ELANCO

ID 5050

Herbicide

Surflan®

75W

ACCEPTED
NOV 28, 1984
1471-96

Net Wt. 5 Lbs.

A pre-emergence surface-applied herbicide for the control of most annual grasses and certain broadleaf weeds.

Active Ingredient:	
oryzalin* (3,5-dinitro-N4,N4-dipropylsulfanilamide)	75%
Inert Ingredients	25%

Contains 3¾ pounds active ingredient per 5 pound bag

SURFLAN — the registered trademark for Elanco Products oryzalin

CAUTION: Keep out of reach of children
See back of bag for additional precautionary statements

EPA Reg. No. 1471-96

See Booklet on Bottom of Bag
for Complete Directions for Use

BG 327 AMB

Directions for Use

Read all directions carefully before applying

See Booklet on Bottom of Bag for Complete Directions for Use.

PRECAUTIONARY STATEMENTS

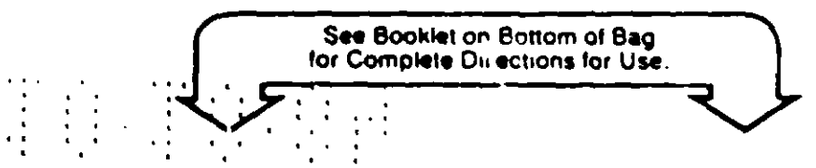
Hazards to Humans and Domestic Animals

May be harmful if swallowed. If dry material or aqueous suspension gets into eyes, flush with water. Do not contaminate feed or foodstuffs.

Storage and Disposal

Prohibitions: Do not contaminate water, food or feed by storage or disposal. Open dumping prohibited. Do not reuse empty container.
Pesticide Disposal: Pesticide or spray mixture that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticides or buried in a safe place away from water supplies.
Container Disposal: Destroy empty bag. Do not reuse. Dispose in an incinerator or landfill approved for pesticide containers, or bury in a safe place.
General: Consult federal, state, or local disposal authorities for approved alternative procedures such as limited open burning.

Elanco Products Company • A Division of Eli Lilly and Company
Indianapolis, IN 46285, U.S.A.



ELANCO

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Complete Directions for Use
Use Cautions and Precautions
Crop Recommendations
Tank-Mix Recommendations

ELANCO PRODUCTS COMPANY
A Division of Eli Lilly and Company
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Amiben® chloramben Union Carbide Agricultural Products Co. Inc.

Dyanap® naptalam + dinoseb Uniroyal Chemical

Karmex® diuron E. I. duPont de Nemours and Company

Klean Krop® naptalam + dinoseb Thompson Hayward Chemical Company

Lexone® metribuzin E. I. duPont de Nemours and Company

Lorox® linuron E. I. duPont de Nemours and Company

Princep® simazine CIBA Geigy Corporation

Sencor® metribuzin Bayer GmbH

Treflan® trifluralin Elanco Products Company

THE SURFLAN PERFORMANCE GUARANTEE

Elanco Products Company guarantees SURFLAN to perform as stated in the SURFLAN label or the product will be replaced at no cost to the grower However, the following conditions must be met.

1. Purchaser must notify Elanco promptly if a lack of satisfactory control occurs Such notice must be given within 30 days after the application of SURFLAN to the treated crop
2. The Elanco representative must be satisfied that SURFLAN was used according to label, and visually observe unsatisfactory control of weeds in the field
3. The product guarantee will extend to the following applications only
   a) Pre-plant surface application (PPSA) when a light tillage is used prior to planting
   b) Post plant surface application (SA) when a light tillage is used prior to or just following crop emergence
   c) Any recommended application where a single one-half inch rainfall or sprinkler irrigation occurs prior to weed seeding emergence
4. A paid invoice showing quantity of SURFLAN purchased must be supplied to Elanco prior to any claim settlement
5. Refunds shall be limited to acreage on which weed control was unsatisfactory, and to season in which crop was treated
6. The guarantee shall apply to the continental U S A only

The manufacturer makes no warranties, express or implied, concerning this product or its use, which extend beyond the description on the label or in literature published by Elanco Products Company, and all statements made concerning this product apply only when used as directed Elanco Products Company expressly disclaims all warranties, express or implied, in relation to any use of the product in combination or sequential use with any other product not specifically recommended in writing by Elanco Products Company If used in a combination or sequential use recommended by Elanco Products Company, the liability of Elanco shall in no manner extend to any damage, loss or injury not directly caused by the inclusion of the Elanco product in such combination or sequential use

PRECAUTIONARY STATEMENTS

Hazards to Human and Domestic Animals

Keep out of reach of children May be harmful if swallowed If dry material or aqueous suspension gets into eyes, flush with water Do not contaminate feed or foodstuffs.

Storage and Disposal

Prohibitions: Do not contaminate water, food or feed by storage or disposal Open dumping is prohibited Do not reuse empty container

Pesticide Disposal: Pesticide or spray mixture that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticides or buried in a safe place away from water supplies

Container Disposal: Destroy empty bag Do not reuse Dispose in an incinerator or landfill approved for pesticide containers, or bury in a safe place

General. Consult federal, state or local disposal authorities for approved alternative procedures such as limited open burning

Precaution

Do not feed forage from treated fields to livestock Poor weed control or crop injury may result if directions are not followed Over-application may result in crop injury or soil residue Do not plant any root crop for 12 months following a SURFLAN application

WEEDS CONTROLLED IN FIELD CROPS BY SURFLAN

SURFLAN will not control established weeds

GRASSES

Barnyardgrass (Watergrass)	*(Echinochloa sp.)*
Brachiaria (Signalgrass)	*(Brachiaria sp.)*
Browntop panicum*	*(Panicum fasciculatum)*
Crabgrasses (Large crabgrass) (Smooth crabgrass)	*(Digitaria sp.)*
Crowfootgrass	*(Dactyloctenium aegyptium)*
Fall panicum (Spreading panicgrass)	*(Panicum dichotomiflorum)*
Foxtails (Bottlegrass) (Bristlegrass) (Giant foxtail) (Green foxtail) (Pigeongrass) (Robust foxtail) (Yellow foxtail)	*(Setaria sp.)*
Goosegrass (Silver crabgrass) (Silvergrass) (Wiregrass) (Yardgrass)	*(Eleusine indica)*
Johnsongrass (Seedling only)	*(Sorghum halepense)*
Texas Panicum* (Buffalograss) (Coloradograss)	*(Panicum texanum)*

BROADLEAF WEEDS

Carpetweed	*(Mollugo verticillata)*
Florida pusley (Florida purslane) (Mexican clover) (Pusley)	*(Richardia scabra)*
Lambsquarters	*(Chenopodium album)*
Pigweeds (Carelessweed) (Prostrate pigweed) (Redroot) (Rough pigweed) (Spiny pigweed)	*(Amaranthus sp.)*
Purslane, common	*(Portulaca oleracea)*
Spurge, prostrate*	*(Euphorbia supina)*

SURFLAN also provides partial control or suppression of velvetleaf, smartweed, ladysthumb, spotted spurge, black nightshade, morningglory, teaweed (prickly sida), volunteer wheat and common ragweed

WEEDS CONTROLLED IN SOYBEANS BY SURFLAN TANK MIXES

Weeds controlled in soybeans by the SURFLAN/Sencor® or SURFLAN/Lexone® tank-mix in addition to those controlled by SURFLAN alone

Browntop millet	*(Panicum fasciculatum)*
Jimsonweed	*(Datura stramonium)*
Prickly sida (Spiny sida) (Teaweed)	*(Sida spinosa)*
Ragweed, common	*(Ambrosia artemisiifolia)*
Redweed	*(Melochia corchorifolia)*

*(See Page 28 for special instructions for Texas only)

Sesbania, hemp (Coffeebean) (Indigo)	*(Sesbania exaltata)*
Sicklepod (Coffeeweed)	*(Cassia obtusifolia)*
Smartweed, annual (Pennsylvania smartweed) (Smartweed)	*(Polygonum pensylvanicum)*
Velvetleaf (Butterprint) (Buttonweed) (Cottonweed) (Elephant's Ear) (Indian mallow) (Piemarker)	*(Abutilon theophrasti)*

Cocklebur, morningglory and giant ragweed control may be erratic, ranging from poor to excellent depending upon soil temperature, time of germination, depth of seed in the soil and the amount of timing of soil moisture. (See Page 19 for special instructions)

Weeds controlled in soybeans by the **SURFLAN/Lorox®** tank-mix in addition to those controlled by SURFLAN alone (See Page 21 for special instructions)

Canarygrass	*(Phalaris sp.)*
Chickweed, common	*(Stellaria media)*
Galinsoga	*(Galinsoga sp.)*
Goosefoot, nettleleaf	*(Chenopodium murale)*
Mustard (Black mustard) (Wild mustard)	*(Brassica sp.)*
Radish, Wild	*(Raphanus raphanistrum)*
Ragweed, Common	*(Ambrosia artemisiifolia)*
Smartweed, annual (Pennsylvania smartweed) (Smartweed)	*(Polygonum pensylvanicum)*
Velvetleaf (Butterprint) (Buttonweed) (Cottonweed) (Elephant's Ear) (Indian mallow) (Piemarker)	*(Abutilon theophrasti)*

Black nightshade, annual morningglory, cocklebur, teaweed (prickly sida), spotted spurge and sicklepod control may be erratic, ranging from poor to excellent depending upon soil temperature, time of germination, depth of seed in the soil and the amount and timing of soil moisture (See Page 21 for special instructions)

Weeds controlled in soybeans by the **SURFLAN/Dyanap®** tank-mix or the **SURFLAN/Klean-Krop®** tank-mix in addition to those controlled by SURFLAN alone (See Page 22 for special instructions)

Cupgrass	*(Eriochloa gracilis)*
Sandbur (Burgrass)	*(Cenchrus incertus)*
Sprangletop	*(Leptochloa filiformis)*
Stinkgrass (Lovegrass)	*(Eragrostis cilianensis)*
Windmillgrass	*(Chloris sp.)*
Beggarweed, Florida (Beggar-lice)	*(Desmodium tortuosum)*
Bindweed, field (Creeping jenny) (Small morningglory)	*(Convolvulus arvensis)*
Chickweed	*(Stellaria media)*

Cocklebur (Clotbur)	*(Xanthium pensylvanicum)*
Galinsoga (Quickweed)	*(Galinsoga sp.)*
Groundcherry (Clammy groundcherry)	*(Physalis heterophylla)*
Morningglory (Annual morningglory) (Common morningglory) (Ivy leaf morningglory)	*(Ipomoea sp.)*
Mustard (Black mustard) (Wild mustard)	*(Brassica sp.)*
Prickly sida (Spiny sida) (Teaweed)	*(Sida spinosa)*
Ragweed, common	*(Ambrosia artemisiifolia)*
Shepherdspurse	*(Capsella bursa-pastoris)*
Velvetleaf (Butterprint) (Buttonweed) (Cottonweed) (Elephant's Ear) (Indian mallow) (Piemarker)	*(Abutilon theophrasti)*

Weeds controlled in soybeans by the SURFLAN/Amiben® tank-mix in addition to those controlled by SURFLAN alone (see Page 23 for special instructions).

Chickweed	*(Stellaria media)*
Coffeeweed (Sesbania)	*(Sesbania exaltata)*
Kochia	*(Kochia scoparia)*
Mustard, Wild	*(Brassica kaber)*
Nightshade, Black	*(Solanum nigrum)*
Prickly Sida (Teaweed)	*(Sida spinosa)*
Ragweed, Common	*(Ambrosia artemisiifolia)*
Russian Thistle	*(Salsola kali)*
Smartweed, Pennsylvania	*(Polygonum pensylvanicum)*
Spurge, Annual	*(Euphorbia maculata)*
Stinkgrass	*(Eragrostis cilianensis)*
Velvetleaf (Buttonweed)	*(Abutilon theophrasti)*

WEEDS CONTROLLED IN FRUIT AND NUT CROPS AND VINEYARDS BY SURFLAN

SURFLAN applied at the higher rates for weed control in Fruit and Nut Crops and Vineyards controls the following weeds in addition to those controlled at the lower rates for field crops

Barley, little	*(Hordeum pusillum)*
Bluegrass, Annual	*(Poa annua) (Poa)*
Chickweed	*(Stellaria media)*
Cupgrass	*(Eriochloa gracilis)*
Fiddleneck, coast	*(Amsinckia intermedia)*
Filaree, redstem	*(Erodium circutarium)*
Filaree, whitestem	*(Erodium moschatum)*
Groundsel, common	*(Senecio vulgaris)*
Henbit	*(Lamium amplexicaule)*
Junglerice	*(Echinochloa colonum)*
Knotweed, prostrate	*(Polygonum aviculare)*
Lovegrass, Mexican	*(Eragrostis mexicana)*
Lovegrass, orcutt	*(Eragrostis orcuttiana)*
Oat, wild	*(Avena fatua)*
Pigweed, smooth	*(Amaranthus hybridus)*
Pigweed, tumble	*(Amaranthus albus)*

Puncturevine	*(Tribulus terrestris)*
Rocket, London	*(Sisymbrium irio)*
Rockpurselane, redmaids	*(Calandrinia caulescens)*
Sandbur, field	*(Cenchrus incertus)*
Shepherdspurse	*(Capsella bursa-pastoris)*
Sprangletop, red	*(Leptochloa filiformis)*
Witchgrass	*(Panicum capillare)*

Suppression of the following weeds may be erratic, ranging from poor to excellent, depending upon soil temperature, time of germination, depth of seed in the soil, amount and timing of soil moisture: black nightshade, common ragweed, ladysthumb, morningglory, smartweed, teaweed (prickly sida), velvetleaf, Italian ryegrass, horseweed, prickly lettuce, common mallow, black mustard, wild mustard, annual sowthistle, and climbing milkweed.

WEEDS CONTROLLED IN FRUIT AND NUT CROPS AND VINEYARDS BY SURFLAN TANK-MIXES

SURFLAN + Karmex® tank-mix for Fruit and Nut Crops and Vineyards controls the following weeds in addition to those controlled by SURFLAN alone (see Page 10)

Ageratum	*(Ageratum mexicana)*
Buckwheat, wild	*(Polygonum convolvulus)*
Buttonweed	*(Borreria scabra)*
Clover, Mexican Dayflower	*(Commelina communis)*
Doglennel	*(Eupatorium capillifolium)*
Fescue, rattail	*(Festuca myuros)*
Gromwell	*(Lithospermum officinale)*
Groundcherry, annual Hawksbeard	*(Crepis spp.)*
Horseweed	*(Conyza canadensis)*
Knawel	*(Scleranthus annuus)*
Kochia	*(Kochia scoparia)*
Kyllinga	*(Cyperus spp.)*
Marigold	*(Tagetes spp.)*
Milkweed, climbing	*(Sarcostemma cynanchoides)*
Morningglory, annual	
Mustard, black	*(Brassica nigra)*
Mustard, wild	*(Brassica kaber)*
Orchardgrass	*(Dactylis glomerata)*
Paintbrush, Flora's	
Pepperweed	*(Lepidium spp.)*
Pineappleweed	*(Matricaria matricarioides)*
Pokeweed	*(Phytolacca spp.)*
Puncturevine	*(Tribulus terrestris)*
Radish, wild	*(Raphanus raphanistrum)*
Ricegrass, red	
Ryegrass, annual	
Smartweed	*(Polygonum spp.)*
Sowthistle, annual	*(Sonchus oleraceus)*
Spanishneedles	*(Bidens bipinnata)*
Speedwell, corn	*(Veronica arvensis)*
Spurry, corn	*(Spergula arvensis)*
Tansymustard	*(Descurainia pinnata)*
Tobacco, rabbit	
Velvetgrass	*(Holcus lanatus)*

Suppression of the following weeds may be erratic, ranging from poor to excellent depending upon soil temperature, time of germination, depth of weed seed in the soil, amount and timing of soil moisture: ladysthumb, spotted spurge, black nightshade, teaweed (prickly sida), velvetleaf, Italian ryegrass, and prickly lettuce.

SURFLAN + Princep® tank-mix for Fruit and Nut Crops and Vineyards controls the following weeds in addition to those controlled by SURFLAN alone (see Page 34)

Brome, downy (cheat)	*(Bromus tectorum)*
Fescue, rattail	*(Festuca myuros)*
Fireweed	*(Epilobium angustifolium)*
Hairgrass, silver	*(Aira caryophyllea)*
Knawel	*(Scleranthus annuus)*
Milkweed, climbing	*(Sarcostemma cynanchoides)*
Morningglory, annual	
Mustard, black	*(Brassica nigra)*
Mustard, wild	*(Brassica kaber)*
Nightshade	*(Solanum spp.)*
Paintbrush, Flora's	
Prickly lettuce	*(Lactuca serriola)*
Ragweed	*(Ambrosia spp.)*
Ryegrass, annual	
Shieldscress	
Smartweed	*(Polygonum spp.)*
Spanishneedles	*(Bidens bipinnata)*
Tansymustard	*(Descurainia pinnata)*
Wiregrass	*(Aristida virgata)*

Suppression of the following weeds may be erratic, ranging from poor to excellent depending upon soil temperature time of germination, depth of weed seed in the soil, amount and timing of soil moisture ladysthumb, spotted spurge, teaweed (prickly sida), velvetleaf, Italian ryegrass, horseweed, common mallow and annual sowthistle

DIRECTIONS FOR USE

SURFLAN is a pre-emergence, surface-applied herbicide for the control of most annual grasses and certain broadleaf weeds General rule The more coarse the soil or the lower the organic matter, the lower the rate

SOIL TEXTURE GUIDE

Refer to the following guide to determine your soil texture

Coarse (light)* soils	Sand
	Loamy sand
	Sandy loam
Medium soils	Loam
	Silt loam
	Silty clay loam**
	Silt
	Sandy clay loam**
Fine (heavy)* soils	Clay
	Clay loam
	Silty clay loam**
	Silty clay
	Sandy clay
	Sandy clay loam**

*Soil classification nomenclature for light and heavy textured soils has been changed to coarse and fine textured soils at the direction of the Environmental Protection Agency Throughout this label all previous references to light textured soils have been changed to coarse-textured soils All previous references to heavy textured soils have been changed to fine textured soils These new descriptions relate more closely to the size of the soil particles in a given classification

**Silty clay loam and sandy clay loam soils are transitional soils and may be classified as either medium or heavy textured soils If silty clay loam or sandy clay loam soils are predominately sand or silt, they are usually classified as medium textured soils If predominantly clay, they are usually classified as fine textured soils

SOIL PREPARATION

Destroy existing weeds before or during a SURFLAN application The soil surface should be level enough to allow a sprayer to be operated efficiently and at speeds appropriate for uniform application

MIXING PROCEDURES

SURFLAN In Water Alone. Fill tank 1/2 full with clean water, start agitation and add the recommended amount of SURFLAN. Mix thoroughly and add water to fill the spray tank Continue agitation until the spray tank has been emptied

SURFLAN Plus Emulsifiable Concentrates In Water Fill tank 1/4 to 1/2 full with clean water, start agitation and add SURFLAN Mix thoroughly and add water until tank is 3/4 to 7/8 full, continue agitation and add the emulsifiable concentrate material Fill tank and continue agitation during spraying until tank is empty If a compatibility agent is required, it should be thoroughly mixed with the water before adding SURFLAN To prevent foaming, avoid stirring or splashing air into the mixture by placing the end of the fill pipe below the surface of the water in the spray tank

SURFLAN Plus Other Wettable Powders Or Flowables Fill tank 1/4 full with clean water, start the sprayer agitator and add the recommended amount of the other flowable or wettable, mix thoroughly and add water to about 1/3 full Continue agitation and add SURFLAN Mix thoroughly and fill tank Continue agitation during trip to field, while spraying and until tank has been emptied

APPLICATION

Fill the spray tank half full of clean water and add the recommended amount of SURFLAN Mix thoroughly and add water to fill the spray tank

Apply in from 20 to 40 gallons of water per acre (broadcast basis), using any properly calibrated low-pressure herbicide sprayer that will apply the spray uniformly Use herbicide tips and screens no finer than 50 mesh in nozzle and in-line strainers As the amount of water used (spray volume) decreases, the importance of accurate calibration and uniform application increases Check the sprayer daily to insure proper calibration and uniform application Agitate thoroughly before and during application Avoid boom overlaps that will increase rates above those recommended

AERIAL APPLICATION

Aerial application of SURFLAN 75W can be made to cotton (Texas only) and SURFLAN 75W alone or in tank-mix combination with Sencor 50% W P , Sencor 4, Sencor Sprayule, Lexone 50 W P , Lexone 4L, Lexone DF, Lorox 50W, Lorox L, Klean-Krop, or Dyanap (2+1)S and Amiben 2S can be aerially applied to soybeans Avoid overlap of spray patterns Do not apply when weather conditions favor drift from target area Use a standard aerial herbicide boom sprayer Aerial spray equipment should be calibrated to apply the proper amount of SURFLAN 75W alone or in tank-mix combinations in 2 to 10 gallons of spray mixture per acre Nozzle screens and in-line strainers should be no finer than 50 mesh for the tank-mix combinations of SURFLAN plus Sencor SURFLAN plus Lexone, and SURFLAN plus Lorox SURFLAN 75W (alone or in tank-mix combina-

tions) mixes readily with water for these concentrate aerial sprays; however, constant vigorous agitation that sweeps the contents from the bottom of the spray tank up into the main body of the liquid is required to maintain a uniform suspension until spray tank is empty

ACTIVATION AND CULTIVATION

A single, one-half inch rain or its equivalent in overhead irrigation is necessary to activate SURFLAN when used alone or in a tank-mix combination. If weeds begin to emerge shallow cultivate (1 to 2 inches) to destroy existing weeds and place SURFLAN in zone of weed seed germination. If heavy rains pack the soil surface, rotary hoe to break the crust to aid crop emergence. Crops treated with SURFLAN can be shallowly cultivated without loss of activity.

CROP RECOMMENDATIONS

Field Crops:

These recommendations are given as the broadcast (overall) rates of SURFLAN per acre. For band application use proportionately less. SURFLAN is not recommended for use on soils containing more than 5 percent organic matter. Only one application of SURFLAN per season should be made.

SOYBEANS—SURFLAN ALONE

Apply SURFLAN to the soil surface from 4 weeks prior to planting up through 2 days after planting at a broadcast rate per acre of 1 pound on coarse soils, 1½ pounds on medium soils and 2 pounds on fine soils.

SOYBEANS—TANK-MIX RECOMMENDATIONS:

Soybeans—SURFLAN/Sencor® Tank Mix or SURFLAN/ Lexone® Tank Mix:

The SURFLAN/Sencor or SURFLAN/ Lexone tank-mix effectively controls all of the annual grasses and broadleaf weeds listed on the SURFLAN label (see Page 6) plus many additional broadleaf weeds including jimsonweed, prickly sida (teaweed), common ragweed, redweed, hemp sesbania, sicklepod, annual smartweed, velvetleaf and browntop millet. Control of cocklebur, morningglory and giant ragweed (horseweed) may be erratic, ranging from poor to excellent depending upon soil temperature, time of germination, depth of seed in the soil and the amount and timing of soil moisture. Control may be improved with timely cultivation.

Directions. Follow normal SURFLAN procedures for soil preparation. When using preplant treatments seedbed preparation prior to application should be such that no tillage or only light tillage is required for planting. If final seedbed preparation is necessary prior to planting, shallow working of the soil will not reduce herbicidal effectiveness. Suitable tillage equipment include the vicon power harrow, lely roterra, cultimulcher, mulchtreader, spiketooth harrow, springtooth harrow, do all, rolling cultivator, triple-K, and rotary hoe. Shallow operation of the field cultivator is suitable for tillage only in Illinois, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota. Equipment should be operated at an angle to the direction of planting. Do not use a disc or other deep running tillage equipment for seedbed preparation after applying SURFLAN as crop injury may occur.

The SURFLAN/Sencor or SURFLAN/Lexone tank-mix may be applied from 4 weeks prior to planting up through 2 days after planting, but before crop emergence with any low pressure herbicide sprayer. Do not spray over top of emerged soybeans.

Broadcast Rates Per Acre

Surface Applied Before or After Planting

Soil Texture	SURFLAN 75W	+ Lexone 50 W.P. or Sencor 50% W.P.	or Lexone 4L or Sencor 4	or Lexone DF or Sencor Sprayule™
Coarse	⅔-1 pound	½ pound	½ pint	½ pound
Medium	1-1⅓ pounds	¾ pound	¾ pint	⅔ pound
Fine	1⅓-1⅔ pounds	1 pound	1 pint	⅔ pound

Do not use the SURFLAN/Sencor or SURFLAN/Lexone tank-mix on soils containing more than 5% organic matter in a preplant surface application or postplant surface application

Special Precaution: Poor weed control and/or crop injury may result if directions are not followed Over-application may result in crop injury and/or soil residue Do not use treated vines for feed or forage Do not contaminate any body of water nor apply to any area not specified on the label Do not allow sprays to drift onto adjacent desirable plants. Do not plant any crop other than soybeans within 4 months after application

CAUTION Please read the Sencor or Lexone label carefully for cautions, precautions and special precautions before applying these products

Destroy empty containers for all products Do not reuse

Sprayule™-Trademark of the Parent Company of Farbenfabriken Bayer GmbH Leverkusen

Soybeans—SURFLAN/Lorox® Tank-Mix:

The SURFLAN/Lorox tank-mix effectively controls all of the annual grasses and broadleaf weeds listed on the SURFLAN label (See Page 6) plus many additional broadleaf weeds including common chickweed, galinsoga, nettleleaf goosefoot, mustard, wild radish, common ragweed, annual smartweed, velvetleaf and canarygrass Control of black nightshade, annual morningglory, cocklebur, prickly sida (teaweed), spotted spurge and sicklepod may be erratic, ranging from poor to excellent depending upon soil temperature, time of germination depth of seed in the soil and the amount and timing of soil moisture Control may be improved with timely cultivation Follow normal SURFLAN procedures for soil preparation The SURFLAN/Lorox tank-mix may be applied within 2 days after planting, but before crop emergence using any properly calibrated low-pressure herbicide sprayer Do not spray over top of emerged soybeans

Broadcast Rates Per Acre

Soil Texture	SURFLAN 75W +	Lorox 50 W.P. or	Lorox L
Coarse	⅔-1 pound	⅔-1¼ pounds	⅔-1¼ pints
Medium	1-1⅓ pounds	1-1⅔ pounds	1-1⅔ pints
Fine	1⅓-1⅔ pounds	1¼-2 pounds	1¼-2 pints

Do not use on sand or loamy sand soils

Do not use the SURFLAN/Lorox tank-mix on soils containing more than 5% organic matter

Special Precaution: Poor weed control and/or crop injury may result if directions are not followed Over application may result in crop injury and/or soil residue Do not use treated vines for feed or forage Do not contaminate any body of water nor apply to any area not specified on the label Do not allow sprays to drift onto adjacent desirable plants

Caution: Please read the Lorox label carefully for cautions, precautions and special precautions before applying this product

Destroy empty containers for both products Do not reuse

Soybeans—SURFLAN/Dyanap® Tank-Mix *or* SURFLAN/Klean-Krop® Tank-Mix:

The SURFLAN/Dyanap tank mix or SURFLAN/Klean-Krop tank-mix effectively controls all of the annual grasses and broadleaf weeds listed on the SURFLAN label (See Page 6) plus many additional broadleaf weeds and grasses including cupgrass, sandbur, sprangletop, stinkgrass, windmillgrass, Florida beggarweed, field bindweed, chickweed, cocklebur, galinsoga, groundcherry, morningglory, mustard, prickly sida (teaweed), common ragweed, shepherdspurse and velvetleaf Follow normal SURFLAN procedures for soil preparation The SURFLAN/Dyanap tank-mix or SURFLAN/Klean Krop tank-mix may be applied within 2 days after planting, but before crop emergence using any properly calibrated low-pressure herbicide sprayer Do not spray over top of emerged soybeans

Broadcast Rates Per Acre

Soil Texture	SURFLAN 75W Pounds Per Acre	Dyanap (2 I 1)S or Klean-Krop Quarts Per Acre
Coarse	⅔-1 pound	6 quarts
Medium	1-1⅓ pounds	6 quarts
Fine	1⅓-1⅔ pounds	6 quarts

Do not apply the SURFLAN/Dyanap *tank-mix or* SURFLAN/Klean-Krop *tank-mix to any soils with over 5% organic matter Do not use on silt loam soils of extremely fine texture*

Special Precaution: Poor weed control and/or crop injury may result if directions are not followed Over-application may result in crop injury and/or soil residue Do not use treated vines for feed or forage

Caution: Please read the Dyanap or Klean-Krop labels carefully for cautions, precautions and special precautions before applying these products

Destroy empty containers for all products Do not reuse

Soybeans—SURFLAN/Amiben® Tank-Mix

The SURFLAN/Amiben tank-mix effectively controls all of the annual grasses and broadleaf weeds listed on the SURFLAN label (see Page 6), plus many additional broadleaf weeds including chickweed, coffeeweed, kochia, wild mustard, black nightshade, prickly sida (teaweed), common ragweed, Russian thistle, Pennsylvania smartweed, annual spurge, stinkgrass and velvetleaf (buttonweed) The SURFLAN/Amiben tank-mix may be applied within 2 days after planting, but before crop emergence, using any properly calibrated low-pressure herbicide sprayer that will apply the spray uniformly Agitate thoroughly before and during application Follow normal SURFLAN procedures for soil preparation Do not spray over top of emerged soybeans

Broadcast Rates Per Acre

Soil Texture	SURFLAN 75W	Amiben 2S
Coarse	⅔-1 pound	4 quarts to 6 quarts
Medium	1-1⅓ pounds	4 quarts to 6 quarts
Fine	1⅓-1⅔ pounds	4 quarts to 6 quarts

The higher rates of Amiben should be used on clay loams, clay or high organic (3 to 5%) mineral soils. Do not use the SURFLAN/Amiben tank-mix on soils containing more than 5% organic matter

Special Precaution: Poor weed control and/or crop injury may result if directions are not followed. Over-application may result in crop injury and/or soil residue. Do not use treated vines for feed or forage. Do not contaminate any body of water nor apply to any area not specified on the label. Do not allow sprays to drift onto adjacent desirable plants.

Caution: Please read the Amiben label carefully for caution statements before applying this product.

Destroy empty containers for both products. Do not reuse.

NO-TILL SOYBEANS TANK-MIX RECOMMENDATIONS:

No-Till Soybeans—SURFLAN/Sencor®/Paraquat or SURFLAN/Lexone®/Paraquat Tank-Mix:

A tank-mix combination of SURFLAN/Sencor/Paraquat or SURFLAN/Lexone/Paraquat is more effective in providing pre-emergence weed control in no-till soybeans than any one of these herbicides used alone. The combination provides control of weeds and grasses which are emerged at the time of application plus many weeds and grasses which may germinate after planting.

Weeds Controlled by Paraquat

Paraquat will kill emerged annual broadleaf weeds and grasses and provide top kill of perennials.

Weeds Controlled by SURFLAN and Sencor or Lexone (See Pages 6 & 7)

When to Apply—Apply the SURFLAN/Sencor/Paraquat or SURFLAN/Lexone/Paraquat tank-mix at planting or within 2 days after planting. Do not spray over top of emerged soybeans.

Broadcast Rates Per Acre

Soil Texture	SURFLAN 75W (pounds)	Sencor 50% WP or Lexone 50 WP (pounds)	Sencor 4 or Lexone 4L (pints)	Lexone DF or Sencor Spayule (pounds)	Paraquat 2CL (quarts)
Coarse	1	½	½	½	1
Medium	1-1½	¾	¾	¾	1
Fine	2	1	1	1	1

Do not use on sandy loam or loamy sand soils with less than 1% organic matter. Not recommended on any soil containing more than 5% organic matter.

Mixing—Add the recommended rate of each product to the spray tank during the filling operation and mix thoroughly. Apply in from 20 to 40 gallons of water per acre (broadcast basis). Add 8 ozs. of Ortho X-77 Spreader (non-ionic) per 100 gals.

Spray Equipment—Use any properly calibrated low-pressure herbicide sprayer. Agitate thoroughly before and during application with good bypass agitation.

Sprayers should be accurately calibrated before applying the tank-mix combination. Avoid boom overlaps that will increase rates above those recommended. Check the sprayer daily during the application to be sure it is working properly and delivering a uniform spray pattern. As the amount of water used (spray volume) decreases, the importance of accurate calibration and uniform application increases.

A single one-half inch rain or its equivalent in overhead irrigation is needed to activate the herbicide combination

Special Precautions: Poor weed control and/or crop injury may result if directions are not followed Over application may result in crop injury and/or soil residue Do not use treated vines for feed or forage Do not contaminate any body of water nor apply to any area not specified on the label

Do not allow sprays to drift onto adjacent desirable plants

Do not allow SURFLAN to come into direct contact with soybean seed or crop injury may result

CAUTION: Read the SURFLAN, Sencor or Lexone and Paraquat labels carefully before using Note all cautions, precautions and special precautions

No-Till Soybeans—SURFLAN/Lorox®/Paraquat Tank-Mix

A tank-mix combination of SURFLAN/Lorox/Paraquat is more effective in providing pre-emergence weed control in no-till soybeans than any one of these herbicides used alone The combination provides control of weeds and grasses which are [illegible] at the time of application plus many weeds and grasses which may [illegible] after planting

Weeds Controlled by Paraquat

Paraquat will kill emerged annual broadleaf weeds and grasses and provide top kill of perennials

Weeds Controlled by SURFLAN and Lorox (See Pages 6 & 8)

When to Apply—Apply the SURFLAN/Lorox/Paraquat tank-mix at planting or within 2 days after planting Do not spray over top of emerged soybeans

Broadcast Rates Per Acre

Soil Texture	SURFLAN 75W	Lorox 50 W P	Lorox L	Paraquat 2CL
	(pounds)	(pounds)	(pints)	(quarts)
Coarse	1	⅔-1¼	⅔-1¼	1
Medium	1-1⅓	1-1⅔	1-1⅔	1
Fine	2	1¼-2	1¼-2	1

Do not use on soils containing more than 5% organic matter

Mixing—Add the recommended rate of SURFLAN and Lorox to the spray tank during the filling operation and mix thoroughly, then add Paraquat CL followed by Ortho X-77 Spreader (nonionic) 8 ozs per 100 gallons Apply in from 20 to 40 gallons of water per acre (broadcast basis)

Spray Equipment—Use any properly calibrated low-pressure herbicide sprayer Sprayers should be accurately calibrated before applying the tank-mix combination Avoid boom overlaps that will increase rates above those recommended Check the sprayer daily during the application to be sure it is working properly and delivering a uniform spray pattern As the amount of water used (spray volume) decreases, the importance of accurate calibration and uniform application increases

A single one-half inch rain or its equivalent in overhead irrigation is needed to activate the herbicide combination

[illegible] control and/or [illegible] may result if directions are not followed Over-application may result in crop injury and/or soil residue Do not use treated vines for feed or forage Do not contaminate any body of water nor apply to any area not specified on the label

Do not allow sprays to drift onto adjacent desirable plants

Do not allow SURFLAN to come into direct contact with soybean seed or crop injury may result

COTTON—SURFLAN ALONE (in Texas only)

Apply SURFLAN to the soil surface at planting or within 2 days after planting at a broadcast rate of 1½ pounds on medium soils and 2 pounds on fine soils

At the recommended rates for fine textured soils, SURFLAN will also control browntop panicum and prostrate spurge

Precaution. Do not graze treated fields. If SURFLAN is not applied at or within 2 days after planting, crop injury and poor weed control may result

PEAS (English or Green)

The SURFLAN/TREFLAN tank mix provides weed control and suppression of common root rot (*Aphanomyces euteiches*) in peas. These peas, English or green, are used as canning or freezing type peas

Mixing and Application—Apply the tank mix up to two weeks prior to planting. Apply in 20 to 40 gallons of water per acre in any properly calibrated low pressure herbicide sprayer

Broadcast Rates Per Acre

Soil Texture	SURFLAN 75W	TREFLAN® E C /M T F.™	TREFLAN® or Pro-5™
All soil textures*	⅔ pound	1 pint	0 8 pint

*Do not use the SURFLAN/TREFLAN tank mix on coarse soils with less than 1½% organic matter

Incorporation—Incorporate according to label directions for TREFLAN. See the TREFLAN label

Precautions—Please read the TREFLAN label for additional cautions and precautions. Do not feed forage from treated fields to livestock. Poor weed control, crop injury or soil residue may result if label instructions are not followed. Do not plant any root crop for 12 months following application

SWEET POTATOES (transplant)

~~SURFLAN for weed control in transplant sweet potatoes~~ as a surface applied overtop spray after transplanting and prior to weed emergence. To achieve control of several annual weeds and grasses (see pages 6 and 7) apply SURFLAN at a broadcast rate per acre of 1 pound on coarse soils and 1½ pounds on medium soils

FRUIT AND NUT CROPS AND VINEYARDS (Nonbearing and Bearing)—SURFLAN ALONE

SURFLAN applied as a preemergence herbicide controls many annual grasses and broadleaf weeds in several fruit and nut crops and vineyards. It is recommended on the following crops

Almond	Grape	Pear
Apple	Grapefruit	Pecan
Apricot	Kiwi	Pistachio
Avocado	Lemon	Plum
Caneberries	Nectarine	Pomegranate
Cherry	Olive	Prune
Fig	Orange	English Walnut
Filbert	Peach	

For a listing of weeds controlled by SURFLAN alone, see page 6

General Directions—Existing vegetation should be destroyed prior to application either by tillage or by a contact herbicide application.* Read the contact herbicide label for all directions, cautions and precautions

Broadcast Application Rates—Broadcast SURFLAN 75W in nonbearing and bearing fruit and nut crops and vineyards at a rate of 2½ pounds per acre for short term (4 months) control and 5½ pounds per acre for long term (6 to 8 months) control on all soil textures

SURFLAN is not recommended for soils containing more than 5 percent organic matter

*To assure the compatibility of SURFLAN with the contact herbicide, pour the proportions into small containers of water in the correct proportions. After thorough mixing, let stand for five minutes and check for compatibility. If the combination remains mixed or can be remixed easily, the mixture is compatible.

Band Treatment—The amount of product needed for band treatment may be calculated by the formula

$$\frac{\text{band width in inches}}{\text{row width in inches}} \times \text{broadcast rate per acre} = \text{amount needed per acre of field}$$

Mixing and Application – Add the recommended amount of SURFLAN to water in the spray tank during the filling operation. Use 20 to 40 gallons of water per acre (broadcast basis). Apply with a properly calibrated low-pressure herbicide sprayer that will uniformly apply the spray. Check the sprayer daily for the proper calibration and uniform application. Provide good mixing of the spray suspension in the tank before and during application using bypass or other types of agitation.

Activation – A single one half inch rain or sprinkler irrigation to move SURFLAN into the weed seed germination zone is required to activate the herbicide. If weeds begin to emerge a shallow cultivation (1 to 2 inches) will destroy existing weeds and place SURFLAN in the zone of weed seed germination.

Precaution – Poor weed control may result if directions are not followed. Over application may result in crop injury or excessive soil residue. Apply the spray directly to the orchard or vineyard floor.

Do not apply to newly transplanted trees or vines until soil has settled and there are no cracks present.

FRUIT AND NUT CROPS AND VINEYARDS—TANK-MIX RECOMMENDATIONS

SURFLAN/Karmex® Tank-Mix

SURFLAN/Karmex tank mix effectively controls more annual grasses and broadleaf weeds in the following fruit and nut crops than either product used alone (see Page 12 for a listing of those weeds).

The tank mix is recommended on the following crops:

Apple	Orange
Canebernes	Peach
Grape	Pear
Grapefruit	Pecan
Lemon	English Walnut

General Directions – Existing vegetation should be destroyed prior to application either by tillage or by a contact herbicide application.* Read the contact herbicide label for all directions, cautions and precautions.

Broadcast Application Rates—

Crop	Pounds[1] SURFLAN 75W Per Acre	Pounds Karmex 80W Per Acre
Apples	2 , to 5 ,	2 to 4
Canebernes[2]	2 , to 5 ,	2 to 3
(Read the Karmex label for state and crop recommendations)		
Grapes[4]		
East of Rocky Mountains		
1 to 2% organic matter	2 , to 5 ,	2 to 3
2 to 5% organic matter	2 , to 5 ,	3 to 6
New York and Pennsylvania – Perennial Grasses Use Karmex only in established vineyards (at least 4 years old) for spot control of perennial grasses such as orchardgrass, quackgrass and ryegrass. Apply Karmex in the spring as a band treatment to ridged soil (2 to 4 high) under the trellis at the rate of 8 to 12 lbs. per acre. Band width should not exceed 30. Do not apply Karmex more than once every 4 years. Use Karmex only on heavy soils such as loams, silt loams, clay loams. Do not use Karmex in areas where grape roots are shallow or exposed because of high bedrock, poor drainage or erosion as injury to grapes may result.		

[illegible] To assure the compatibility of SURFLAN with Karmex with the combination herbicide spray the products into separate containers of water in the correct proportions. After mixing, let stand for five minutes and check for compatibility. If the combination remains mixed or can be remixed easily, the mixture is compatible.

[illegible] Broadcast SURFLAN 75W in established fruit and nut orchards and vineyards at a rate of 2½ pounds per acre for short term (4 months) control and 5 pounds per acre for long term (6 to 8 months) control on all soil textures. SURFLAN is not recommended on soils containing more than 5 percent organic matter.

[illegible] Use Karmex only under trees established in the orchard for at least one year. Do not treat varieties grafted on full dwarf root stocks.

[illegible] Use Karmex only under trees established in the orchard for at least one year. Do not apply Karmex to berries interplanted with fruit trees; do not apply to plants whose roots are exposed as injury may result.

[illegible] Apply Karmex only to established vineyards (at least 3 years old) as a band treatment in grape rows. Do not apply Karmex to vines with trunks less than 1" in diameter as injury may result. On soils low in clay or organic matter (1 to 2%) severe plant injury may result from Karmex application if heavy rainfall or more than one inch of irrigation occurs soon after treatment. The risk must be assumed by the user.

Crop	Pounds[1] SURFLAN 75W Per Acre	Pounds Karmex 80W Per Acre
Grapes[4]		
West of Rocky Mountains	2½ to 5	2 to 4
(Apply Karmex in November, December or January)		
Orange, Grapefruit and Lemons[5]		
Arizona (except Yuma area) and California (except Imperial and Coachella Valleys)	2½ to 5	2 to 4
Florida (oranges & grapefruit)	2½ to 5	4 to 8
Texas (oranges & grapefruit)	2½ to 5	2 to 4

[illegible] Do not apply Karmex under trees if all fruit has not been picked from trees at least 6 months. Use Karmex only under trees established in the orchard for at least one year.

Crop	Pounds[1] SURFLAN 75W Per Acre	Pounds Karmex 80W Per Acre
Peaches[6]	2½ to 5	2 to 5
Pears[7]	2½ to 5	2 to 4
Pecans	2½ to 5	2 to 4
Use only under trees established in the grove for at least 3 years. Do not use on soils with less than 1/2% organic matter.		
Walnuts (English)		
California	2½ to 5	2 to 3
Use only under trees established in the orchard for at least one year. Refer to Karmex 80W label for complete directions for use.		

Mixing and Application – Fill the spray tank [illegible] with clean water and add the recommended amount of SURFLAN [illegible]. Mix thoroughly adding water to the spray tank. When the tank is three-fourths full add the recommended amount of Karmex 80W. [illegible] mix thoroughly and fill the tank. Vigorous continuous agitation is required until spray tank is empty to keep the powders in suspension. Use 20 to 40 gallons of water per acre (broadcast basis). Apply with a properly calibrated low-pressure herbicide sprayer that will apply the spray uniformly. Check the sprayer daily for proper calibration and to insure uniform application. Provide good mixing of the spray suspension in the tank before and during application using bypass or other types of agitation.

[illegible] Use Karmex only under trees established in the orchard for at least 3 years. Do not apply Karmex within 3 months of harvest in the Far West; do not apply Karmex within 6 [illegible] of harvest.

[illegible] Use Karmex only under trees established in the orchard for at least 1 year; do not treat varieties grafted on full dwarf root stocks.

Activation—A single one-half inch rain or sprinkler irrigation to move the tank-mix combination into the weed seed germination zone is required to activate the herbicides. If weeds begin to emerge, a shallow cultivation (1 to 2 inches) will destroy existing weeds and place SURFLAN and Karmex in the zone of weed seed germination.

Precaution—Poor weed control may result if directions are not followed. Over-application may result in crop injury or excessive soil residue. Apply the spray directly to the orchard or vineyard floor.

Caution—Read the Karmex labels carefully for recommendations, cautions, and precautions before applying these products.

SURFLAN/Princep® Tank-Mix:

SURFLAN/Princep tank mix effectively controls more annual grasses and broadleaf weeds in the following crops than either product used alone (see Page 14 for a listing of those weeds). The tank-mix is recommended on the following crops:

Almond	Lemon
Apple	Orange
Avocado	Peach
Caneberries	Pear
Cherry	Pecan
Filbert	Plum
Grape	English Walnut
Grapefruit	

General Directions—Existing vegetation should be destroyed prior to application either by tillage or by a contact herbicide application.* Read the contact herbicide label for all directions, cautions and precautions.

*To assure the compatibility of SURFLAN/Princep with the contact herbicide, pour the products into small containers of water in the correct proportions. After thorough mixing, let stand for five minutes and check for compatibility. If the combination remains mixed or can be remixed easily, the mixture is compatible.

Broadcast Application Rates—

Crop	Pounds[1] SURFLAN 75W Per Acre	Pounds[2] Princep 80W Per Acre
Apple, Pear and Sour Cherry	2⅔ to 5⅓	2½ to 5
Almond and Peach[3]		
California only		
Apply to 2 to 4 foot band on each side of tree row	2⅔ to 5⅓	1¼ to 2½
For peach in other states see recommendations for peach, plum and sweet cherry		
Avocado[4]		
California	2⅔ to 5⅓	2½ to 5
Caneberries[5]	2⅔ to 5⅓	2½ to 5
Apply 2½ to 5 lbs Princep per acre in the spring or apply a split application of 2½ lbs per acre in the spring plus 2½ lbs per acre in the fall. Apply in a minimum of 40 gallons of water per acre.		
On plantings less than 6 months old, use ½ the above Princep rate. To control quackgrass, apply 5 lbs Princep per acre in the fall or split the application applying 2½ lbs per acre in the fall plus 2½ lbs per acre in the spring, when quackgrass is actively growing.		
Filbert[6]		
Washington and Oregon	2⅔ to 5⅓	2½ to 5
Apply Princep at 2½ to 5 lbs per acre in the fall or apply a split application of 2½ lbs per acre in the fall plus 2½ lbs per acre in the spring.		
Precaution: If trees are planted on a hillside, excessive soil erosion may result from the elimination of weeds. Do not apply on gravelly sand, or loamy sand soil.		

Crop	Pounds[1] SURFLAN 75W Per Acre	Pounds[2] Princep 80W Per Acre
Grape	2⅔ to 5⅓	2½ to 5
Apply Princep any time between harvest and early spring Precaution. Do not use Princep in vineyards established less than three years Do not apply Princep on gravelly, sand, or loamy sand soil		
Grapefruit, Lemon, and Orange[3]		
Arizona (lemon and orange only)	2⅔ to 5⅓	2 Spring + 2 Fall
California (except Imperial, Coachella or Palo Verde Valleys)	2⅔ to 5⅓	2½ to 5
Florida (grapefruit and orange only)	2⅔ to 5⅓	8 to 12
Texas	2⅔ to 5⅓	5 to 6
Peach, Plum and Sweet Cherry[8]	2⅔ to 5⅓	2 to 5
Apply Princep in late fall to early spring prior to weed emergence		
Plum and Sweet Cherry: Use Princep only in Missouri and states east of the Mississippi River except Tennessee		
Pecan[9]		
Sand and loamy sand	2⅔ to 5⅓	DO NOT USE
Sandy loam	2⅔ to 5⅓	2 to 5
Loam or clay soil low in organic matter	2⅔ to 5⅓	2½ to 3½
Clay soil high in organic matter	2⅔ to 5⅓	3½ to 5
Note: Do not apply Princep when nuts are on the ground Do not allow animals to graze in Princep treated areas		
Walnut (English)[10]	2⅔ to 5⅓	2½ to 5

[1] Broadcast SURFLAN 75W in established fruit and nut orchards and vineyards at a rate of 2⅔ pounds per acre for short term (4 months) control and 5⅓ pounds per acre for long term (6 to 8 months) control on all soil textures SURFLAN is not recommended on soils containing more than 5 percent organic matter

[2] Where a rate range of application rates is given, use the lower rate on coarser textured soil and soil lower in organic matter, use the high rate on finer textured soils and soil higher in organic matter

[3] Do not apply Princep to trees established in the grove less than 3 years
Do not apply Princep to the Mission (Texas) variety of almonds
Do not apply Princep to almond trees propagated on plum rootstocks
Do not replant almond or peaches in soil treated with Princep for 12 months after treatment
Do not apply Princep on gravelly, sand, or loamy sand soil or on soil with less than 1% organic matter
Do not apply Princep to areas where water will accumulate

[4] Do not apply Princep on gravelly, sand or loamy sand soil

[5] Do not apply Princep when fruit is present

[6] Do not apply when nuts are on the ground during the harvest period

[7] All areas—do not use Princep in nurseries Do not apply Princep to bedded grapefruit, lemon or orange To avoid possible injury, do not apply Princep to trees under stress from freeze damage for one year after the freeze

[8] Do not apply Princep to sandy, gravelly, or loamy sand soils
Peach Use Princep only in Arkansas, Louisiana, Missouri, Oklahoma Texas and the states east of the Mississippi
Plum and Sweet Cherry Use Princep only in Missouri and states east of the Mississippi River except Tennessee

[9] Do not use Princep in Arizona, California, New Mexico or west of the Pecos River in Texas as injury will occur Do not make Princep applications to transplanted trees that have been established less than two years in the grove as injury may occur

[10] Do not apply Princep to gravelly, sandy, or loamy sand soils Leveling and harrowing operations after application will lessen effectiveness of weed control

Note: Do not apply Princep when nuts are on the ground Refer to Princep 80W label for complete directions for use, cautions, and precautions

Mixing and Application—Fill the spray tank half full of clean water and add the recommended amount of SURFLAN 75W Mix thoroughly. Follow instructions on the Princep 80W label for making a slurry of the Princep 80W in a small amount of water in a separate container, then pour the slurry into the spray tank and finish filling the tank Continuous, vigorous agitation is needed to keep the powders in suspension Use 20 to 40

gallons of water per acre (broadcast basis). Apply with a properly calibrated, low-pressure herbicide sprayer that will apply the spray uniformly. Check the sprayer daily for proper calibration to insure uniform application. Provide good mixing of the spray suspension in the tank before and during application using bypass or other types of agitation.

Activation—A single one-half inch rain or sprinkler irrigation to move the tank-mix combination into the weed seed germination zone is required to activate the herbicides. If weeds begin to emerge, a shallow cultivation (1 to 2 inches) will destroy existing weeds and place SURFLAN and Princep in the zone of weed seed germination.

Precaution—Poor weed control may result if directions are not followed. Overapplication may result in crop injury or soil residues. Apply the spray directly to the orchard or vineyard floor.

Caution—Read the Princep label carefully for recommendations, cautions and precautions before applying these products.

SURFLAN APPLICATION WITH FLUID FERTILIZERS

GENERAL INSTRUCTIONS

SURFLAN alone and SURFLAN plus Sencor, SURFLAN plus Lexone,or SURFLAN plus Lorox may be mixed with most fluid (liquid) fertilizer materials for application to soybeans. Application of these herbicides in solution and suspension-type fertilizers have provided weed and grass control as claimed on the respective labels.

Label recommendations of all herbicides regarding rates per acre, approved crops, incorporation, special instructions, cautions and special precautions must be followed. All individual state regulations relating to fluid fertilizer mixing, registration, labeling and application are the responsibility of the individual and/or company selling the fertilizer and chemical mixture.

FLUID FERTILIZER MIXING PROCEDURES

SURFLAN mixes readily with most liquid fertilizers. Continuous agitation of the fertilizer is required. SURFLAN may be premixed in water to make a thin slurry before adding to liquid fertilizer.

SURFLAN in combination with Lorox, Lexone, or Sencor may be poured directly into the fluid fertilizer and mixed thoroughly. Continued agitation is needed until application is complete. If a compatibility agent is needed, add it to the fluid fertilizer before adding the SURFLAN. Premix SURFLAN alone or SURFLAN combinations with Lorox, Lexone, or Sencor with water to make a thin slurry and then adding the slurry to the fluid fertilizer will enhance the initial mixing. Water dispersible granules must be premixed with water before adding to fluid fertilizer.

SURFLAN plus emulsifiable concentrates can be mixed with liquid fertilizers provided they are continuously agitated. Without agitation the emulsifiable concentrate will rise, in a few seconds, to the surface of the fertilizer as an oily layer. A compatibility agent should be used with emulsifiable concentrates in fertilizer to cause them to truly emulsify (not just disperse), and prevent the rising of the oil ("oil out") to the surface. The use of compatibility agents is especially important when tank-mixing concentrates in liquid fertilizer. If the emulsion is not properly formed, it will rise to the surface of the fertilizer as an oil ("oils out"); the oil will gather the particles of powder and/or flowable/suspension into the oil phase to make a viscous phase which is difficult to redisperse. Any one of the compatibility agents listed below is helpful in causing emulsifiable concentrates to form non-oiling mixtures with liquid fertilizers, and thereby help eliminate the formation of a viscous phase.

These compatibility agents can be used at rates as low as 1 ½ to 2 pints per ton of liquid fertilizer and should be mixed well with the fertilizer before adding the emulsifiable concentrate to the fertilizer.

1. Sponto 1680 (Witco Chemicals Co., Chicago, IL)
2. Compat (Farm Chemicals, Inc., Aberdeen, NC)
3. Unite (Hopkins Ag Chemical, Madison, WI)

4 T-Mulz 734-2 (Thompson-Hayward Chemical Co., Kansas City, KS) 40
5 Rigo Compatibility Agent (Rigo Company, Buckner, KY)
6 Kem-Link (Universal Coop., Minneapolis, MN)
7 Amoco Spray Mate™ (Amoco Oil Company, Chicago, IL)

Each of the above is a phosphate ester type surfactant designed to be used with liquid fertilizers (high salt content liquids) They usually do not work well as compatibility agents in tank mixtures in plain water.

COMPATIBILITY TEST

SURFLAN alone or in combination with Lorox, Lexone, or Sencor may not combine properly with some fluid fertilizer materials. Small quantities should always be tested before full-scale mixing

1. Put 1 pint of fertilizer mixture in a quart jar.
2. Add 4 teaspoons of SURFLAN, 1½ teaspoons of Lexone or Sencor, or 3 teaspoons of Lorox, depending on which combination is to be used.
3. Close jar and shake well
4. Watch mixture for about one minute, then check again 15 minutes later for any undesirable effects
5. If the mixture does not separate or can be returned to its original state with 2 to 5 inversions of the jar, the combination may be used If the mixture foams excessively, separates, gets very thick or syrupy, DO NOT combine for field application.
6. Mixing ability may be improved by adding one of the agents listed above. Using a clean quart jar, start at Step 1 above, add ½ teaspoon of compatibility agent to the liquid fertilizer, mix well, then repeat Steps 2 through 5 The compatible mixture will have a uniform appearance and will be relatively easy to keep mixed with gentle agitation of the jar.

APPLICATION INSTRUCTIONS

Spread the fertilizer/chemical mixture normally with a properly calibrated applicator. Be certain the material is applied uniformly to the soil surface

Literature revised March 12, 1982
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