar company fieldman or BASF representative.

Increased temporary sugar beet injury has been observed where Pyramin FL in combination treatments has followed preplant applications of Tilam® or Ro-Neet® herbicides.

**Pyramin FL + Dalapon® herbicides:** Where grass and broadleaf weeds are present use 3 to 3½ quarts of Pyramin FL per acre mixed with Dalapon, according to state recommendations and directions on the dalapon product label. Where broadleaf weeds are the principal problem, use Pyramin FL with 1 gallon per acre of non-phytotoxic, emulsifiable oil (for directions, see above). These mixtures may burn beet leaves or cause temporary stunting under some conditions. Do

not apply when sugar beet foliage is wet.

**Pyramin FL + Betanal® EC herbicides:** For broad spectrum weed control including pigweed, kochia, wild buckwheat, lambsquarters, smartweed, mustard, nightshade, ragweed and green and yellow foxtails, combine 3 quarts of Pyramin FL and 3 quarts of Betanal per acre. This combination provides residual as well as quick postemergence weed control. Follow the directions on the labels of both products. Add the Betanal to the half-full spray tank after the Pyramin FL is adequately suspended. Do not add additional surfactants to the mixture. Do not apply in more than 30 gallons of water per acre.

### Band Treatment

When spraying a band over the row, the amount of Pyramin FL applied per banded acre is reduced in proportion to the area actually treated. Example: to spray a 7-inch band over beets in

### Table 3.

### Band Application Rates for Sugar Beets:

Band and Row Width	Quarts Pyramin FL per Banded Area for Broadcast Rate of:	
	3 Quarts/Acre	3½ Quarts/Acre
7-inch band on 22-inch rows	1	1½
7-inch band on 28-inch rows	¾	1
10-inch band on 22-inch rows	1½	1¾
10-inch band on 28-inch rows	1	1½

rows 28 inches apart, the amount of Pyramin FL applied per banded acre is ¾ the amount recommended for broadcast applications. See Application Rate Table 3.

Three quarts/acre ¾ of area banded = ¾ quart per banded acre.

Using planter-mounted band sprayers ensures that all planted beets are treated, and that band width and rate of chemical are uniform.

### Red Table Beets Preemergence Application

Apply 3 to 3½ quarts per acre of Pyramin FL in enough water for good coverage. Use lower rate on sandy loam soils. Spray after beet seeds are planted but before beets and weeds emerge. If rain does not fall within 5 to 10 days after treatment, beets should be irrigated to activate Pyramin FL. If irrigation is not possible, use a shallow cultivation before weeds are 2 inches tall.

## Early Postemergence Application

Apply 3½ quarts per acre of Pyramin FL.

Timing is very important. Observe weed growth daily. Treat after beets have 2 expanded true leaves and before any weeds have more than 2 to 4 true leaves. This is usually within 2 weeks after planting. Treatment on larger weeds will not be effective.

**Note:** Pyramin FL may be used both pre- and postemergence in the same season. Follow directions given on this label for each type of application.

## Band Treatment

When spraying a band over the row the amount of Pyramin FL applied per acre is in proportion to the area actually treated. See Application Rate Table 4.

## Conditions of Sale and Warranty

The Directions for Use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or use of the product in a manner inconsistent with its labeling, all of which are beyond the control of BASF CORPORATION ("BASF") or the Seller. All such risks shall be assumed by the Buyer.

BASF warrants that this product conforms to the chemical description on the label and is reasonably fit for

the purposes referred to above. **BASF MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY. IN NO CASE SHALL BASF OR THE SELLER BE LIABLE FOR CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.** BASF and the Seller offer this product, and the Buyer and User accept it, subject to the foregoing Conditions of Sale and Warranty which may be varied only by agreement in writing signed by a duly authorized representative of BASF.

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*Tillam and Ro-Neet are registered trademarks of Stauffer Chemical Company, U.S.A.*

U.S. Patent 3,210,353

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**Table 4.**  
**Band Application Rates for Red Table Beets**

Beet Rows 24 inches apart and band width of:	Quarts Pyramin FL per Banded Acre for Broadcast Rate of:	
	3 Quarts/Acre	3½ Quarts/Acre
6-inch band	¾	1
12-inch band	1½	1¾

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