File

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

APR 31 1994

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Jeff W. Popp
SANDOZ AGRO INC.
1300 East Touhy Ave.
Des Plaines, IL 60018

Subject: Label Amendment Submission of 06/22/93 in Response to PR Notice 93-7
EPA Reg. No. ~~55947-787~~ 55947-78
SOLICAM DF HERBICIDE

Dear Registrant:

The labeling cited above and submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is accepted subject to the comments reflected on the enclosed sheet. A copy of your proposed labeling stamped "ACCEPTED WITH COMMENTS" is enclosed.

WHAT THIS ACCEPTANCE MEANS:

Based on your certification, the Agency has accepted the labeling changes that are necessary to comply with the Worker Protection Standard (WPS) labeling requirements of 40 CFR part 156, subpart K, described in PR Notices 93-7 and 93-11. Any other labeling changes submitted in connection with this amendment application but not directly related to compliance with the WPS have not been reviewed or accepted by the Agency. If you wish to make such changes, you must submit a separate amendment application proposing them. If your product is currently suspended, the acceptance of this labeling amendment does not affect the suspension in any way.

WHAT YOU NEED TO DO NEXT:

By the next label printing make all the specified changes to your labeling. Send to EPA one (1) copy of the final printed labeling:

- BEFORE selling or distributing any product bearing the final printed labeling
AND
- WITHIN one year from date of this acceptance.

Submit the final printed labeling via the U.S. Postal Service to:

Document Processing Desk (FIN-LABEL)
Office of Pesticide Programs (7505C)
U.S. Environmental Protection Agency
401 M Street, SW
Washington, D.C. 20460-0001

Hand or courier deliveries of final printed labeling may be made to:

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

Sincerely,

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

Attachment

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Registration Division

Jeff W. Popp
SANDOZ AGRO INC
1300 EAST TOUHY AVE
DES PLAINES IL 60018

Comment for: EPA Reg Nr.55947-78
SOLICAM DF HERBICIDE

The following specific comments pertain to your WPS labeling submission concerning the product cited above:

Remove the statement "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." from its current position within the Agricultural Use Box and place it above the Agricultural Use Box.

SOLICAM® DF

HERBICIDE FOR CONTROL OF GRASS (MONOCOTYLEDON) AND BROADLEAF (DICOTYLEDON) WEEDS IN TREE FRUITS AND NUTS, CANEBERRIES, GRAPES, ASPARAGUS AND NON-CROP AREAS.

ACTIVE INGREDIENT:	
norflurazon [4-chloro-5-(methylamino)-2-(alpha, alpha, alpha-trifluoro-m-toyl)-3(2H)-pyridazinone]	78.6%*
INERT INGREDIENTS	21.4%
	100%

* Technical ingredient analysis by isomer specific method AM-0864. Previously 80% by method T-4295.

KEEP OUT OF REACH OF CHILDREN

CAUTION

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS (and Domestic Animals)

CAUTION

Harmful if swallowed or absorbed through the skin. Avoid contact with skin, eyes or clothing. In case of skin or eye contact, flush with plenty of water.

STATEMENT OF PRACTICAL TREATMENT

If swallowed: Call physician or a poison control center. 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.

If on skin: Wash with plenty of soap and water. Get medical attention if irritation persists.

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

ACCEPTED
with COMMENTS
In EPA Letter Dated
MAR 31 1994

Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. ~~55947-59~~ 55947-73

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 statements:

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 run-off or drift from treated areas. Do not contaminate water when disposing of equipment washwaters.

NET WT.: 5 POUNDS
U.S. PAT NO. 3,935,210 and 3,834,889
EPA Reg. No. 55947-78
EPA Est. No. 55618-SC-001

SOLICAM® is a Registered Trademark of Sandoz Ltd.

I. DIRECTIONS FOR USE

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

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

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 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.

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

Use Precautions

- o Do not apply to container grown plants
- o Do not apply to chemigation except for citrus
- o Do not apply to nursery stock except for citrus
- o Do not apply when nuts or fruit are on the ground at harvest.
- o In the Coachella Valley of California, SOLICAM® DF may only be applied to asparagus, citrus and apples or non-crop areas. Do not use in stone fruits on the western slope of Colorado.
- o Do not apply to erodible soil which may wash into the root zone of sensitive plants or apply in greenhouses as crop injury may occur.
- o Do not use on wine grapes grown in coarse soils in the state of Washington.

II. GENERAL IN. . RMATION

SOLICAM® DF is a preemergence herbicide which controls certain grass (monocotyledon) and broadleaf (dicotyledon) weeds in certain tree fruits and nuts, caneberries, grapes, asparagus and non-crop areas.

SOLICAM® DF must be moved into the weed seed germination zone to be effective. If no rainfall occurs within 4 weeks after application, the product must be incorporated by flood or sprinkler irrigation. SOLICAM® DF has no post-emergence activity and will not control established weeds. Existing weeds must be mechanically removed or controlled by using a suitable postemergence herbicide.

Multiple or sequential applications can be made, but the total quantity of SOLICAM® DF applied within a year must not exceed the maximum recommended rate (see table section III.B.).

A. Rotational Crops

Use the following time interval restrictions before planting rotational or replacement crops in land treated with SOLICAM® DF.

Crops listed on this label

Refer to tables of maximum SOLICAM® DF rates in each crop section of this label for interval to wait after application before replacement or rotational crop can be planted.

Cotton

Wait 12 months before replanting to cotton.

Crops that do not have a SOLICAM® DF use pattern described on this label.

Crops that do not have a SOLICAM® DF use pattern listed should not be planted in SOLICAM® DF treated soil until a test planting or bioassay of the next intended crop shows no sign of phytotoxicity (loss of pigments (whitening) in the leaf vein) for 4 months after emergence. Test plantings must be done to determine if the soil is free of residues of SOLICAM® DF.

Cover crops planted in treated areas must not be harvested, grazed or fed to livestock.

B. Tank Mixes

SOLICAM® DF may be tank mixed with other herbicides and liquid fertilizer. Some tank mix options for SOLICAM® DF are listed in each crop section. Herbicides used as tank mix partners must be registered for use on crop where application is intended. When tank mixing, read and follow the label of each product for precautionary statements, directions for use, weeds controlled and geographic and other restrictions.

C. Mixing Instructions

Clean and calibrate the sprayer before preparing spray suspension. Add SOLICAM® DF to the spray tank 3/4 filled with the required volume of water. This will eliminate or minimize foaming. Maintain agitation while filling and spraying. If a by-pass line is used, discharge at the bottom of the tank to further minimize foaming.

Do not allow SOLICAM® DF spray mixture to remain in the spray tank overnight.

Predetermine the compatibility of labeled tank mixes with your source of water by mixing small proportional quantities in advance.

Amount of Herbicide to Add to One Pint of Water
(Assuming Volume is 25 Gallons per Acre)

HERBICIDE FORMULATION	LABEL RATE PER ACRE	AMOUNT TO MIX (Level Teaspoons)
Dry	1 lb.	1.5
Liquid	1 pt.	0.5

If herbicide(s) do not ball-up or form flakes, sludge, gels, oily films, layers or other precipitates, the mix is compatible. Incompatibility symptoms will usually occur within 5 minutes after mixing.

If components are incompatible, consult with your local agricultural chemical dealer for the use of an acceptable compatibility agent. Rerun the above COMPATIBILITY TEST with a suitable compatibility agent (0.25 teaspoon is equivalent to 2 pints per 100 gallons of water).

Products should be added to the spray tank in the following order:

1. Wettable powders and water dispersible granules. Wettable powders should be premixed in a small amount of water. Water dispersible granulars should be added during filling. Mix thoroughly before other products are added.
2. Flowable liquids.
3. Emulsifiable concentrates.
4. Surfactants.

Begin adding wettable powders, flowable liquids, emulsifiable concentrates, and surfactants after the spray tank is 3/4 full. Continue agitation during the addition of all the materials and while filling and spraying.

Always predetermine tank mix compatibility by mixing small proportional quantities in a small container. If after vigorous shaking there are large flakes, gel, sludge, or other signs of incompatibility, do not use the combination. Always follow the order of addition given in the mixing instructions given above.

C. Application Equipment

SOLICAM® DF should be applied using a carefully calibrated fixed boom sprayer. Filters with screen sizes of 50 mesh or larger should be used. Supplemental applications may be made in citrus using ring drench techniques or chemigation through low volume sprinkler or drip irrigation systems (see Special Directions for tree fruits and nuts, caneberries and grapes in section III.B.1 for additional information). Chemigation can only be used in citrus crops.

Row Treatment Calculation

When applying a row (or banded) treatment of SOLICAM® DF, the following formula may be used to calculate the amount per acre:

$$\frac{\text{Width of sprayed band in feet}}{\text{Distance between rows in feet}} \times \text{Pounds per acre for broadcast treatment} = \text{Pounds per acre for row treatment}$$

III. DIRECTIONS FOR TREE FRUITS AND NUTS, CANEBERRIES, GRAPES, ASPARAGUS AND NON-CROP AREAS

A. Weeds Controlled and Suppressed

SOLICAM® DF at recommended rates controls the following weeds:

Broadleaf Weeds (Dicotyledons)	
Black mustard	*Brassica nigra*
Camphorweed*	*Heterotheca subaxillaris*
Carolina (Wild) geranium	*Geranium carolinianum*
Common chickweed	*Stellaria media*
Common ragweed*	*Ambrosia artemisiifolia*
Desert rockpurslane (redmaids)	*Calandrinia ciliata*
Dogfennel	*Eupatoria capillifolium*
Falsedandelion (smooth cat's ear)	*Pyrrhopappus carolinianus*
Fiddleneck	*Amsinckia intermedia*
Filaree (redstem & whitestem)**	*Erodium spp.*
Flixweed	*Descurainia sophia*
Goldenrod*	*Solidaga altissima*
Little mallow	*Malva parviflora*
London rocket	*Sisymbrium irio*
Pineapple weed	*Matricaria matricariodes*
Prostate spurge	*Euphorbia humistrata*
Puncturevine	*Tribulus terrestris*
Purple cudweed	*Gnaphalium purpureum*
Shepherdspurse	*Capsella bursa-pastoris*
Spreading dayflower*	*Commelina diffusa*
Stinging nettle	*Urtica dioica*
Tumble mustard (Jimhill)	*Sisymbrium altissimum*
Velvetleaf	*Abutilon theophrasti*
Virginia pepperweed	*Lepidium virginicum*
Wild buckwheat	*Polygonum convolvulus*

Grass and Sedge Weeds (Monocotyledons)	
Annual bluegrass	*Poa annua*
Annual sedge	*Cyprus compressus*
Bahiagrass (seedling)	*Paspalum notatum*
Barnyardgrass	*Echinochloa crus-galli*
Bearded sprangletop	*Leptochloa fascicularis*
Broadleaf signalgrass	*Brachiaria platyphylla*
Cheat	*Bromus secalinus*
Crabgrass	*Digitaria spp.*
Crowfootgrass (seedling)*	*Dactyloctenium aegyptium*
Downy brome	*Bromus tectorum*
Fall panicum	*Panicum dichotomiflorum*
Feather fingergrass	*Chloris virgata*
Foxtails	*Setaria spp.*
Goosegrass	*Eleusine indica*
Guineagrass (seedling)*	*Panicum maximum*
Italian ryegrass (annual ryegass)	*Lolium multiflorum*

Johnsongrass (seedling)	*Sorghum halepense*
Natalgrass (seedling)*	*Rhynchelytrum repens*
Pangolagrass (seedling)*	*Digitaria decurnbens*
Sandbur (Longspine, Southern and Field)*	*Cenchrus spp.*
Sixweeks grama	*Bouteloua barbata*
Southwestern cupgrass	*Eriochloa gracilis*
Tall fescue	*Festuca arundinacea*
Texas panicum	*Panicum texanum*
Vaseygrass (seedling)*	*Paspalum urvillel*
Wild barley	*Hordeum leporinium*
Wild onion	*Allium canadense*
Witchgrass	*Panicum capillare*

SOLICAM® DF applied at recommended rates suppresses the following grass and broadleaf weeds:

Bermudagrass	*Cynodon dactylon*
Common lambsquarters	*Chenopodium album*
Common Mallow	*Malva neglecta*
Common purslane	*Portulaca oleracea*
Florida pusley*	*Richardia scabra*
Groundsel	*Senecio vulgaris*
Hairy fleabane (flax-leaved fleabane)	*Conyza bonariensis*
Henbit	*Lamium amplexicaule*
Horseweed (marestail)	*Conyza canadensis*
Johnsongrass (rhizome)	*Sorghum halepense*
Nutsedge	*Cyperus spp.*
Orchardgrass	*Dactylis glomerata*
Pigweeds (redroot, tumble and green amaranth)	*Amaranthus spp.*
Plaintains (bracted and buckhorn)	*Plantago spp.*
Poorjoe	*Diodia teres*
Russian thistle	*Salsola iberica*
Quackgrass	*Agropyron repens*
Silverleaf nightshade	*Solanum elaeagnifolium*
Sowthistle, Annual	*Sonchus oleracea*
Torpedograss*	*Panicum repens*
Wirestem muhly (Western muhly)	*Muhlenbergia frondosa*

*When applied at the higher rates recommended for weed control in Florida citrus.
**Treat prior to germination and incorporate with water on coarse and medium soils for adequate control.

B. Tree fruits and nuts, caneberries and grapes crop directions

SOLICAM® DF should be applied prior to weed seed germination and when rainfall or irrigation is likely to occur within 4 weeks of treatment.

The soil should be settled, firm and relatively free of weeds and debris at the time of application. Soil should be free of depressions around trees or grape vines where rain or irrigation water can concentrate.

Apply as a directed spray to the soil. Avoid contact with fruit or foliage. Do not apply when nuts or fruits are on the ground at harvest.

Loss of pigment (whitening) of leaf veins may occur in almonds, cherries and grapes grown in coarse textured soils when SOLICAM® DF is applied within 3 months after bud break.

Multiple or sequential applications can be made, but the total quantity of SOLICAM® DF applied during a year must not exceed the maximum recommended rate for that crop and soil texture. Rainfall or irrigation is necessary to incorporate SOLICAM® DF after each application.

SOLICAM® DF is recommended for application using at least 20 gallons of water per acre with suitable nozzles and pressure for directed ground application. Applications at less than 20 gallons should use appropriate low volume application equipment. Supplemental applications may also be made in citrus using ring drench techniques or chemigation through low volume sprinkler or drip irrigation systems (see Special Directions for tree fruits and nuts, caneberries and grapes section III-B-1 for additional information). **Chemigation can only be used in citrus crops.**

Read mixing, application and specific crop sections for additional recommendations and precautions. The following table lists the maximum rate of SOLICAM® DF that can be used per year based on crop, soil texture and location of use (Read sections following for addition recommendations and precautions):

1) In Florida and Texas sequential applications of up to 5 lbs. of SOLICAM® DF per acre may be made during a 4 month period. Do not exceed 10 lbs./A for each 12 month period. In Florida citrus, a single 10 lbs./A ring drench application may be used.

2) Do not apply to germinating seed beds in which citrus seed has or will be planted, or where citrus is interplanted with palm trees. See following section for ring drench application directions.

3) Do not apply in nursery situations.

4) Loss of pigment (whitening) in leaf veins may occur on almonds, cherries or grapes grown in coarse textured soils when SOLICAM® DF is applied within 3 months after bud break.

5) A registered tank mix partner may be required for broad spectrum control.

6) A higher rate of 3.75 lbs. of SOLICAM® DF may be used in coarse textured Coastal Plains soils of the Southeast.

7) Apply to blackberries and raspberries during the dormant season. Temporary loss of pigment (whitening) in leaf veins may occur with normal use.

8) See following sections for pre-harvest application directions for almonds.

9) See Asparagus Use Directions.

10) Do not apply to wine grapes grown in coarse soil in the state of Washington.

B.1. Special Directions for Citrus and Almonds.

MAXIMUM SOLICAM® DF RATES (LBS. PRODUCT/TREATED ACRE PER YEAR) BY SOIL TEXTURE

Crop	---Coarse--- Sand, Loamy sand	Sandy loam	--Medium-- Loam, Silt loam, Silt, Sandy clay loam	---Fine--- Sandy clay, Clay loam, Silty clay loam, Silty clay, Clay	Months after planting to first allowed application (West/East of the Mississippi River)	Months after application to planting of replacement or rotational crop (West/East of the Mississippi River)	Special use directions (see list bel
Citrus	2.5 - 5.0	2.5 - 5.0	3.75 - 5.0	5.0	0/0	0/0	2
Irrigated Citrus (Florida and Texas only)	2.5 - 10.0	2.5 - 10.0	3.75 - 10.0	5.0 - 10.0	0/0	0/0	1,2
Apple	2.5	2.5	3.75	5.0	0/0	0/0	3
Avocado Blueberries Filbert	2.5	2.5	3.75	5.0	6/6	12/12	3
Asparagus	2.5	2.5	3.75	5.0	12/12	12/12	3,9
Nectarines Peach Pecan	2.5	2.5	3.75	5.0	18/6	18/12	3,6
Apricot Blackberry Pear Plum Prune Raspberry Walnut	2.5	2.5	3.75	5.0	18/12	18/12	3,7
Almond	1.25	2.5	3.75	5.0	18/18	18/18	3,4,5,8
Cherry	Not recommended	2.5	3.75	5.0	18/18	18/18	3,4
Grape	1.25	2.5	3.75	5.0	24/24	24/24	3,4,5,10

Citrus - Ring Drench Application (Florida Citrus Only)

Apply SOLICAM® DF to newly planted (non-bearing) citrus as a ring drench treatment at the rate of 10 lbs. product broadcast per acre. Make only one application per year. Consult the following table for the ounces of SOLICAM® DF to add to a 500-gallon water tank for various diameter rings.

OUNCES OF SOLICAM® DF PER 500 GAL FOR RING DRENCH APPLICATION

	Diameter of ring		
	3 ft.	4 ft.	5 ft.
3 gals./tree (167 trees/tank)	4.3	7.6	12.0
5 gals./tree (100 trees/tank)	2.6	4.6	7.2
7 gals./tree (71 trees/tank)	1.8	3.3	5.2
10 gals./tree (50 trees/tank)	1.3	2.3	3.6

Citrus - Chemigation (Citrus Crops Only)

Low volume sprinkler - 4 to 30 gallons per hour (gph) per emitter, drip - 0.5 to 3 gph per emitter. *Point of application should be above ground.*

Irrigation system should run a sufficient amount of time prior to SOLICAM® DF injection to have all emitters functioning properly. After system is operating properly, length of injection should be such that at one period of time during the injection, the first and last emitters in the system contain SOLICAM® DF treated water. Add SOLICAM® DF to the supply tank already filled with the volume of water required for the injection period (this should be at least four (4) gallons for each pound of SOLICAM® DF used). Maintain proper agitation in SOLICAM® DF injection tank. SOLICAM® DF should be mixed in clean water and injected down-line from filters. Following SOLICAM® DF injection, system should be flushed for a period of time sufficient to clear the line of SOLICAM® DF. (If SOLICAM® DF application is made during a normal irrigation cycle, injection should be made during the late stage.)

Apply this product only through low volume sprinkler (micro sprinkler) and drip (trickle) irrigation systems. Do not apply this product through any other type of irrigation system. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts. Do not connect an irrigation system used for pesticide application to a public water system unless the prescribed safety devices for public water systems are in place. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, must shut the system down and make necessary adjustments should the need arise.

Application of SOLICAM® DF through irrigation systems should be used as a *supplemental weed control practice*. The addition of SOLICAM® DF through irrigation systems will help prevent weed escapes at the irrigation point when the application is made before weed seeds germinate.

Chemigation Calibration (Citrus Crops Only)

Calculation of use rate is based on <u>wetted area</u> around emitters - <u>NOT</u> on tree acres. To determine correct amount of SOLICAM® DF, use the following formula:

1.Treated area per each emitter = A

A = 3.14 x (radius x radius)

Example: If the average distance from emitter to perimeter of wetted area, measured one inch below soil surface is 13 inches, then

A = 3.14 x (13" x 13")
A = 3.14 x (169")
A = 530.7 square inches

2.The area in square feet wet in each acre = B

$$B = \frac{A \times \text{emitters/acre}}{144}$$

Example: If there are 300 emitters per acre, then

$$B = \frac{530.7 \times 300}{144} = B = 1105.6 \text{ square feet wetted per acre.}$$

3.The total area (in square feet) wet by your system = C
C = B x acres covered by system

Example: If the system covers 20 acres, then
C = 1105.6 square feet per acre x 20 acres
*C = 22,112 square feet wetted by system*4.Amount of SOLICAM® DF to inject = S
Rate per treated acre of SOLICAM® DF = R

$$S = \frac{C}{43{,}560} \times R = \text{pounds of SOLICAM® DF}$$

Example: If the desired application rate per treated acre is 2.0 lbs of SOLICAM® DF, then

$$S = \frac{22{,}112}{43{,}560} \times 2.0 = S = 1.02 \text{ pounds of SOLICAM® DF should be injected into the system.}$$

(Note: Select the proper rate (R) based on soil texture, weeds to control and length of control required. The total amount of Solicam applied in a season from broadcast, ring drench and/or supplemental chemigation applications cannot exceed the maximum rate stated in section III-C.)

PRECAUTIONS FOR ALL SPRINKLER OR DRIP CHEMIGATION APPLICATIONS

1.The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

2.The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

3.The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

4.The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.

5.The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

6.Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

7.Do not apply when wind speed favors drift beyond the area intended for treatment.

8.Application when drift may occur, such as from windy conditions, or when system joints and connections are leaking, or when nozzles are not providing uniform distribution, may cause crop injury.

9.Application should be directed in such a way that SOLICAM® DF not come into contact with foliage.

ADDITIONAL PRECAUTIONS FOR CHEMIGATION SYSTEMS CONNECTED TO PUBLIC WATER SYSTEMS

1. Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.

2.Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There must be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

3. All chemigation systems connected to public water systems must also follow restrictions listed in the preceding section titled "Precautions for All Sprinkler or Drip Chemigation Applications".

B.2. Tank mix recommendations for certain tree fruits and nuts, caneberries and grapes

Tank mixes are usually required to control the entire spectrum of weeds found in a particular grove, orchard or vineyard. Tank mix herbicides must be registered for use on crop where application is intended (Refer to the tank mix section II.B. of this label for specific directions).

Tank mix products for use with SOLICAM® DF may include diuron (Karmex), Goal, Gramoxone, bromacil (Hyvar), Krovar I and II, Roundup, simazine (Princep) or Surflan if the herbicide is registered for the intended crop and use pattern. SOLICAM® DF tank mix combinations should not include more than one of the following herbicides: diuron, Hyvar, Krovar, or simazine.

Tank mix herbicide(s) must be registered for use on crop where application is intended. The following table summarizes some of the common tank mix options with SOLICAM® DF by crop (✓ = tank mix option). If a tank mix is not listed below but both products have that crop individually listed on their label you may use that combination in accordance with the directions for use for each product.

EXAMPLE TANK MIX COMBINATIONS BY CROP

	diuron	Goal	Gramoxone	Hyvar	Krovar	Prowl	Roundup	simazine	Sinbar	Surflan
Almond		✓	✓			✓	✓	✓		✓
Apple	✓	✓	✓			✓	✓	✓	✓	✓
Apricot		✓	✓			✓	✓			✓
Avocado		✓	✓				✓	✓		✓
Blackberry	✓		✓					✓	✓	✓
Blueberries	✓		✓					✓	✓	✓
Cherry		✓	✓			✓	✓	✓		✓
Citrus	✓	✓*	✓	✓	✓	✓	✓	✓	✓	✓
Filbert		✓	✓				✓	✓		✓
Grape	✓	✓	✓			✓	✓	✓		✓
Nectarine		✓	✓			✓	✓			✓
Peach	✓	✓	✓			✓	✓	✓	✓	✓
Pear	✓	✓	✓			✓	✓	✓		✓
Pecan	✓	✓	✓				✓	✓	✓	✓
Plum		✓	✓			✓	✓	✓		✓
Prune		✓	✓			✓	✓			✓
Raspberry	✓		✓					✓	✓	✓
Walnut	✓	✓	✓			✓	✓	✓		✓

* For use in non-bearing citrus.

Tank mix with a postemergence herbicide such as Gramoxone or Roundup when emerged weeds are present. Diuron (Karmex), Goal, Hyvar and Krovar I and Krovar II may provide postemergence control of certain weeds in addition to their residual preemergence control. Other herbicides listed for tank mix combinations will provide only preemergence activity. For control of additional weeds, products must be applied prior to weed emergence. Consult the use directions of the tank mix herbicide for specific weeds controlled.

Read and follow the label of each tank mix herbicide used for precautionary statements, directions for use, weeds controlled, and geographic and other restrictions.

C. Asparagus Directions

The soil should be settled, firm and relatively free of weeds and debris at the time of application. Soil should be free of depressions around asparagus where rain or irrigation water can concentrate.

Apply SOLICAM® DF in a minimum of 20 gallons of water per acre as a broadcast preemergence treatment. Use the rates listed in the following table. Do not apply within 14 days of harvest. SOLICAM® DF should not be applied if crop rotation or replacement is expected within 12 months (see the Rotational Crop section (II.A) for additional precautions).

Allow newly planted fields (direct seeded, seedlings or crowns) to become established for one season before application of SOLICAM® DF.

Improved results may be obtained if crop debris is incorporated or removed prior to application.

Select the rate of SOLICAM® DF to use from the following table:

ASPARAGUS: MAXIMUM SOLICAM® DF RATES (LBS. PRODUCT/TREATED ACRE PER YEAR) BY SOIL TEXTURE

	---Coarse---		--Medium--	---Fine---		
Crop	Sand, Loamy sand	Sandy loam	Loam, Silt loam, Silt, Sandy clay loam	Sandy clay, Clay loam, Silty clay loam, Silty clay, Clay	Months after planting to first allowed application (West/East of the Mississippi River)	Months after application to planting of replacement or rotational crop (West/East of the Mississippi River)
Asparagus	2.5	2.5	3.75	5.0	12/12	12/12

C.1 Tank Mix Recommendations for Asparagus

Tank mix herbicides must be registered for use on crop where application is intended (Refer to the tank mix section II.B. of this label for specific directions).

SOLICAM® DF may be tank mixed with other herbicides registered for use in asparagus such as BANVEL®, diuron (Karmex), Gramoxone, Lorox, Roundup, metribuzin (Sencor, Lexone), simazine (Princep), trifluralin (Treflan) or 2,4-D(amine) when a broader spectrum of weeds would be expected. Consult the label(s) of the individual tank mix product(s) for specific recommendations on rate, application timing, weed species and crop safety. Follow directions, restrictions and precautions listed on the respective tank mix product label.

III.D. Non-Cropland Directions

SOLICAM® DF may be used for preemergence weed control in non-cropland areas including: industrial sites, right-of-way (highway, pipeline, railroad or utility) and other non-cropland areas.

Apply SOLICAM® DF at a rate of 2.5 to 5 pounds of product per treated acre for non-cropland areas. Higher rates within the range should be used for finer textured soils and where longer residual is desired.

Since SOLICAM® DF is a preemergence herbicide it must be applied to the soil surface before weeds germinate. Existing weeds should be mechanically removed or controlled with a suitable postemergence herbicide. SOLICAM® DF must be incorporated into the soil by rainfall or sprinkler irrigation within 4 weeks of application for best weed control.

D.1 Tank mix recommendations for non-cropland
Tank mix herbicides must be registered for use on non-crop situation where application is intended (Refer to the tank mix section II.B. of this label for specific directions).

Tank mix combinations may be desired for broader spectrum preemergence control or postemergence control of emerged weeds or woody shrubs. SOLICAM® DF may be tankmixed with Arsenal, atrazine, BANVEL®, diuron (Karmex), Garlon (amine), Gramoxone, Hyvar, Krovar, Oust, Roundup, Spike, simazine (Princep), Surflan, Telar, Velpar or 2,4-D (amine). Refer to the use directions of the respective tank mix herbicide for additional weeds controlled, rates and precautions.

IV. Warranty and Conditions of Sale

Limited Warranty And Liability

Sandoz Agro, Inc. warrants that the chemical composition of this product conforms to the chemical description on the label and is reasonably fit for the purpose stated on the label when used in accordance with directions under normal conditions of use. Sandoz makes no other warranty, express or implied, concerning the use of this product other than as indicated on the label. Buyer assumes all risks of use, storage or handling of this material not in strict accordance with directions given on the label.

V. STORAGE AND DISPOSAL

Storage: Do not contaminate water, food or feed by storage or disposal.
Pesticide Disposal: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal law. If waste cannot be disposed of by use of label instructions, contact your state pesticide or environmental control agency or hazardous waste representative at the nearest EPA Regional Office for guidance.
Container Disposal: Completely empty and triple rinse container into application equipment. Then dispose of empty container in a sanitary landfill or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

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BANVEL® and SOLICAM® DF are registered trademarks of Sandoz Ltd.
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Gramoxone® and Gramoxone Super® are trademarks of ICI Americas Co.
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