

OCT 25 1985

Mr. David Pincus  
FMC Corporation  
Agricultural Chemical Group  
2000 Market Street  
Philadelphia, PA 19103

Dear Mr. Pincus:

Subject: Amended Registration Adding Container Grown Ornamentals  
Furadan 4F Insecticide/Nematicide  
EPA Registration No. 279-2876  
Your Application Dated September 17, 1985

The amendment referred to above, submitted in connection with registration under FIFRA sec. 3(c)(7)(A) is acceptable provided that you:

1. Submit and/or cite all data required for registration/reregistration of your product under FIFRA sec. 3(c)(5) when the Agency requires all registrants of similar products to submit such data.
2. Submit five (5) copies of your final printed labeling before you release the product for shipment.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.

Sincerely yours,

Jay S. Ellenberger  
Product Manager (12)  
Insecticide-Rodenticide Branch  
Registration Division (TS-767)

Enclosure

J2941:Ellenberger:159866:RD-85/04:10/9/85:10/22/85:dej:ps

159866  
06/18  
310

CONCURRENCES

SYMBOL ▶							
SURNAME ▶							
DATE ▶							

Code 279

275  
Net Content

**RESTRICTED USE PESTICIDE**

Due to acute oral, dermal and inhalation toxicity. For retail sale to and application only by certified applicators or personnel under their direct supervision.

# Furadan® 4 F Insecticide-Nematicide

OCT 2 1985

279-2876

EPA REG. NO. 279-2876 ZA

EPA Est., 279-

**ACTIVE INGREDIENT:**

\*Carbofuran.....44.90%

**INERT INGREDIENTS:**.....55.10%

100.00%

\*2-3-Dihydro-2, 2-dimethyl-7-benzofuranyl methylcarbamate.  
This product contains 4 lbs. of carbofuran per gallon.  
U.S. Patent No. 3,474,171

**Statement of Practical Treatment**

If swallowed: drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person. Get medical attention.

If inhaled: remove to fresh air. Call a physician immediately.

If in eyes: flush with plenty of water for at least 15 minutes. Get medical attention.

If on skin: wash skin immediately with soap and water. Remove contaminated clothing and wash before reuse.

**Antidote**

**Note to Physician:** Carbofuran is a reversible cholinesterase inhibitor. Do not use oximes such as 2-PAM. Start by giving 2 mg. atropine intramuscularly. According to clinical response, continue until atropinization occur (dry mouth or dilated pupils). If in eye, instill drop of homatropine.

**KEEP OUT OF REACH OF CHILDREN**



**DANGER—POISON**



**ENVIRONMENTAL HAZARDS**

This product is toxic to fish, birds and other wildlife. Birds feeding in treated areas may be killed. For waterfowl protection, do not apply immediately before or during irrigation, or on fields in proximity of waterfowl nesting areas, or on fields where waterfowl are known to repeatedly feed. Drift and runoff from treated areas may be hazardous to neighboring areas. Do not apply directly to water.

**Notice:** It is a Federal offense to use any pesticide in a manner which results in the death of a member of an endangered species.

The use of Furadan 4 F may pose a hazard to the following Federally designated endangered/threatened species known to be found in certain areas within the named locations:

- Attwater's Greater Prairie Chicken—Texas counties including Aransas, Austin, Brazoria, Colorado, Galveston, Goliad, Refugio and Victoria
- Aleutian Canada Goose—California counties including Colusa, Merced, Stanislaus and Sutter
- Kern Primrose Sphinx Moth—Walker Basin of Kern County, California

This product may not be used in areas where adverse impact on Federally designated endangered/threatened species noted above is likely. Prior to making applications, the user of this product must determine that no such species are located in or immediately adjacent to the area to be treated. If the user is in doubt whether or not the named endangered species may be affected, he should contact the regional U.S. Fish and Wildlife Service office (Endangered Species Specialist) or personnel of the State Fish and Game office.

This product is highly toxic to bees exposed to direct treatment residues on crops. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area. Protective information may be obtained from your Cooperative Agricultural Extension Service.

Carbofuran is a chemical which can travel (seep or leach) through soil and can contaminate ground water which may be used as drinking water. Carbofuran has been found in ground water as a result of agricultural use. Users are advised not to apply carbofuran where the water table (ground water) is close to the surface and where the soils are permeable, i.e., well-drained soils such as loamy sands. Your local agricultural agencies can provide further information on the type of soils in your area and the location of ground water.

**PRECAUTIONARY STATEMENTS**

**Hazards to Humans (& Domestic Animals)**

**Danger**

Poisonous if swallowed or inhaled. May be fatal or harmful as a result of skin or eye contact or by breathing spray mist. Causes cholinesterase inhibition. Warning symptoms of poisoning include weakness, headache, sweating, nausea, vomiting, diarrhea, tightness in chest, blurred vision, pinpoint eye pupils, abnormal flow of saliva, abdominal cramps, and unconsciousness. Atropine sulfate is antidotal.

Wear a pesticide respirator jointly approved by the Mining Enforcement and Safety Administration (formerly the U.S. Bureau of Mines) and by the National Institute for Occupational Safety and Health under the provisions of 30 CFR Part II. Wear goggles or face shield for eye protection when measuring or mixing. Wear long sleeved clothing and protective gloves when handling. Wash hands and face before eating or smoking. Bathe at the end of the work day. Change clothing daily and wash before reuse.

Keep all unprotected persons out of the operating area or vicinity where there may be danger of drift.

For Emergency Assistance Call 716-735-3765.

See other panels for additional precautionary information.



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**DIRECTIONS FOR USE**

For a complete list of uses, see the label on the product or contact your local agricultural agency.

# Shake Well Before Using

Do not use this product on Long Island, N.Y.

If prolonged intimate contact with corn and/or sorghum foliage will result, do not re-enter treated fields within 14 days of application without wearing proper protective clothing. For all other situations, do not re-enter fields less than 24 hours following application.

## STORAGE AND DISPOSAL

### Pesticide Storage

Not for use or storage in or around the house.

Do not store below 35°F. (2°C).

Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat. Carefully open containers. After partial use, replace lids and close tightly. Do not put concentrate or dilute material into food or drink containers. Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.

In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Contain spills. Call FMC collect: (716) 735-3765.

To confine spill: If liquid, dike surrounding area or absorb with sand, cat litter or commercial clay. If dry material, cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

### Pesticide 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

Metal Containers: 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 cut or weld metal containers.

Plastic Containers: Triple rinse (or equivalent) then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Do not apply Furadan 4 F insecticide-nematicide through overhead irrigation systems.

Do not rotate to a succeeding crop other than alfalfa, corn (field, pop or sweet), cotton, cucurbits (cucumbers, melons, pumpkins or squash), grapes, peanuts, peppers, potatoes, rice, small grains (barley, oats, wheat), sorghum, soybeans, strawberries, sugar beets, sugarcane and tobacco. Tomatoes, cabbage, peas, succulent beans and dry beans may be planted the following season provided the prior season's application did not exceed 8.7 lbs. per acre of Furadan 15 G, 13 lbs. per acre of Furadan 10 G or 2 pints 10 fluid ounces of Furadan 4 F. Any other crop may be planted if it is not harvested or grazed.

Alfalfa: Alfalfa Weevil Larvae, Egyptian Alfalfa Weevil, Pea Aphid, and in N.Y. State for Snout Beetle control—Apply the amount of Furadan 4 F, indicated in the chart, when feeding is noticed or when insects appear. Alfalfa Weevil Adult—Apply 1 to 2 pints per acre when insects appear. Alfalfa Blotch Leafminer (Northeastern States only) and Potato Leafhopper. Apply 1 to 2 pints per acre when insects appear. Lygus Bugs—Apply 2 pints per acre prior to bloom. Grasshoppers—Apply 1/2 to 1 pint per acre when grasshopper feeding is noticed. For control of Blue Alfalfa Aphid (nymphs and wingless adults)—Apply Furadan 4 F at 1/2 to 1 pint per acre when insect feeding is noticed or when insects appear. Do not apply more than twice per season. Do not apply more than once per cutting. Do not use more than 1 pint per acre in the second application. Apply only to fields planted to pure stands of alfalfa. Do not move bees to alfalfa fields within 7 days of application. Observe the indicated number of days after application before cutting or grazing.

Pints of Furadan 4 F Per Acre	Do not cut or graze within
1	7 days
1	14 days
2	28 days

Minimum gallonage requirements. Ten gallons of finished spray per acre with ground equipment, two gallons per acre with aircraft, except Blue Alfalfa Aphid use 30 gallons of finished spray per acre with ground equipment, 5 gallons per acre with aircraft.

For waterfowl protection do not apply on fields in proximity of waterfowl nesting areas and/or fields where waterfowl are known to repeatedly feed.

Cotton: Thrips—Use Furadan 4 F at 2.5 fluid ounces per 1,000 linear feet of row (1 quart per acre with 40 inch row spacing). Apply in the seed furrow at planting. Furadan 4 F may be mixed with water or liquid fertilizer. When Furadan 4 F is used with liquid fertilizers, premix one part of Furadan 4 F with two parts of water. Check physical compatibility before mixing large quantities. Add this premix to the tank of fertilizer along with the rinsings from the premixing container. Maintain agitation in the tank after mixing and during application. Do not mix until ready to use. Do not feed cotton forage.

Field Corn, Popcorn, Sweet Corn—At Planting: Corn Rootworm, Flea Beetles and to aid in the control of first generation European Corn Borer—Use 2.5 fluid ounces of Furadan 4 F per 1,000 linear feet of row (1 quart per acre with 40 inch row spacing). Apply at planting, as a band over the row or inject on each side of the row by mixing with water or liquid fertilizers.

Southern Corn Rootworm, Flea Beetles, Seed Corn Maggot, Wireworms, and to aid in the control of first generation European Corn Borer and Armyworm for approximately 4 to 6 weeks after planting—Use 2 fluid ounces of Furadan 4 F per 1,000 linear feet of row (1 quart per acre with 40 inch row spacing). Apply at planting directly into the seed furrow.

Furadan 4 F may be mixed with water or liquid fertilizers. If Furadan 4 F is used with liquid fertilizers, premix one part of Furadan 4 F with two parts of water. Check physical compatibility before mixing large quantities. Add this premix to the tank of fertilizer along with the rinsings from the premixing container. Maintain agitation in the tank after mixing and during application. Do not mix until ready to use. Do not feed forage within 30 days of last application.

Field Corn, Popcorn—Post Plant: Corn rootworms (northern, southern and western)—use 2.5 fluid ounces of Furadan 4 F per 1,000 linear feet of row (1 quart per acre with 40 inch row spacing). Apply as a post-emergent spray by banding over the row, or by side dressing or broadcast spraying both sides of the row after corn emerges. Control will generally be improved if the treatment is cultivated into the soil. Do not feed forage within 30 days of last application.

### Field Corn—Foliar Application

European Corn Borer—Use 1 1/2 to 2 pints of Furadan 4 F per acre as a foliar spray when corn borer eggs begin to hatch. Use the higher rate for heavier pest infestations. For treatment with aerial equipment, apply as a broadcast spray using a minimum of 1 gallon of finished spray per acre. For treatment with ground equipment, direct the spray into the corn whorl for first brood and into the ear zone for second brood, using a minimum of 10 gallons of finished spray per acre. Repeat if necessary. Observe all precautions listed below.

Southwestern Corn Borer—Use Furadan 4 F at 1 to 2 pints per acre as a broadcast foliar spray when eggs begin to hatch. Rate used will depend on desired residual activity. If infestation continues, retreat 7 to 14 days after a 1 pint application and within 14 days after a 2 pint application. Apply in sufficient water for thorough coverage using a minimum of 1 gallon of finished spray per acre with air equipment or 10 gallons of finished spray per acre with ground equipment. Observe all precautions listed below.

Banks Grass Mites (suppression)—Furadan 4 F when applied at 2 pints per acre for the control of European or Southwestern Corn Borers will also suppress Banks Grass Mites.

Grasshoppers—Use Furadan 4 F as a foliar spray at 1/2 to 1 pint per acre when insect's appear or feeding is noticed.

—Use the 1/2 pint rate under light to moderate population levels (0 to 14 grasshoppers per sq. yd.).

—Use the 1 pint rate under more severe population levels (15 or more grasshoppers per sq. yd.).

Apply in sufficient water for thorough coverage using a minimum of 1 gallon of finished spray per acre with air equipment or 10 gallons of finished spray per acre with ground equipment. Observe all precautions listed below.

Do not make more than two applications per season at the 1 1/2 to 2 pint use rate. Do not make more than four applications per season at the 1 pint use rate. Do not forage, cut or harvest within 30 days of last application. Do not apply on seed corn less than 14 days prior to detasseling or roguing. If prolonged intimate contact will result, do not enter treated field within 14 days of application without wearing proper protective clothing.

Sweet Corn—Foliar Application (Machine Harvested Only): European Corn Borer—For control of second generation borers apply 1 1/2 to 2 pints of Furadan 4 F per acre. Make first application just prior to first silking. For control of first generation borers apply 1 to 2 pints of Furadan 4 F per acre. Do not apply more than 2 pints of Furadan 4 F per acre. Do not apply more than 2 pints of Furadan 4 F per acre.

prolonged, intimate contact will result, do not re-enter treated field within 14 days of application without wearing proper protective clothing. Do not graze or harvest stalks within 21 days of last application.

Do not make a foliar application if more than 12 ozs. of Furadan 10 G per 1,000 linear feet of row (10 lbs. per acre with 40' row spacing) or 8 ozs. of Furadan 15 G per 1,000 linear feet of row (6.7 lbs. per acre with 40' row spacing) or 2.5 fluid ounces of Furadan 4 F per 1,000 linear feet of row (1 quart per acre with 40 inch row spacing) were used in an at-planting application.

Minimum gallonage requirements: 10 gallons of finished spray per acre with ground equipment, 2 gallons per acre with aircraft

Grapes (For use in California): For control of Nematodes (Root-Knot and Dagger) apply Furadan 4F insecticide-nematicide at 2 1/2 gallons per acre as a broadcast treatment only, to the soil surface between the vine rows and immediately incorporate by mechanical means. Do not apply within 200 days of harvest. Remove dense weed growth prior to treatment. Do not use on soils of pH 8.0 or greater. Repeat as necessary but do not make more than one application per crop year.

\* Wear protective clothing including rubber gloves and impervious foot covering at time of application.

Pine Seedlings: Pine Weevil and Pitch-Eating Weevil in pine plantations—Apply a 1% (W/W) active Furadan clay slurry (see following for preparation) to the roots of pine seedlings prior to transplanting. Treat seedlings by dipping roots or use any other suitable means which allows thorough coating. Keep roots moist until transplanted. Prepare the slurry as follows: Add 1.6 ounces (2 1/2 tablespoons) of Furadan 4 F to 1/2 gallon of water. Mix thoroughly. Add 2 pounds of pulverized kaolin clay (pH 4.5) to this suspension. Mix thoroughly. This is sufficient to treat the roots of 150 to 200 seedlings. Adequate ventilation is required for indoor treatment. Wear protective unlined rubber gloves at time of application. Users should avoid contamination of the inside of the gloves. If contamination of the inside of the gloves is suspected, the gloves should be immediately discarded.

Potatoes: Potato Tuberworm (Virginia only); Colorado Potato Beetle, European Corn Borer, Potato Flea Beetle, Potato Leathopper—Use 1 to 2 pints of Furadan 4 F in sufficient water to treat one acre. Apply when insects first appear and repeat as necessary to maintain control. Do not make more than 8 foliar applications per season. Do not apply more than 3 quarts to the foliage if Furadan 10 G was used at planting. Do not apply more than 1 quart per application. Do not apply within 14 days of harvest. Apply by ground equipment only.

For waterfowl protection do not apply: —immediately before or during furrow irrigation —on fields in proximity of waterfowl nesting areas —on fields where waterfowl are known to repeatedly feed

Small Grains (Wheat, Oats, Barley): Grasshoppers—Use Furadan 4 F at 1/4 to 1/2 pint per acre when insects appear. Cereal Leaf Beetle—Use 1/2 pint per acre when insects appear. Apply before heads emerge from boot. Do not make more than two applications per season. Do not feed treated forage to livestock

Minimum gallonage requirements: Ten gallons of finished spray per acre with ground equipment, two gallons per acre with aircraft. For waterfowl protection do not apply on fields in proximity of waterfowl nesting areas and/or on fields where waterfowl are known to repeatedly feed.

Soybeans—At Planting Application: Nematodes (Root-Knot, Cyst, Stunt, Ring, Sting, Spiral, Lesion, Lance, Dagger, Stubby-Root)—Use 3.75 to 5 fluid ounces per 1,000 linear feet of row (3 to 4 pints per acre with 40-inch row spacing). Apply at planting as a 12-inch surface band. Soybeans may be grazed or cut for forage 30 days or later following an at-planting application.

Soybeans—Foliar Application: Mexican Bean Beetle—Use Furadan 4F at 1/2 to 1 pint per acre when insects appear. Grasshoppers—Use Furadan 4F at 1/4 to 1/2 pint per acre when insects appear. Do not use Furadan 4F as a foliar application if Furadan 10G, Furadan 15G, Furadan 4F was applied to soybeans at planting time. Do not make more than 2 foliar applications per season. Do not apply within 21 days of harvest. Do not graze or feed foliar-treated forage to livestock or cut for silage or hay. Minimum gallonage requirements: 20 gallons of finished spray per acre with ground equipment, 1 1/2 gallons per acre with aircraft.

Strawberry: (For use in Washington & Oregon) Root Weevils—Use Furadan 4 F at 2 to 4 pints per acre (2.6 to 5.1 fluid ounces per 1,000 linear feet of row for 42 inch row spacing). Apply as a 10 to 12 inch band over the row after last harvest but before October 1st. Do not make more than one application per season. Do not apply if berries are present.

Sugarcane: Sugarcane Borer—Apply 1 to 1 1/2 pints Furadan 4 F per acre using ground or aerial equipment. Check sugarcane fields weekly, beginning in early June and continuing through August. Make first application only after visible joint tenn, and 5% or more of the plants are infested with young larvae feeding on or under the leaf sheath, and which have not fed on the stalk. Repeat applications when field checks indicate the infestation is greater than 1 percent. Do not apply within 12 days of harvest.

Sunflowers (Confectionary and Oil)—At Planting Sunflower Stem Weevil, Sunflower Beetle, Grasshoppers—Use 2.5 to 5.0 fluid ounces of Furadan 4 F per 1000 linear feet of row (1.4 to 2.5 quarts per acre with 30 inch row spacing). Apply directly into the seed furrow—OR—Apply in a 7 inch band. Furadan 4 F may be mixed with water or liquid fertilizer. When Furadan 4 F is used with liquid fertilizer, premix one part of Furadan 4 F with two parts of water. Check physical compatibility before mixing large quantities. Add this premix to the top of fertilizer along with the risings from the premixing container. Maintain agitation in the tank after mixing and during application. Do not mix until ready to use.

Use the higher rate when heavier insect infestations are anticipated.

Sunflowers (Confectionary and Oil)—Foliar Application Sunflower Moth, Banded Sunflower Moth, Stem Weevils, Seed Weevils—Use Furadan 4 F at 1 pint per acre. Grasshoppers—Use Furadan 4 F at 1/4 to 1 pint per acre. Sunflower Beetle—Use Furadan 4 F at 1/4 to 1/2 pint per acre. Apply as a foliar spray when insects appear. Within a rate range is indicated, use higher rate for heavier insect infestation. Repeat applications as necessary but not more than four times per season. Apply a minimum of two gallons of finished spray per acre with aircraft and 10 gallons by ground equipment. If prolonged, intimate contact will result, do not re-enter treated field within 14 days of application without wearing proper protective clothing. Do not harvest crop within 28 days of last application.

Tobacco—Burley: Flea Beetles—Use 1 gallon of Furadan 4 F per acre. Apply as a broadcast spray over the soil surface prior to transplanting and incorporate into the top 3 inches of soil with a suitable device.

Tobacco—Flue-Cured: Flea Beetles, Wireworms, and to aid in the control of Budworms and Root-Knot Nematodes—Use 1 1/2 gallons of Furadan 4 F per acre—OR—Use 1 gallon of Furadan 4 F per acre for control of Flea Beetles only. Apply as a broadcast spray over the soil surface prior to forming beds. Incorporate into the top 3 inches of soil. Form beds and plant as usual. This product may induce flecking of the bottom or lower leaves.

Dealers Should Sell in Original Packages Only.

Terms of Sale or Use: On purchase of this product buyer and user agree to the following conditions:

Warranty: FMC makes no warranty, expressed or implied, concerning the use of this product other than indicated on the label. Except as warranted, the product is sold as is. Buyer and user assume all risk use and/or handling and/or storage of this material when such use and/or handling and/or storage is contrary to label instructions.

Directions and Recommendations: Follow directions carefully. Time and method of application, weather and crop conditions, mixture with other chemicals not specifically recommended and other influencing factors in the use of this product are beyond the control of the seller and are assumed by buyer at his own risk.

Use of Product: FMC's recommendations for the use of this product are based upon tests believed to be reliable. The use of this product being beyond the control of the manufacturer, no guarantee, expressed or implied, is made as to the effects of such or the results to be obtained if not used in accordance with directions or established safe practices.

Damages: Buyer's or user's exclusive remedy for damages for breach of warranty or negligence shall be limited to direct damages not exceeding the purchase price paid and shall not include incidental or consequential damages.

ORNAMENTALS - CONTAINER GROWN

Root Weevil larvae - Prepare a stock solution by thoroughly mixing 1 to 2 fluid ounces of Furadan 4 F per 100 gallons of water. Apply as a soil drench in sufficient volume to saturate the entire soil profile within each container. The following guidelines give approximate amounts to use on various sized containers. Make a single application when larvae are present (usually from July to mid-October in outdoor growing areas). Later application may be less effective due to lower temperatures and/or the presence of more mature larvae.

Container Size	Amount of Stock Solution Per Container
6" diameter	1 pint
8" diameter	1-2 pints
10" diameter	2-4 pints
12" diameter	3-6 pints
16" diameter	4-8 pints

Early marginal necrosis or leaf drop may occur on Hydrangea or Birch. Not all species or varieties of ornamentals have been tested. Before treating large numbers of plants of a particular variety, treat a few plants and observe prior to full scale application.

Do not handle treated plants, soil or containers that are wet with spray.

Application of Furadan 4 F through overhead sprinkler equipment is prohibited.