

United States Environmental Protection Agency
Washington, D.C. 20460

Office of
Prevention, Pesticides and
Toxic Substances

OCT 8 1993

Nang-Ly Chow
NOR-AM CHEMICAL COMPANY
3509 SILVERSIDE ROAD
WILMINGTON DE 19803

Subject: Label Amendment Submission of 06/10/93
in Compliance with WPS Labeling Requirements
EPA Reg No. 45639-8
NORTON FLOWABLE HERBICIDE

Dear Registrant:

The labeling cited above and submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is accepted subject to the comments listed below.

Based on your certification, the Agency has accepted only those changes to your labeling which are necessary to comply with PR Notices 93-7 and 93-11, which reflect the WPS labeling requirements of 40 CFR part 156, subpart K. Any other labeling changes submitted in connection with this amendment application and not directly related to compliance with PR Notice 93-7 or 93-11 have neither been reviewed nor accepted by the Agency. If you wish to make any such changes, you must submit a separate amendment application proposing them. If your product registration is currently suspended, acceptance of this labeling amendment does not affect the suspension in any way.

A copy of your proposed labeling stamped "Accepted with comments" is attached. Make any required changes described in the attached and send three copies of final labeling as soon as it is available to:

Document Processing Desk (FIN-LABEL)

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201 12
Office of Pesticide Programs (H-7504C)
U.S. Environmental Protection Agency
401 M Street SW
Washington, DC 20460-0001

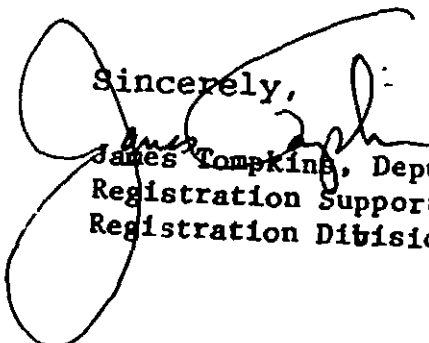
Hand or courier deliveries of final labels may be made to:

Document Processing Desk (FIN-LABEL)
Room 266A Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

Please correct the typographical errors circled on the draft before printing final labeling.

In your final labeling the "Agricultural Use Requirements" text must be contained in a clearly separate box. This box may be set apart by a line, by another graphical device, by a different color background, or in any other way that clearly distinguishes it from surrounding text.

Sincerely,


James Tompkins, Deputy Chief
Registration Support Branch
Registration Division (7505W)

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SPECIMEN LABEL

30512
ACCEPTED
with COMMENTS
In EPA Letter Dated

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OCT 8 1993
Under the Federal Insecticide,
Fungicide, and Rodenticide Act
as amended, for the pesticide
registered under EPA Reg. No.
45639-8

Nortron SC

SUSPENSION CONCENTRATE

SUGAR BEET HERBICIDE

For selective control of weeds in sugar beets

GRASS SEED HERBICIDE

For Selective Control of Weeds in Certain Grass Seed Crops and
Commercial Sod Production in California, Oregon, and Washington

ACTIVE INGREDIENT

Ethofumesate (2-ethoxy-2,3-dihydro-3,3-dimethyl-5-
benzofuranyl methanesulfonate*)

Percent by Weight

42%

INERT INGREDIENTS:

58%

TOTAL 100%

This product contains 4.0 lbs. active ingredient per gallon

EPA Reg. No. 45639-8

KEEP OUT OF REACH OF CHILDREN

CAUTION

Avoid contact with skin, eyes, or clothing

STATEMENT OF PRACTICAL TREATMENT

IF SWALLOWED: Call a physician. Do not induce vomiting. Give two glasses of water and
induce vomiting by a method of the physician's choice. Do not take any more food or drink until
the physician is consulted.

IF ON SKIN: Wash thoroughly with soap and water. Get medical attention if
necessary.

IF INHALED: Remove the person from the exposure area. If breathing is difficult, give artificial
respiration. Get medical attention.

SEE BACK PANEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS AND FIRST AID

NOR-AM
NOR-AM, INC. • 10000
N. 10th St. • Lincoln, NE 68504

AGRI-BUSINESS, INC. • 10000
N. 10th St. • Lincoln, NE 68504
2011 Center Rd. •
Lincoln, NE 68504

NET CONTENTS:

*Protected by U.S. Patent
No. 3,689,667

Product of United Kingdom

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

Harmful if swallowed, inhaled, or absorbed through skin. Avoid contact with skin, eyes, or clothing. Avoid breathing vapor or spray mist.

FIRST AID—In case of contact, immediately flush eyes or skin with plenty of water.

Personal Protective Equipment

Applicators and Other handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

ENGINEERING CONTROLS STATEMENT

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

For terrestrial uses, 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 apply when weather conditions favor drift from target area. Do not contaminate water when disposing of equipment washwaters.

IN CASE OF FIRE, LEAKY OR DAMAGED CONTAINERS, OR OTHER EMERGENCY, REPORT AT ONCE BY TOLL-FREE TELEPHONE TO: 800-424-9300.

GENERAL USE PRECAUTIONS

NORTRON® SC or tank-mixes should be used for recommended purposes and at recommended rates only. (DO NOT OVERTREAT.)

Do not graze livestock on treated crops.

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

If crop is lost due to climatic or soil conditions following application of NORTRON SC or tank-mixes, do not plant crops other than sugar beets or ryegrass in treated land during the same season. Do not retreat field with NORTRON SC. If fields are replanted to sugar beets, reseed into treated band.

Do not rotate with any crops other than sugar beets or ryegrass for 12 months after application. Thorough tillage, including moldboard plowing, should precede the planting of crops other than sugar beets or ryegrass. Do not use NORTRON SC on muck or peat soils.

Do not allow spray mixture to stand in tank overnight. Flush and drain spray equipment after each day's use.

Store unused spray mixture in tightly-sealed containers and protect from frost.

This label must be in the possession of the user at the time of pesticide application.

SHAKE CONTAINER WELL BEFORE USING

STORAGE AND DISPOSAL

STORAGE: Protect NORTRON SC from freezing temperatures.

PESTICIDE DISPOSAL: Do not contaminate water, food or feed by storage or disposal. Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

DO NOT REUSE EMPTY CONTAINER.

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.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

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AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

"Exception: if the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated."

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- > Coveralls
- > Waterproof gloves
- > Shoes plus socks

SUGAR BEETS

WEED SPECIES CONTROLLED

NORTRON SC is a selective herbicide for use in sugar beets for the control of the weed species listed below. It provides effective control of these weeds for up to 10 weeks following application.

WEED SPECIES CONTROLLED

Annual Broadleaf Weeds

Black nightshade	<i>Solanum nigrum</i>
Common chickweed	<i>Stellaria media</i>
Common lambsquarters	<i>Chenopodium album</i>
Common purslane	<i>Portulaca oleracea</i>
Kochia	<i>Kochia scoparia</i>
Ladysthumb	<i>Polygonum persicaria</i>
Pennsylvania smartweed	<i>Polygonum pennsylvanicum</i>
Redroot pigweed	<i>Amaranthus retroflexus</i>
Russian thistle	<i>Salsola kali</i> var. <i>tenuifolia</i>
Wild buckwheat	<i>Polygonum convolvulus</i>

Annual Grass Weeds

Annual bluegrass	<i>Poa annua</i>
Barnyardgrass*	<i>Echinochloa crus-galli</i>
Canarygrass	<i>Phalaris canariensis</i>
Green foxtail	<i>Setaria viridis</i>
Large crabgrass	<i>Digitaria sanguinalis</i>
Volunteer barley	<i>Hordeum</i> sp.
Volunteer wheat	<i>Triticum</i> sp.
Wild oats**	<i>Avena fatua</i>
Yellow foxtail	<i>Setaria glauca</i>

*Control of barnyardgrass may be reduced with the NORTRON SC + Pyramin because of the lower rate of NORTRON SC recommended.

**Control of wild oats has been inconsistent in Minnesota and North Dakota.

NORTRON SC alone will also reduce competition from these HARD-TO-CONTROL weeds:

Annual Sowthistle	<i>Sonchus oleraceus</i>
Puncturevine	<i>Tribulus terrestris</i>
Shepherdspurse	<i>Capsella bursa-pastoris</i>
Purple nutsedge	<i>Cyperus rotundus</i>
Yellow nutsedge	<i>Cyperus esculentus</i>

Apply tank-mixes only in specified regions or states and in accordance with directions on label.

Do not mix NORTRON SC or tank-mixes with liquid fertilizers.

PREPLANT INCORPORATED AND PREEMERGENCE APPLICATIONS

SOIL PREPARATION: The soil should be prepared according to good agricultural practices. Large clods can reduce the effectiveness of NORTRON SC and tank-mixes. All existing vegetative growth should be thoroughly worked into the soil before treatment.

SPRAY EQUIPMENT: Apply NORTRON SC alone or in tank-mixes to the soil using standard low pressure (20-50 psi) spray equipment. Spray equipment should be carefully calibrated before use and checked frequently during application to see that it is functioning properly. Do not use smaller than 50-mesh strainer. Uniformly apply the recommended rates of NORTRON SC or NORTRON SC tank-mixes in 10 to 60 gallons of water per acre on a broadcast basis. Avoid overlaps since crop injury may result. When applying NORTRON SC or tank-mixes in a band, check to make certain that the band width is accurate for the dosage rate being applied.

The spray tank and lines should be thoroughly cleaned and rinsed prior to using NORTRON SC.

INCORPORATION EQUIPMENT: Where soil incorporation is recommended use a hooded-power or ground-driven rotary tiller, rolling cultivator or similar equipment properly adjusted to uniformly incorporate NORTRON SC or tank-mixes to a depth of 1 to 2 inches. Deeper incorporation may reduce effectiveness. Do not apply NORTRON SC or tank-mixes through soil injector shanks. Incorporation should be accomplished prior to planting. If done after planting, proper precautions should be taken to avoid damaging or moving the crop seed. See below for Layering Application.

LAYERING APPLICATION:

Spring: Form beds with appropriate bedding equipment. Pre-irrigate field if necessary. Remove bed top with suitable de-ridging machinery to provide a minimum width of 10" across the top of the bed. Apply NORTRON SC in a band at the recommended rate indicated in the appropriate regional dosage table and cover the treated band with 1 inch of soil using ditchers or discs equipment. Shape the bed with roller shaper and irrigate until the tops of the beds are thoroughly wetted. Irrigate from furrows on both sides of the row.

Fall: This method of application can be used when spring moisture is marginal or where irrigation water is not available at planting time. Fall bedding utilizes the winter-accumulated moisture to enhance activation of the herbicide and to aid in germination of the sugar beet crop.

Prepare the field (as for planting; plow, pack, and float, etc.), in the fall, usually late September or October. Apply NORTRON SC in a band to the soil surface at the recommended rate indicated in the appropriate regional dosage table. Be sure that the soil surface to be treated is free of trash and vegetation.

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Cover the treated bands with soil and form beds or ridges using ditchers or discs. In the spring when the soil is sufficiently dry to be worked, de-ridge the beds down to within $\frac{1}{2}$ " to 1" of the treated layer using suitable equipment such as the Kirchner bedder or Oregon Northslope harrow. When de-ridging, maintain the original bedding guidance system by using a bull tongue chisel, slide guides or similar equipment. This will ensure that the planter will follow in the treated band. Plant sugar beets in the de-ridged area when the soil conditions allow.

MIXING DIRECTIONS: When mixing NORTRON SC in the spray tank with Pyramin or TCA, add NORTRON SC first. Agitate spray solution thoroughly and continuously. See Pyramin label for additional mixing directions.

GENERAL APPLICATION: Sugar beets grown under rainfall: Apply NORTRON SC alone or in a tank-mix preemergence at time of planting or shortly after, but prior to weed germination. NORTRON SC or tank-mix does not require mechanical soil incorporation provided that sufficient rainfall occurs shortly following application to activate the chemical. One-half inch of rainfall is usually adequate for activation. In areas where rainfall can be marginal for activation, such as the Red River Valley (Minnesota and North Dakota), it is recommended that NORTRON SC or the tank-mix be applied before or at the time of planting and incorporated into the soil.

Sugar beets grown under furrow irrigation: Apply NORTRON SC alone or in a tank-mix to the soil surface preplant or at time of planting, but prior to weed germination, and incorporate into the soil. Where sugar beets are grown in beds, apply NORTRON SC or tank-mix after bedding and incorporate. Since NORTRON SC or tank-mix must have moisture to control weeds effectively, irrigate until tops of beds are thoroughly wetted.

Sugar beets grown under sprinkler irrigation: Apply NORTRON SC alone or in tank-mix preemergence at time of planting or shortly after, and irrigate prior to crop and weed germination. Repeat irrigation as necessary to maintain good moisture in upper soil layer. Apply at least one-half inch of water during first irrigation. Do not mechanically incorporate NORTRON SC or tank-mix into the soil under sprinkler irrigation.

CULTURAL PRACTICES FOLLOWING APPLICATION:

When properly applied, NORTRON SC alone or in a tank-mix will provide up to 10 weeks control of susceptible weed species. When cultivating fields in which NORTRON SC or tank-mixes have been banded, care should be exercised to minimize the movement of untreated soil into the treated band. Where a broadcast application has been made, do not cultivate deeper than two inches, as this reduces the effectiveness of NORTRON SC or tank-mixes.

NORTRON SC ALONE

DOSEAGE TABLE 1 (All Regions Except North Dakota and Minnesota):

Soil Texture	Rate of NORTRON SC per Acre ¹			
	Broadcast	7-inch Band Width ²		
		22" Row	26" Row	30" Row
Coarse Textured Soils: Sands, loamy sands and sandy loams	2½ to 3½ Pints	½ to 1¼ Pints	½ to 1 Pints	½ to 1 Pints
Medium Textured Soils: Silt loams, clay loams which contain less than 3% organic matter	3½ to 6 Pints	1½ to 2 Pints	1 to 1½ Pints	1 to 1½ Pints
Fine Textured Soils: Clay loams which contain more than 3% organic matter and clays	6 to 7½ Pints	2 to 2½ Pints	1½ to 2 Pints	1½ to 1¾ Pints

¹Use the higher rate within each soil texture category on the finer texture soils and/or where Kochia, barnyardgrass or black nightshade are expected to be a problem.

²For other band or row widths, adjust the rate in proportion to the area actually treated.

DOSEAGE TABLE 2 (North Dakota and Minnesota only):

Soil Texture	NORTRON SC/Acre	
	Broadcast	7-inch Band Width ¹
		22" Row
Coarse Textured Soils: Sandy loams only	6 Pints	2 Pints
Medium Textured Soils: Silt loams and clay loams	6 Pints	2 Pints
Fine Textured Soils: Heavy clays	7½ Pints	2½ Pints

¹For other band or row widths, adjust the rate in proportion to the area actually treated.

NORTRON SC + ANTOR® 4ES (tank-mix) CALIFORNIA, COLORADO, MONTANA, NEBRASKA, TEXAS, AND WYOMING ONLY:

This tank-mix controls these additional weeds:

Italian ryegrass (annual)	<i>Lolium multi-florum</i>
Annual sowthistle	<i>Sonchus oleraceus</i>
Fall panicum	<i>Panicum dichotomiflorum</i>
Foxtail millet	<i>Setaria italica</i>
Groundcherry	<i>Physalis longifolia</i>
Junglerice	<i>Echinochloa colonum</i>
Prostrate pigweed	<i>Amaranthus blitoides</i>
Shepherdspurse	<i>Capsella bursa-pastoris</i>
Witchgrass	<i>Panicum capillare</i>

NORTRON SC + ANTOR 4ES tank-mix may be applied pre-plant incorporated where furrow irrigation is practiced using shallow incorporation implements such as rolling cultivators or hand cws, or using power tillers set to a depth of 1-2 inches.

Preemergence applications of NORTRON SC + ANTOR 4ES tank-mix may be used when application is followed by sprinkler irrigation prior to weed germination and crop emergence, or where rainfall can be expected to occur within 7-10 days after application.

ANTOR 4ES may also be utilized in sequential applications with NORTRON SC where a broadcast preemergence treatment of ANTOR 4ES is followed by a band overlay of NORTRON SC preemergence. The same dosage rates should be used as in the tank-mix.

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Refer to Dosage Table 3 for recommended rates.

Before use, read the ANTOR 4ES label for additional information and precautions.

DOSAGE TABLE 3 (California, Colorado, Montana, Nebraska, Texas, and Wyoming only):

Soil Texture	ANTOR 4ES Per Acre ¹	NORTRON SC Per Acre ¹
Coarse: Loose, sandy and sandy loams	1.5 Quarts	1.5 Quarts
Medium: Loams and silt loams	2 Quarts	2 Quarts
Fine: Clay loams and clays	3 to 4 Quarts ²	2.5 Quarts

¹See section on Band Applications for calculations of proportional amounts.

²Use higher rate on heavy clay soils.

NORTRON SC + PYRAMIN® (tank-mix)

This tank-mix controls these additional broadleaf weeds:

Annual sowthistle	<i>Sonchus oleraceus</i>
Black mustard	<i>Brassica nigra</i>
Buffalobur	<i>Solanum rostratum</i>
Coast fiddleneck	<i>Amsinckia intermedia</i>
Common groundsel	<i>Senecio vulgaris</i>
Common ragweed	<i>Ambrosia artemisiifolia</i>
Cutleaf nightshade	<i>Solanum triflorum</i>
Groundcherry	<i>Physalis</i> spp.
Henbit	<i>Lamium amplexicaule</i>
Nettleleaf goosefoot	<i>Chenopodium murale</i>
Prickly lettuce	<i>Lactuca scariola</i>
Prostrate knotweed	<i>Polygonum aviculare</i>
Shepherdspurse	<i>Capsella bursa-pastoris</i>

CALIFORNIA (winter-grown sugar beets only): Under sprinkler irrigation or where natural rainfall is adequate, apply this tank-mix preemergence. See Pyramin label for precautions regarding application of sprinkler irrigation. Where furrow irrigation is to be used, apply preplant incorporated. Prepare seedbed or form beds for planting. Then use rotary tiller type of incorporation and incorporate not more than 2 inches deep. Plant sugar beets and irrigate. Sub-irrigate until tops of beds are thoroughly wetted. Refer to Dosage Table 4 for recommended rates.

DOSAGE TABLE 4 (California, winter-grown sugar beets only):

Soil Texture	NORTRON SC Per Acre		PYRAMIN FL Per Acre	
	Broadcast (For calibration purposes only)	16-inch Band Width ¹ 36" Row	Broadcast (For calibration purposes only)	16-inch Band Width ¹ 36" Row
Coarse Textured Soils: Sands, loamy sands and sandy loams	NOT RECOMMENDED			
Medium Textured Soils: Silt loams, clay loams which contain less than 3% organic matter	3 to 3½ Pints	1 to 1½ Pints	4 Pounds	1½ Pounds
Fine Textured Soils: Clay loams which contain more than 3% organic matter and clays	4 to 5½ Pints	1½ to 1¾ Pints	4 Pounds	1½ Pounds

¹For other band or row widths, adjust rates in proportion to the area actually treated. Do not apply this mixture broadcast.

²Use the higher rate of NORTRON SC within each soil texture category on the finer-textured soils and/or where volunteer barley or wheat are expected to be a problem.

PRECAUTIONS: Do not exceed ¼ inch of sprinkler irrigation per set until the beets have two true leaves. Do not use the tank-mix under conditions where Pyramin alone is not recommended. Before use, read the Pyramin label for additional information and precautions.

CENTRAL AND EASTERN STATES, INCLUDING MICHIGAN AND OHIO: This tank-mix controls the additional weed, common ragweed, and other broadleaf weeds specified in the weed table. Apply preemergence at the time of planting or shortly after, but before weed germination, using recommended rates listed in Dosage Table 5. Do not mechanically incorporate the herbicides into the soil as crop injury may result. Do not use this tank-mix where Pyramin alone is not recommended. Before use, read Pyramin label for additional information and precautions.

DOSAGE TABLE 5 (Central and Eastern States Only):

Soil Texture	NORTRON SC/Acre			PYRAMIN® FL/Acre		
	Broad cast	7-inch Band Width ¹		Broad cast	7-inch Band Width ¹	
		22" Row	28" Row		22" Row	28" Row
Coarse Textured Soils: Sandy loams only	3 Pints	1 Pint	¾ Pint	3 Pounds	1 Pound	¾ Pound
Medium Textured Soils: Silt and clay loams which contain less than 3% organic matter	4 Pints	1½ Pints	1 Pint	4 Pounds	1½ Pounds	1 Pound
Fine Textured Soils: Clay loams which contain more than 3% organic matter and clays	5 Pints	1½ Pints	1½ Pints	4 Pounds	1½ Pounds	1 Pound

¹For other band or row widths, adjust the rate in proportion to the area actually treated.

NORTRON SC + ANTOR 4ES + PYRAMIN® (tank-mix)

MICHIGAN ONLY: A tank-mix of NORTRON SC + ANTOR 4ES + Pyramin may be used in Michigan for control of the additional weeds:

Common ragweed	<i>Ambrosia artemisiifolia</i>
Wild mustard	<i>Brassica kaber</i>
Pennsylvania smartweed	<i>Polygonum pennsylvanicum</i>
Common lambsquarters	<i>Chenopodium album</i>
Common purslane	<i>Portulaca oleracea</i>
Nettleleaf goosefoot	<i>Chenopodium murale</i>
Common chickweed	<i>Stellaria media</i>
Henbit	<i>Lamium amplexicaule</i>
Fanweed (stinkweed)	<i>Thlaspi arvense</i>
Kochia	<i>Kochia scoparia</i>
Russian thistle	<i>Salsola kali</i>
Volunteer barley	<i>Hordeum</i> sp.
Volunteer wheat	<i>Triticum</i> sp.
Ladysthumb	<i>Polygonum persicaria</i>

For preemergence use without irrigation, apply the tank-mix to the soil surface at the time of planting or shortly after, but prior to weed germination. Use rates recommended in Dosage Table 6.

Do not use this mixture under conditions where Pyramin alone is not recommended. Before use, read the Pyramin and ANTOR 4ES labels for additional information and precautions.

DOSAGE TABLE 6 (Michigan only)

Soil Texture	Broadcast Rates Per Acre		
	NORTRON SC (pts.)	ANTOR 4ES (qts.)	PYRAMIN® FL (qts.)
Coarse Textured Soils: Sandy loams only	3	1.5	2.25
Medium Textured Soils: Loams, silt loams and clay containing more than 3% organic matter	4	2	2.25
Fine Textured Soils: Clay loams and clays containing more than 3% organic matter	4	3	2.25

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NORTRON SC + TCA† (tank-mix)

CENTRAL AND EASTERN STATES, INCLUDING MICHIGAN AND OHIO: The control of certain grass weeds, particularly yellow foxtail and barnyardgrass, can be enhanced by the use of this tank-mix.

Apply preemergence at time of planting or shortly after but prior to weed germination. Apply at rates recommended in Dosage Table 7. Before use, read TCA label for additional information and precautions.

DOSAGE TABLE 7 (Central and Eastern States, including Michigan and Ohio)

Soil Texture	NORTRON SC/Acre		TCA/Acre ¹	
	Broadcast	7-inch Band ² 25" Row	Broadcast	7-inch Band ² 25" Row
Coarse Textured Soils: Sandy loams only	3 Pints	1½ Pints	3 Quarts	1½ Pints
Medium Textured Soils: Silt and clay loams which contain less than 3% organic matter	4 Pints	1 Pint	1 Gallon	1 Quart
Fine Textured Soils: Clay loams which contain more than 3% organic matter and clays	6 Pints	1½ Pints	1 Gallon	1 Quart

¹Based on commercial liquid formulation containing the equivalent of 6 pounds of dry 80% sodium TCA per gallon.

²For other band or row widths, adjust the rate in proportion to the area actually treated.

EPTAM*‡ (fall-applied) + NORTRON SC
(spring-applied)

NORTH DAKOTA* AND MINNESOTA ONLY (sequential treatment): The control of certain weeds, particularly yellow foxtail and redroot pigweed, can be improved by the sequential treatment of Eptam 7E applied in the fall followed by a spring application of NORTRON SC. Furthermore, the addition of NORTRON SC provides up to 10 weeks' control of susceptible weeds.

Apply Eptam 7E in the fall in accordance with directions on the label. Apply NORTRON SC in the spring to the soil surface preplant or at the time of planting and incorporate into the soil. Apply at recommended rates listed in Dosage Table 8. This sequential treatment is not recommended for use on coarse-textured soils.

Do not use in areas or under conditions where Eptam 7E is not recommended. Before use, read Eptam 7E label for additional information and precautions.

DOSAGE TABLE 8 (North Dakota and Minnesota only)

Soil Texture	NORTRON SC Per Acre	
	Broadcast	7-inch Band Width ¹ 22" Row
Coarse Textured Soils: Sands, loamy sands and sandy loams	NOT RECOMMENDED	
Medium Textured Soils: Silt loams and clay loams	5 Pints	2 Pints
Fine Textured Soils: Heavy clays	6 Pints	2 Pints

¹For other band or row widths, adjust the rate in proportion to the area actually treated.

POSTEMERGENCE APPLICATION

(For use in California, Michigan, Ohio, Minnesota, and North Dakota only):

GENERAL INFORMATION

The tank-mixes of NORTRON SC plus BETANEX* and NORTRON SC plus BETAMIX* applied postemergence broaden and enhance the control of weeds.

Furthermore, control of susceptible weeds which may germinate after treatment can be obtained provided overhead moisture is applied to activate NORTRON SC. The choice of tank-mixes is dependent upon weed species present. NORTRON SC alone is not recommended for postemergence use.

Timing of Application: Apply the tank-mix NORTRON SC + BETANEX or NORTRON SC + BETAMIX when sugar beets have at least 4 fully expanded true leaves. Apply at rates recommended in the Dosage Tables. Use the higher rate of NORTRON SC where increased residual weed control is desired. Where Eptam has been applied preplant (fall or spring applied), do not apply NORTRON SC + BETANEX or BETAMIX tank-mix before the sugar beets have 6 expanded true leaves. Sugar beets may be killed or severely injured if treated at earlier stages of crop growth. See Postemergence Use Precautions for additional information on proper use.

Mixing the Spray: Add NORTRON SC to the water in the spray tank followed by BETANEX or BETAMIX while agitating the spray solution thoroughly. Refer to the BETANEX or BETAMIX labels for additional precautions and information on mixing.

Spray Equipment: Apply the mixture using standard low pressure (20–60 psi) spray equipment. Ensure that the sprayer is thoroughly clean. Spray equipment should be carefully calibrated before use and checked frequently during application to see that it is functioning properly. Uniformly apply the recommended rate in 20–60 gallons of water per acre on a broadcast basis. Avoid overlaps, since crop injury may result. When applying in a band, check to make certain that the band width is accurate for the dosage rate being applied. Do not use strainer smaller than 50-mesh.

Moisture Following Application/Residual Weed Control: Rainfall or sprinkler irrigation within 6 hours of spraying may reduce weed control; however, moisture after this period of time is advantageous for moving NORTRON SC into the 1–2" layer of soil where it can be absorbed by the roots of sprayed and germinating weeds to provide optimum control. One-half inch or more of sprinkler irrigation is required to activate NORTRON SC on most soil types.

Residual control of weeds is dependent upon soil moisture conditions, rate of herbicide used, and soil texture. The activity of NORTRON SC in the soil is reduced as the soil texture becomes finer and organic matter increases.

CAUTION:

MINNESOTA AND NORTH DAKOTA—Do not apply to crop which has been previously treated with NORTRON SC.

CALIFORNIA, MICHIGAN AND OHIO—Following a preemergence treatment of NORTRON SC, do not apply NORTRON SC postemergence where more than 6 pints were applied preemergence. No more than a total of 1 gallon of NORTRON SC should be applied in a single growing season. See Postemergence Use Precautions for additional information on proper use.

NORTRON SC + BETANEX (tank-mix)
MICHIGAN, OHIO, MINNESOTA, AND NORTH DAKOTA ONLY: NORTRON SC applied postemergence in a tank-mix with BETANEX broadens and enhances the control of troublesome weeds. Furthermore, preemergence control of susceptible weeds which may germinate following treatment can be obtained provided overhead moisture is sufficient to activate NORTRON SC.

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WEED SPECIES CONTROLLED:

Group I: Weeds controlled up to the 6-leaf stage.

Redroot pigweed.....	<i>Amaranthus retroflexus</i>
Wild mustard	<i>Brassica kaber</i>
Nettleleaf goosefoot	<i>Chenopodium murale</i>
London rocket.....	<i>Sisymbrium irio</i>
Common lambsquarters	<i>Chenopodium album</i>

Group II: Weeds controlled up to the 4-leaf stage.

Common chickweed.....	<i>Stellaria media</i>
Black nightshade	<i>Solanum nigrum</i>
Common ragweed	<i>Ambrosia artemisiifolia</i>
Shepherdspurse	<i>Capsella bursa-pastoris</i>
Groundcherry	<i>Physalis lanceifolia</i>
Pennsylvania smartweed	<i>Polygonum pennsylvanicum</i>
Ladysthumb	<i>Polygonum persicaria</i>

Group III: Weeds controlled up to the 2-leaf stage.

Annual sowthistle	<i>Sonchus oleraceus</i>
Common purslane.....	<i>Portulaca oleracea</i>
Wild buckwheat	<i>Polygonum convolvulus</i>
Kochia*	<i>Kochia scoparia</i>

DOSAGE TABLE 8 (Michigan, Ohio, Minnesota and North Dakota only):

Rate of NORTRON SC Per Acre ¹					Rate of BETANEX Per Acre ¹				
Broadcast Rate	Band ² Width (in.)	Row Spacing			Broadcast Rate	Band ² Width (in.)	Row Spacing		
		22"	28"	36"			22"	28"	36"
2½-3 Pints	7	¾-1 Pint	¾-1 Pint	¾-1 Pint	4½-6 Pints	7	1½-2 Pints	1½-1½ Pints	1-1½ Pints

¹Use the higher rate on larger weeds and sugar beets.

²For other band or row widths, adjust rates in proportion to the area actually treated.

NORTRON SC + BETAMIX (tank-mix)

CALIFORNIA, MICHIGAN, OHIO, MINNESOTA AND NORTH DAKOTA ONLY: NORTRON SC applied postemergence in a tank-mix with BETAMIX broadens and enhances the control of troublesome weeds. Furthermore, preemergence control of susceptible weeds which may germinate following treatment can be obtained provided overhead moisture is sufficient to activate NORTRON SC.

WEED SPECIES CONTROLLED:

Group I: Weeds controlled up to the 6-leaf stage.

Redroot pigweed.....	<i>Amaranthus retroflexus</i>
Wild mustard	<i>Brassica kaber</i>
Nettleleaf goosefoot	<i>Chenopodium murale</i>
London rocket.....	<i>Sisymbrium irio</i>
Common lambsquarters	<i>Chenopodium album</i>

Group II: Weeds controlled up to the 4-leaf stage.

Common chickweed.....	<i>Stellaria media</i>
Black nightshade	<i>Solanum nigrum</i>
Common ragweed	<i>Ambrosia artemisiifolia</i>
Shepherdspurse	<i>Capsella bursa-pastoris</i>
Groundcherry	<i>Physalis lanceifolia</i>
Pennsylvania smartweed	<i>Polygonum pennsylvanicum</i>
Ladysthumb	<i>Polygonum persicaria</i>
Prostrate pigweed	<i>Amaranthus blitoides</i>
Coast fiddleneck	<i>Amsinckia intermedia</i>

Group III: Weeds controlled up to the 2-leaf stage.

Annual sowthistle	<i>Sonchus oleraceus</i>
Kochia*	<i>Kochia scoparia</i>
Common purslane**	<i>Portulaca oleracea</i>
Prostrate knotweed	<i>Polygonum aviculare</i>
Wild buckwheat	<i>Polygonum convolvulus</i>
Green foxtail***	<i>Setaria viridis</i>
Yellow foxtail (pigeongrass)***	<i>Setaria glauca</i>
Annual bluegrass***	<i>Poa annua</i>
Canarygrass***	<i>Phalaris canariensis</i>

*Spray kochia while in the rosette stage, less than 1" in diameter.

**Group II weed in California.

***For best control, overhead moisture required

DOSAGE TABLE 10 (California, Michigan, Ohio, Minnesota and North Dakota only):

Rate of NORTRON SC Per Acre ¹					Rate of BETAMIX Per Acre ¹				
Broadcast Rate	Band ² Width (in.)	Row Spacing			Broadcast Rate	Band ² Width (in.)	Row Spacing		
		22"	28"	36"			22"	28"	36"
2½-3 Pints	7	¾-1 Pint	¾-1 Pint	¾-1 Pint	4½-6 Pints	7	1½-2 Pints	1-1½ Pints	1½ Pints

¹Use the higher rate on larger weeds and sugar beets.

²For other band or row widths, adjust rates in proportion to the area actually treated.

PREPLANT AND PREEMERGENCE USE PRECAUTIONS:

NORTRON SC applied alone or in tank-mixes according to label directions and under normal growing conditions may cause temporary leaf fusion, distortion and stunting. Crop injury may occur during early growth when crop is stressed due to herbicide residue carryover, highly saline or alkaline soils, unusually cold and wet weather or improperly placed fertilizers or soil insecticides.

Unusually dry, windy weather following application of NORTRON SC, which dries the upper soil layer, may reduce effectiveness.

Where NORTRON SC is used in a tank-mix with TCA, do not use treated sugar beet tops for feed or forage.

POSTEMERGENCE USE PRECAUTIONS: Make only one application of NORTRON SC + BETANEX or BETAMIX tank-mix during each growing season.

Do not apply NORTRON SC + BETANEX or BETAMIX tank-mix to sugar beets later than 90 days prior to harvest.

Crop Planting Precautions: If crop is lost due to unfavorable growth conditions following treatment, do not replant with crops other than sugar beets in treated land during the same season. If fields are replanted to sugar beets, reseed into treated band. Do not retreat field with NORTRON SC in the same season.

NORTRON SC + BETANEX OR BETAMIX MAY CAUSE SUGAR BEET INJURY OR STAND LOSS IF THE CROP IS UNDER STRESS FROM ONE OR MORE OF THE FOLLOWING CONDITIONS:

- ☐ Rapid climatic changes from cool, overcast days, to hot (80°F or over), bright days. When the air temperature is, or is likely to be, above 80°F on the day of spraying, application should be made in the evening when the temperature is lower.
- ☐ Frost within seven days following treatment;
- ☐ Windy or drought conditions;
- ☐ Use of a preplant or preemergence herbicide or other chemicals;
- ☐ Insect or disease injury;
- ☐ Close cultivation.

If stress conditions are present, delay application until crop has recovered.

DO NOT OVERTREAT: The use of higher-than-recommended rates may cause beet injury.

Do not spray while dew is present.

Rainfall or sprinkler irrigation within 6 hours of application may reduce weed kill.

Do not allow spray drift to contact adjacent crops which may be injured by spray drift.

IMPORTANT: This tank-mix may cause temporary growth retardation and/or chlorosis or tip-burn on sugar beets. Sugar beets usually resume normal growth within 10 days.

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RYEGRASS, TALL FESCUE, AND BENTGRASS SEED CROPS

WEED SPECIES CONTROLLED

NORTRON SC is a selective herbicide for use in ryegrass, tall fescue, and bentgrass seed crops in California, Oregon, and Washington. It effectively controls or reduces competition from those weed species listed below. NORTRON SC may be applied preemergence to new seedlings of annual ryegrass or postemergence to established stands of perennial ryegrass, tall fescue, or bentgrass. Application to bentgrass is restricted to plantings which have been established for one year or longer. Soil should be moist at time of application. NORTRON SC is less effective when applied to dry soil. Rainfall shortly after application is necessary for activation. Make only one application per season, either preemergence or postemergence, not both.

WEEDS CONTROLLED

Annual bluegrass	<i>Poa annua</i>
Seedling Rattail fescue	<i>Festuca myuros</i>
Seedling volunteer wheat	<i>Triticum</i> spp.
Seedling volunteer barley	<i>Hordeum</i> spp.
Soft chess	<i>Bromus mollis</i>
Seedling Wild oats	<i>Avena fatua</i>
Downy brome	<i>Bromus tectorum</i>
Common chickweed	<i>Stellaria media</i>
Common vetch	<i>Vicia sativa</i>
Common velvetgrass	<i>Hokus lanatus</i>
Mannagrass	<i>Glyceria</i> spp.
Barnyardgrass*	<i>Echinochloa crus-galli</i>
Canarygrass	<i>Phalaris canariensis</i>
Green foxtail	<i>Setaria viridis</i>
Large crabgrass	<i>Digitaria sanguinalis</i>
Yellow foxtail	<i>Setaria glauca</i>

Spray equipment: Use a fixed boom power sprayer properly calibrated to a constant speed and rate of delivery. Do not use smaller than 50-mesh strainer. Avoid overlapping of spray swath. Shut off boom while starting, turning or stopping to avoid overlapping. Apply in 10 to 50 gallons of water per acre at low pressure (20-50 psi).

Soil preparation: A firm, fine and level seedbed free of trash and vegetative matter will provide best results from preemergence applications. Large clods can reduce effectiveness of NORTRON SC. All existing vegetative growth should be thoroughly worked into the soil before treatment.

NEW SEEDINGS OF ANNUAL OR PERENNIAL RYEGRASS:

Before weed emergence: Apply NORTRON SC after seeding and prior to weed emergence. For best results apply to moist soil. Apply 1½ to 3 pints per acre. Use the lower rate for control of annual bluegrass and common chickweed. For control of rattail fescue, wild oats, and volunteer cereals and other weeds listed use 2¼ to 3 pints per acre.

After weed emergence: Apply NORTRON SC at earliest possible weed growth stage but not later than the 4-leaf stage. Rattail fescue, wild oats, and volunteer cereals which are more difficult to control, must be treated no later than the 2-leaf stage. Apply 2¼ to 3¾ pints per acre. Use the highest rate where rattail fescue, wild oats, and volunteer cereals are present and where weed infestation is heavy.

NEW SEEDINGS OF FALL-PLANTED PERENNIAL RYEGRASS AND TALL FESCUE TREATED WITH DIURON PLUS CHARCOAL:

Timing of application: Apply NORTRON SC following crop emergence and after sufficient rainfall and/or overhead irrigation has occurred to dissipate the charcoal band (approximately 4 inches). Use dosage rates listed in table below. Surface debris may result in reduced weed control. Failure to allow for complete dissipation of the charcoal band may result in reduced weed control within the crop row. For best results, apply NORTRON SC to a moist soil surface.

Before using diuron, read the diuron label for rate recommendations, timing of applications, directions for use and precautionary statements. Do not exceed maximum dosage rates for either herbicide.

NOTE: Do not apply NORTRON SC when crop shows Diuron injury.

ESTABLISHED STANDS OF PERENNIAL RYEGRASS AND TALL FESCUE:

Before weed emergence: Apply NORTRON SC at 2¼ to 3 pints per acre prior to weed emergence. Use higher rate where rattail fescue, wild oats, and volunteer cereals are expected to be a problem. For best results, apply to moist soil. Crop residue and debris will reduce effectiveness of treatment and should be removed or destroyed.

After weed emergence: Apply NORTRON SC at earliest possible weed growth stage but not later than the 4-leaf stage. Rattail fescue, wild oats, and volunteer cereals which are more difficult to control, must be treated no later than the 2-leaf stage. Apply 2¼ to 3 pints per acre. Use the higher rate where rattail fescue, wild oats, and volunteer cereals are present. Where weed pressure is very heavy and rattail fescue is at the maximum stage of growth for treating, a rate of 3¾ pints of NORTRON SC is recommended.

ESTABLISHED STANDS OF BENTGRASS: Apply only to well-established stands which have been seeded for not less than 12 months. Straw from previous crop must be removed or destroyed. Failure to do so may result in reduced weed control.

Before weed emergence: Apply NORTRON SC at 1½ to 3 pints per acre prior to weed emergence. Use higher rate where rattail fescue, wild oats, and volunteer cereals are expected to be a problem. For best results, apply to moist soil.

After weed emergence: Apply NORTRON SC at earliest possible weed growth stage but no later than the 4-leaf stage. Rattail fescue, wild oats, and volunteer cereals which are more difficult to control, must be treated no later than the 2-leaf stage. Apply at the rate of 1½ to 3 pints per acre. Use higher rate when rattail fescue, wild oats, and volunteer cereals are a problem. Do not apply more than 3 pints of NORTRON SC per acre on bentgrass.

USE PRECAUTIONS:

(For use in California, Oregon, and Washington only): NORTRON SC may cause stunting and stand reduction of newly seeded perennial ryegrass and tall fescue, if the crop is planted late in the fall and subjected to adverse climatic conditions or pesticides which restrict normal growth.

If vegetative matter or stover from previous crop was burned, sufficient rainfall or overhead irrigation must have occurred to dissipate the charcoal residue remaining after burning prior to NORTRON SC treatment. Failure to allow for dissipation of charcoal residue may result in reduced weed control.

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COMMERCIAL SOD PRODUCTION

WEED SPECIES CONTROLLED

NORTRON SC is a selective herbicide for use in established and newly planted tall fescue and perennial ryegrass grown for sod in California, Oregon, and Washington. NORTRON SC may be applied preemergence or postemergence for the control of weed species listed below. Overhead irrigation or rainfall shortly after application is necessary for activation.

WEEDS CONTROLLED:

Annual bluegrass	<i>Poa annua</i>
Large crabgrass	<i>Digitaria sanguinalis</i>
Green foxtail	<i>Setaria viridis</i>
Yellow foxtail	<i>Setaria glauca</i>
Canarygrass	<i>Phalaris canariensis</i>
Volunteer barley	<i>Hordeum sp</i>
Volunteer wheat	<i>Triticum sp.</i>
Wild oats	<i>Avena fatua</i>
Rattail fescue	<i>Festuca myuros</i>
Common velvetgrass	<i>Holcus lanatus</i>
Mannagrass	<i>Glyceria sp.</i>
Downy brome	<i>Bromus tectorum</i>
Soft chess	<i>Bromus mollis</i>

(For Use in California, Oregon, and Washington Only):

Spray equipment: Use a fixed boom power sprayer properly calibrated to a constant speed and rate of delivery. Do not use smaller than a 50-mesh strainer. Avoid overlapping of spray swath. Shut off boom while starting, turning or stopping to avoid over-application. Make applications in 10 to 50 gallons of water per acre at low pressure (20 to 50 psi).

Soil preparation: All existing vegetative matter should be thoroughly worked into the soil surface before planting. Large clods, trash or vegetative matter left on the soil surface will reduce effectiveness of the NORTRON SC treatment.

NEWLY PLANTED PERENNIAL RYEGRASS AND TALL FESCUE GROWN FOR SOD: Apply NORTRON SC to newly planted areas when crop reaches the 2-3 leaf stage of growth. For best results, apply to moist soils.

Before weed emergence: Apply NORTRON SC at 2¼ to 3 pints per acre prior to weed emergence. Use the higher rate where rattail fescue, wild oats, and volunteer cereals are expected to be a problem.

After weed emergence: Apply NORTRON SC at earliest possible weed growth stage but no later than the 4-leaf stage. Rattail fescue, wild oats, and volunteer cereals which are more difficult to control, must be treated no later than the 2-leaf stage. Apply NORTRON SC at 2¼ to 3 pints per acre.

ESTABLISHED PERENNIAL RYEGRASS AND TALL FESCUE SOD: For preemergence and/or postemergence control of susceptible weeds, apply NORTRON SC prior to weed emergence or at the earliest possible weed growth stage, but not later than the 4-leaf stage. For best results, apply to moist soils. Apply NORTRON SC at 2¼ to 3 pints per acre. Repeat applications at 4 to 8 week intervals may be needed to maintain weed control. DO NOT apply more than 1 gallon of NORTRON SC per acre per growing season.

USE PRECAUTIONS:

(For use in California, Oregon, and Washington only): NORTRON SC may cause stunting and stand reduction of newly seeded perennial ryegrass and tall fescue, if the crop is planted late in the fall and subjected to adverse climatic conditions or pesticides which restrict normal growth.

If vegetative matter or stover from previous crop was burned, sufficient rainfall or overhead irrigation must have occurred to dissipate the charcoal residue remaining after burning prior to NORTRON SC treatment. Failure to allow for dissipation of charcoal residue may result in reduced weed control.

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IMPORTANT: READ BEFORE USE

By using this product, user or buyer accepts the following conditions, warranty, disclaimer of warranties and limitations of liability.

CONDITIONS: The directions for use of this product are believed to be adequate and should be followed carefully. However, because of extreme weather and soil conditions, manner of use and other factors beyond NOR-AM Chemical Company's control, it is impossible for NOR-AM to eliminate all risks associated with the use of this product. As a result, crop injury or ineffectiveness is always possible. All such risks shall be assumed by the user or buyer.

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