

SONALAN® E.C. (EPA Reg. No. 1471-122)

SONALAN FOR WEED CONTROL IN DRY PEAS

SONALAN may be applied as a preplant incorporated herbicide for general weed control in dry peas. Follow recommended soil preparation, application and incorporation procedures for SONALAN.

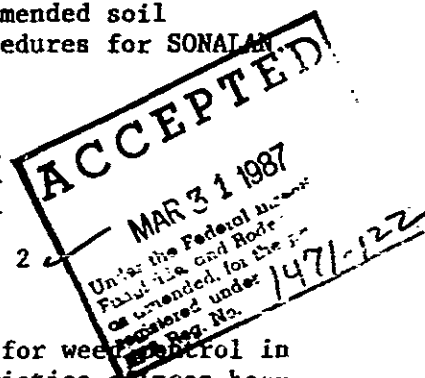
Broadcast Rates Per Acre:

Soil Texture

Coarse
Medium

SONALAN
(Pints)

1 1/2 - 2
2



Precaution: Do not exceed these SONALAN rates for weed control in dry peas or crop injury may occur. Not all varieties of peas have been tested for tolerance to SONALAN. Consult your seed contractor before applying SONALAN to determine the tolerance of a particular pea variety. Application of SONALAN to non-tolerant pea varieties may result in crop injury and reduced yields. Do not graze or forage crop grown in treated soil or cut for hay or silage.

Read the SONALAN label for additional directions, precautions, and limitations prior to use.

SONALAN® (ethalfluralin, Elanco)

Elanco Products Company
A Division of Eli Lilly and Company
Indianapolis, IN 46285

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161*** / EC**36 / LABELS / US / *** / 271

SONALAN/Scepter® Combinations For Weed Control In Soybeans
(Do Not Use in California)

SONALAN may be tank mixed with Scepter for weed control in soybeans.

The SONALAN/Scepter tank mix controls the weeds listed on a SONALAN label for SONALAN alone plus this additional weed:

Pigweed (Palmer amaranth)

ACCEPTED

MAR 2 1987

Application Directions

Tank mixed SONALAN/Scepter should be applied as a preplant incorporated treatment. Follow soil preparation, application and incorporation procedures described on the SONALAN label and 1471-122

Broadcast Rates Per Acre

<u>Soil Texture</u>	<u>SONALAN E.C.</u>	<u>Scepter (Pints)</u>
Coarse	1-1/4 - 2	1/3
Medium	1-3/4 - 2-1/2	1/3
Fine	2-1/4 - 3 ✓	1/3

Precautions

Read the Scepter label carefully for cautions and precautions relating to environmental hazards; planting of rotational crops; use of Scepter in conjunction with Classic, Gemini, or Canopy; grazing restrictions; and other directions, precautions, and limitations before applying Scepter.

Read the SONALAN labels carefully for additional directions, precautions and limitations before applying these products.

SONAZONE® (ethallfluralin, Elanco)
Canopy® (chlorimuron ethyl plus metribuzin, DuPont)
Classic® (chlorimuron ethyl, DuPont)
Gemini™ (chlorimuron ethyl plus linuron, DuPont)
Scepter® (imazaquin, American Cyanamid)

Elanco Products Company
A Division of Eli Lilly and Company
Indianapolis, Indiana 46285

SONALAN® E.C. (E.P.A. REG. NO. 1471-122)

SONALAN Followed by a Postemergence Treatment of
Scepter® for Weed Control in Soybeans

ACCEPTED

MAR 2 1987

SONALAN should be applied as a preplant incorporated treatment. Follow soil preparation, application and incorporation procedures described on the SONALAN label. Apply Scepter as a postemergence treatment after crop emergence, but before weeds exceed a height of 12 inches. Apply when weeds are actively growing.

Do not apply Scepter postemergence when soybeans and weeds have been subject to stress conditions such as temperature and moisture extremes.

Scepter herbicide does not contain a surfactant in the formulation. For postemergence applications, the addition of 2 pints of nonionic surfactant approved for use on growing crops per 100 gallons of spray mixture is required.

The SONALAN/Scepter early postemergence combination controls the weeds listed on the SONALAN label for SONALAN alone plus these additional weeds:

Cocklebur, common
Pigweed
(Palmer)
(Spiny)
(Tall waterhemp)

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Broadcast Rates Per Acre:

Apply SONALAN at rates specified for either general weed control or for partial control of eastern black nightshade. Apply Scepter at the rate of 1/3 pint per acre on all soil textures.

Wait at least ten (10) days before cultivating after a postemergence treatment of Scepter.

241-289
accepted
3/20/86
no more
surfactant for
postemergence
applications

with Classic®, Canopy® or Gemini®, grazing restrictions and other directions, precautions and limitations before applying Scepter. The use of Scepter is limited to those states listed on the Scepter label.

Read the SONALAN labels carefully for additional directions, precautions and limitations before applying these products.

SONALAN® E.C. (ethalfuralin, Elanco)
Canopy® (chlorimuron ethyl plus metribuzin, DuPont)
Classic® (chlorimuron ethyl, DuPont)
Gemini™ (chlorimuron ethyl plus linuron, DuPont)
Scepter® (imazaquin, American Cyanamid)

Elanco Products Company
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Indianapolis, Indiana 46285

SONALAN® E.C. (E.P.A. Reg. No. 1471-122)
SONALAN® Dry Flowable (E.P.A. Reg. No. 1471-152)

SONALAN/Preview™ for Weed Control in Soybeans.
(Do Not Use In California)

Apply SONALAN/Preview as a preplant incorporated tank-mix treatment. Follow recommended soil preparation, application and incorporation procedures for SONALAN. Plant soybeans (2) weeks after application.

SONALAN/Preview tank-mix controls the following weeds in addition to those controlled by SONALAN alone.

Controlled

Cocklebur, common	Prickly sida
Hophornbeam copperleaf	(Teaweed)
Jimsonweed	Ragweed, common
Mustards	Smartweeds, annual
Pigweed	Spotted spurge
(Palmer amaranth)	Sunflower
(Smooth)	Velvetleaf
(Tall waterhemp)	

Partially Controlled

Burcucumber	Nutsedge species
Eastern black nightshade	Ragweed, giant
Morningglory	
(Tall)	
(Ivyleaf)	
(Pitted)	
(Entireleaf)	

Large seeded weeds, germinating deep in the soil, such as morningglory, sicklepod, cocklebur and giant ragweed or weeds with subsequent flushes may require a cultivation or an application of a postemergence herbicide for season-long control.

Soil Texture	SONALAN		Preview Dispersible Granules	
	E.C. (Pints)	or Dry Flowable (Pounds)	0.5 - 3% O.M. (Ounces)	3 - 5% O.M.
Coarse	1 1/4 - 2	0.9 - 1/5	6	7
Medium	1 3/4 - 2 1/2	1.3 - 1.9	7	8
Fine	2 1/4 - 3 ✓	1.7 - 2.2 ✓	8	9-10

Do not apply Preview to soil with less than 1/2% organic matter.

Use higher rates of Preview on soils with higher organic matter or heavy pressure from large deep germinating weed seeds.

Where Preview is applied, plant soybean seed 1 1/2" to 2" deep on a flat or raised seedbed only, or crop injury may occur.

Soybean injury may occur where Preview is applied if excessive rainfall occurs after application but before soybeans germinate.

Precautions

Read the Preview label carefully for cautions and precautions relating to environmental hazards, planting of rotation crops, sprayer contamination and cleanup, soil pH, organic matter and soil texture use restrictions, soybean variety planting restrictions, restrictions where atrazine or Scepter® were used the previous year, restrictions concerning use with organophosphate pesticides, grazing restrictions and other directions, precautions and limitations before applying the SONALAN/Preview tank mix.

Read the SONALAN labels carefully for additional directions, precautions and limitations before applying these products.

SONALAN® (ethalfluralin, Elanco)

Preview™ (chlorimuron ethyl plus metribuzin, DuPont)

Scepter® (imazaquin, American Cyanamid)

Elanco Products Company
A Division of Eli Lilly and Company
Indianapolis, Indiana 46285

SONALAN® E.C. (E.P.A. Reg. No. 1471-122)
SONALAN® Dry Flowable (E.P.A. Reg. No. 1471-152)

SONALAN Followed by Overlay Treatments for Weed Control in Soybeans
(Do Not Use in California)

Apply SONALAN as a preplant incorporated treatment. Additional weeds tolerant to SONALAN may be controlled by using overlay preemergence applications of Amiben®, Canopy®, Dual®, Gemini™, Lasso®, Lexone®, Lorox®, Lorox® Plus, Preview™, Scepter® or Sencor®. Consult these product labels for additional weeds controlled, application directions and precautions before use.

Read the SONALAN labels for additional direction, precautions and limitations before use.

SONALAN® (ethalfluralin, Elanco)
Amiben® (chloramben, Union Carbide)
Canopy® (chlorimuron ethyl plus metribuzin, DuPont)
Dual® (metolachlor, Ciba-Geigy)
Gemini™ (chlorimuron ethyl plus linuron, DuPont)
Lasso® (alachlor, Monsanto)
Lasso® Micro-Tech™ (alachlor, Monsanto)
Lexone® (metribuzin, DuPont)
Lorox® (linuron, DuPont)
Lorox® Plus (chlorimuron ethyl plus linuron, DuPont)
Preview™ (chlorimuron ethyl plus metribuzin, DuPont)
Scepter® (imazaquin, American Cyanamid)
Sencor® (metribuzin, Bayer, GmbH)

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SONALAN/Scepter® for Weed Control in Soybeans

SONALAN/Scepter may be applied as a preplant incorporated tank-mix treatment. Scepter may also be applied as a preemergence overlay treatment or as an early postemergence treatment following a preplant incorporated application of SONALAN.

SONALAN/Scepter Tank-Mix Directions

SONALAN/Scepter tank-mix should be applied as a preplant incorporated treatment. Follow soil preparation, mixing and application procedures described on the SONALAN label. Apply SONALAN/Scepter and shallowly incorporate. Incorporate into the soil within 2 days after application and plant soybeans within 21 days after application. Use equipment that provides uniform 2 inch incorporation. See the Scepter label for additional incorporation directions.

If soybeans are planted on beds, apply and incorporate after bed formation.

SONALAN/Scepter Overlay Directions

SONALAN should be applied as a preplant incorporated treatment. Follow soil preparation, application and soil mixing procedures described on the SONALAN label. Apply Scepter after planting but before the crop emerges. Where Scepter is applied as a surface applied overlay treatment rainfall or overhead irrigation is necessary to move Scepter into the weed germination zone. The amount of rainfall or irrigation required depends on existing soil moisture, soil texture and organic matter content. Sufficient water to moisten the soil to a depth of 2 inches is normally adequate. If adequate moisture is not received within 7 days after a surface applied treatment then a cultivation is recommended to control escaped weeds.

SONALAN/Scepter tank-mix or overlay combinations control the weeds listed on the SONALAN label for general weed control plus these additional weeds:

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(Smallflower)
Mustard species
Nightshade, eastern black¹
Pigweed
(Palmer)
(Tall waterhemp)

(Giant)
Smartweed
(Ladysthumb)
(Pennsylvania)
Sunflower, common
Velvetleaf¹

¹ Eastern black nightshade, giant ragweed, and velvetleaf are controlled by preplant incorporated treatments only.

SONALAN/Scepter tank-mix or Scepter overlay treatments will aid in the control and reduce competition from these additional weeds:

Morningglory¹
(Entireleaf)
(Ivyleaf)
(Tall)
Nutsedge, Yellow²

Control of these weeds may be erratic, ranging from poor to excellent depending upon soil temperature, time of weed germination, depth of weed seed in the soil and the amount and timing of soil moisture. Control may be improved with timely cultivation.

¹ For best activity on morningglory species use tank-mix preplant incorporated treatments.

² Use tank-mix preplant incorporated treatments only to aid in control of yellow nutsedge.

SONALAN/Scepter Early Postemergence Directions

SONALAN should be applied as a preplant incorporated treatment. Follow soil preparation, application and soil mixing procedures described on the SONALAN label. Apply Scepter as a postemergence treatment after crop emergence, but before weeds exceed a height of 12 inches. Apply when weeds are actively growing.

Do not apply Scepter postemergence when soybeans and weeds have been subjected to stress conditions such as temperature and moisture extremes.

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Scepter herbicide does not contain a surfactant in the formulation. For postemergence applications, the addition of 2 pints of nonionic surfactant approved for use on growing crops per 100 gallons of spray mixture is required.

SONALAN/Scepter early postemergence combination controls the weeds listed on the SONALAN label for SONALAN general weed control plus these additional weeds:

Cocklebur, common
Pigweed
 (Palmer)
 (Tall waterhemp)
Poinsettia, wild

SONALAN/Scepter tank-mixes or SONALAN/Scepter overlay treatments may also be followed by sequential postemergence treatments of Scepter to control Florida beggarweed, mexicanweed and sicklepod. See the sequential program section of the Scepter label for application directions. Use sequential treatments in states recommended on the Scepter label only.

Wait at least ten (10) days before cultivating after a postemergence treatment of Scepter.

There must be an interval of at least 90 days between the last Scepter application and soybean harvest.

Broadcast Rates Per Acre: (All Scepter methods of application)

<u>Soil Texture</u>	<u>SONALAN E.C.</u> (Pints)	<u>Scepter</u> (Pints)
Coarse	1 1/4 - 2	2/3
Medium	1 3/4 - 2 1/2	2/3
Fine	2 1/4 - 3	2/3

Precautions

1. Do not plant small grains or rice within 4 months following an application of Scepter.
2. Do not plant corn, cotton, edible beans, grain sorghum, peanuts, or tobacco within 11 months following an application of Scepter.
3. Do not plant other crops within 18 months following an application of Scepter.

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4. Following an application of Scepter, only those rotational crops harvested at maturity may be used for feed or food.
5. Do not use Scepter on crops other than soybeans.
6. Do not allow livestock to graze on fields treated with Scepter and do not feed treated forage, hay or straw to livestock.
7. Crops other than soybeans may be injured by spray drift or other indirect contact with Scepter.

Read the SONALAN and Scepter labels carefully for additional directions, precautions and limitations before applying these products. The use of Scepter is limited to those states listed on the Scepter label. ✓

SONALAN® E.C. (ethalfluralin, Elanco)
Scepter® (imazaquin, American Cyanamid)

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Indianapolis, Indiana 46285

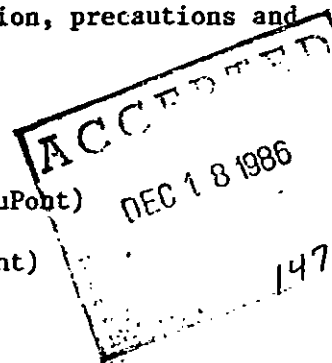
SONALAN® E.C. (E.P.A. REG. NO. 1471-122)
SONALAN® Dry Flowable (E.P.A. REG. NO. 1471-152)

SONALAN Followed by Overlay Treatments for
Weed Control in Soybeans
(Do Not Use In California)

Apply SONALAN as a preplant incorporated treatment. Additional weeds tolerant to SONALAN may be controlled by using overlay pre-emergence applications of Amiben®, Canopy®, Dual®, Gemini™, Lasso®, Lexone®, Lorox®, Scepter® or Sencor®. Consult these product labels for additional weeds controlled, application directions and precautions before use.

Read the SONALAN labels for additional direction, precautions and limitations before use.

SONALAN® (ethalfluralin, Elanco)
Amiben® (chloramben, Union Carbide)
Canopy® (chlorimuron ethyl plus metribuzin, DuPont)
Dual® (metolachlor, Ciba-Geigy)
Gemini™ (chlorimuron ethyl plus linuron, DuPont)
Lasso® (alachlor, Monsanto)
Lasso® Micro-Tech™ (alachlor, Monsanto)
Lexone® (metribuzin, DuPont)
Lorox® (linuron, DuPont)
Scepter® (imazaquin, American Cyanamid)
Sencor® (metribuzin, Bayer)



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SONALAN/Command® and SONALAN/Command/Lexone® or
Sencor® Combinations for Weed Control in Soybeans
(Do Not Use In California)

SONALAN may be tank-mixed with Command® or Command plus Lexone® or
Sencor® for weed control in soybeans.

SONALAN/Command Tank-Mix

SONALAN/Command will control the following weeds:

Grasses.

Annual bluegrass
Barnyardgrass
Crabgrass
 (Large crabgrass)
 (Smooth crabgrass)
Foxtail
 (Giant foxtail)
 (Green foxtail)
 (Foxtail millet)
 (Pigeongrass)
 (Yellow foxtail)

1471 122-
Goosegrass
Johnsongrass
 (from seed)
Junglerice
Oat, wild¹
Panicum, fall
Panicum, Texas
 (Buffalograss)
 (Coloradograss)
Ryegrass, Italian
 (Annual ryegrass)
Shattercane
 (Wild cane)
Signalgrass, broadleaf
 (Brachiaria)
Witchgrass

herbicide
Kochia
Lambsquarters, common
Pigweed
 (Prostrate pigweed)
 (Redroot pigweed)
 (Smooth pigweed)
 (Tumble pigweed)
Purslane, common

¹ SONALAN/Command will provide wild oat control except for seed that germinate below the SONALAN/Command treated zone.

SONALAN/Command will provide partial control or suppression of the following weeds:

Jimsonweed
Morningglory, annual
Nightshade, eastern black
Prickly sida
 (Teaweed)

Ragweed, common
Smartweed, Pennsylvania
Venice mallow

Control of these weeds may be erratic, ranging from poor to excellent depending upon soil temperature, time of weed germination, depth of weed seed in the soil and the amount and timing of soil moisture. Control may be improved with timely cultivation.

Application Directions

Tank-mixed SONALAN/Command must be applied as a preplant incorporated treatment. Apply SONALAN/Command up to 3 weeks prior to planting.

Do not apply aerially or through irrigation equipment.

Apply SONALAN/Command using a finished spray volume of 10 to 40 gallons of water per acre. NOTE: The use of an agriculturally approved drift reducing additive is required at finished spray volumes of 10-15 gallons per acre. Use nozzles suitable for broadcast boom application of herbicides. Coarse sprays are less likely to drift out of the target area than fine sprays.

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Incorporation Directions

SONALAN/Command must be incorporated immediately after application. SONALAN/Command should be thoroughly and uniformly mixed into the top 2 to 3 inches of the final seed bed. Application to overly moist or wet soils will also increase the potential for off-site movement of Command vapors and may result in poor soil incorporation and unsatisfactory weed control. These directions must be followed to reduce the potential for off-site movement of Command vapors and potential injury to desirable vegetation including adjacent crops, trees and ornamentals.

Follow other soil preparation application and incorporation procedures described on the SONALAN label.

Broadcast Rates Per Acre:

<u>Soil Texture</u>	<u>SONALAN E.C.</u> (Pints)	<u>Command 4 E.C.</u> (Pints)
Coarse	1 1/4 - 2	3/4
Medium	1 3/4 - 2 1/2	1 1/8
Fine	2 1/4 - 3	1 1/2

279-3053

1-1/2 to 2 pps
1-1/2 to 2 pps
2 pps

SONALAN/Command/Lexone or Sencor Tank-Mix:

SONALAN/Command/Lexone or Sencor controls those weeds listed for SONALAN/Command plus these additional weeds:

Jimsonweed	Sesbania, hemp
Prickly sida	Smartweed, Pennsylvania
(Teaweed)	Spotted spurge
Ragweed, common	Venice mallow ¹
	Wild mustard ¹

SONALAN/Command/Lexone or Sencor also provides partial control or suppression of common cocklebur, annual morningglory and giant ragweed. Control of these weeds may be erratic, ranging from poor to excellent depending upon soil temperature, time of weed germination, depth of weed seed in the soil and the amount and timing of soil moisture. Control may be improved with timely cultivation.

Application Directions

Tank-mixed SONALAN/Command/Lexone or Sencor must be applied as a preplant incorporated treatment. Apply SONALAN/Command/Lexone or Sencor up to 2 weeks prior to planting.

Do not apply aerially or through irrigation equipment.

Apply SONALAN/Command/Lexone or Sencor using a finished spray volume of 10 to 40 gallons of water per acre. NOTE: The use of an agriculturally approved drift reducing additive is required at finished spray volumes of 10-15 gallons per acre. Use nozzles suitable for broadcast boom application of herbicides. Coarse sprays are less likely to drift out of the target area than fine sprays.

Incorporation Directions

SONALAN/Command/Lexone or Sencor must be incorporated immediately after application. SONALAN/Command/Lexone or Sencor should be thoroughly and uniformly mixed into the top 2 to 3 inches of the final seed bed. Application to overly moist or wet soils will also increase the potential for off-site movement of Command vapors and may result in poor soil incorporation and unsatisfactory weed control. These directions must be followed to reduce the potential for off-site movement of Command vapors and potential injury to desirable vegetation including adjacent crops, trees and ornamentals.

Follow other soil preparation application and incorporation procedures described on the SONALAN label.

Broadcast Rates Per Acre:

Soil Texture	SONALAN E.C. (Pints)	Command 4 E.C. (Pints)	Lexone 4L or Sencor 4F (Pints)	Lexone Dry Flowable or Sencor Dry Flowable (Pounds)
Coarse	1 1/4 - 2	1/2	1/3-1/2 ¹	1/4 - 1/3 ¹
Medium	1 3/4 - 2 1/2	3/4	1/2-3/4	1/3 - 1/2
Fine	2 1/4 - 3	1 1/8	3/4-1	1/2 - 2/3

¹ Use the higher rate in the rate range in areas where weed populations are dense, for control of Venice mallow and wild mustard and for best control of common cocklebur, annual morningglory and giant ragweed.

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Precautions

Special Precaution

Off-site movement of spray drift or vapors of Command can cause foliar whitening or yellowing of adjacent crops, trees and ornamental plants which is usually temporary in nature but can result in permanent injury or death of the plants if exposure is excessive. Prior to making application of this product, read and strictly follow all precautions and application instructions on the Command label.

OK added
majority of
phytotoxicity
studies
from 279-3033
accepted
11/14/66

Precautions

Read the SONALAN, Lexone or Sencor labels carefully for additional directions, precautions and limitations before applying these products.

-
- SONALAN® (ethalfluralin, Elanco)
 - Command® (FMC)
 - Lexone® (metribuzin, DuPont)
 - Sencor® (metribuzin, Bayer)

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A Division of Eli Lilly and Company
Indianapolis, Indiana 46285

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SONALAN® E.C. (E.P.A. REG. NO. 1471-122)

**SONALAN Followed by a Postemergence Treatment of
Scepter® for Weed Control in Soybeans**

SONALAN should be applied as a preplant incorporated treatment. Follow soil preparation, application and incorporation procedures described on the SONALAN label. Apply Scepter as a postemergence treatment after crop emergence, but before weeds exceed a height of 12 inches. Apply when weeds are actively growing.

Do not apply Scepter postemergence when soybeans and weeds have been subject to stress conditions such as temperature and moisture extremes.

Scepter herbicide does not contain a surfactant in the formulation. For postemergence applications, the addition of 2 pints of nonionic surfactant approved for use on growing crops per 100 gallons of spray mixture is required.

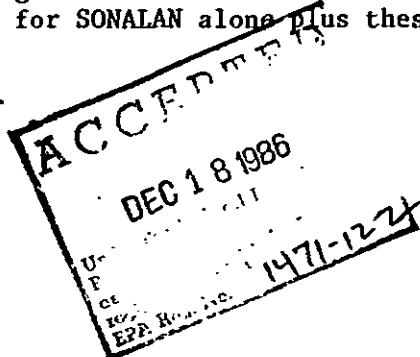
The SONALAN/Scepter early postemergence combination controls the weeds listed on the SONALAN label for SONALAN alone plus these additional weeds:

Cocklebur, common
Pigweed
 (Palmer)
 (Spiny)
 (Tall waterhemp)

Broadcast Rates Per Acre:

Apply SONALAN at rates specified for either general weed control or for partial control of eastern black nightshade. Apply Scepter at the rate of 1/3 pint per acre on all soil textures.

Wait at least ten (10) days before cultivating after a postemergence treatment of Scepter.



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regulated at 2 1/3 pint/acre
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241-289

With Classic®, Canopy® or Gemini®, grazing restrictions and other directions, precautions and limitations before applying Scepter.

Read the SONALAN labels carefully for additional directions, precautions and limitations before applying these products.

SONALAN® E.C. (ethalfluralin, Elanco)
Canopy® (chlorimuron ethyl plus metribuzin, DuPont)
Classic® (chlorimuron ethyl, DuPont)
Gemini™ (chlorimuron ethyl plus linuron, DuPont)
Scepter® (imazaquin, American Cyanamid)

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SONALAN® E.C. (E.P.A. REG. NO. 1471-122)
SONALAN® Dry Flowable (E.P.A. REG. NO. 1471-152)

SONALAN/Canopy® for Weed Control in Soybeans
(Do Not Use In California)

DEC 18 1986
Under the Federal Insecticide, Fungicide, and Plant Repellent Act, as amended, the use of this pesticide is restricted under 1471-122-152

Apply SONALAN/Canopy as a preplant incorporated tank-mix treatment. Follow recommended soil preparation, application and incorporation procedures for SONALAN. Plant soybeans within two (2) weeks after application.

SONALAN/Canopy tank-mix controls the following weeds in addition to those controlled by SONALAN alone.

Controlled

Cocklebur, common
Florida beggarweed
Hemp sesbania
Hophornbeam copper leaf
Jimsonweed
Morningglory
(Entireleaf)
(Ivyleaf)
(Pitted)
(Smallflower)
(Tall)

Prickly sida
(Teaweed)
Ragweed
(Common)
(Giant)
Sicklepod
Smartweed
Spotted spurge
Sunflower
Velvetleaf

Partially Controlled

Purple nutsedge
Yellow nutsedge

Large seeded weeds, germinating deep in the soil, such as morningglory, sicklepod, cocklebur and giant ragweed or weeds with subsequent flushes may require a cultivation or an application of a postemergence herbicide for season-long control.

161***EC**36/LABELS/US/***/195

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Coarse	1 1/4 - 2	0.9 - 1.5	6 - 8	8 - 10
Medium	1 3/4 - 2 1/2	1.3 - 1.9	8 - 10	10 - 12
Fine	2 1/4 - 3	1.7 - 2.2	10 - 12	12 - 14

Do not apply Canopy to soil with less than 1/2% organic matter.

Use higher rates of Canopy on soils with higher organic matter or heavy pressure from large deep germinating weed seeds.

Where Canopy is applied, plant soybean seed 1 1/2" to 2" deep on a flat or raised seedbed only, or crop injury may occur.

Soybean injury may occur where Canopy is applied if excessive rainfall occurs after application but before soybeans germinate.

Precautions

Read the Canopy label carefully for cautions and precautions relating to environmental hazards, planting of rotation crops, sprayer contamination and cleanup, soil pH, organic matter and soil texture use restrictions, soybean variety planting restrictions, restrictions where Atrazine or Scepter were used the previous year, restrictions concerning use with organic phosphate pesticides, grazing restrictions and other directions, precautions and limitations before applying the SONALAN/Canopy tank-mix.

Read the SONALAN labels carefully for additional directions, precautions and limitations before applying these products.

SONALAN® (ethalfluralin, Elanco)

Canopy® (chlorimuron ethyl plus metribuzin, DuPont)

Scepter® (imazaquin, American Cyanamid)

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SONALAN® E.C. (E.P.A. REG. NO. 1471-122)
SONALAN® Dry Flowable (E.P.A. REG. NO. 1471-152)

SONALAN Followed by Post-Emergence Treatments for
Weed Control in Soybeans
(Do Not Use In California)

Apply SONALAN as a preplant incorporated treatment. Additional weeds tolerant to SONALAN may be controlled by using post-emergence applications of Basagran®, Blazer®, Classic®, Scepter® or Tackle®. Consult these product labels for additional weeds controlled, application directions and precautions before use.

Read the SONALAN labels for additional direction, precautions and limitations before use

SONALAN® (ethalfluralin, Elanco)
Basagran® (bentazon, BASF)
Blazer® (acifluorfen, Rohm and Haas)
Classic® (chlorimuron ethyl, DuPont)
Scepter® (imazaquin, American Cyanamid)
Tackle® (acifluorfen, Rhone-Poulenc)

Elanco Products Company
A Division of Eli Lilly and Company
Indianapolis, Indiana 46285

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161****/EC**36/LABELS/US/****/198

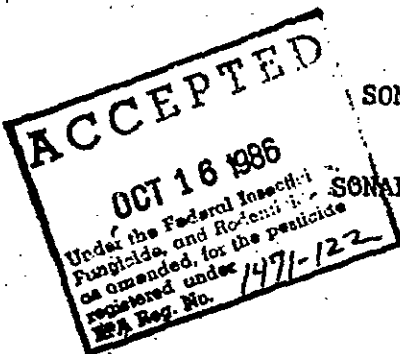
ACCEPTED

DEC 18 1986

1471-122

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Identical to
supplemental labeling
accepted for 1471-35
on 10/21/86



SONALAN® E.C. (E.P.A. REG. NO. 1471-122)

SONALAN/Scepter® for Weed Control in Soybeans

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SONALAN/Scepter may be applied as a preplant incorporated tank-mix treatment. Scepter may also be applied as a preemergence overlay treatment or as an early postemergence treatment following a preplant incorporated application of SONALAN.

SONALAN/Scepter Tank-Mix Directions

SONALAN/Scepter tank-mix should be applied as a preplant incorporated treatment. Follow soil preparation, mixing and application procedures described on the SONALAN label. Apply SONALAN/Scepter and shallowly incorporate. Incorporate into the soil within 2 days after application and plant soybeans within 30 days after application. Use equipment that provides uniform 2 inch incorporation. See the Scepter label for additional incorporation directions.

If soybeans are planted on beds, apply and incorporate after bed formation.

SONALAN/Scepter Overlay Directions

SONALAN should be applied as a preplant incorporated treatment. Follow soil preparation, application and soil mixing procedures described on the SONALAN label. Apply Scepter after planting but before the crop emerges. Where Scepter is applied as a surface applied overlay treatment rainfall or overhead irrigation is necessary to move Scepter into the weed germination zone. The amount of rainfall or irrigation required depends on existing soil

listed on the SONALAN label for general weed control plus these additional weeds:

Cocklebur, common
Jimsonweed
Mallow, Venice
Morningglory
 (Pitted)
 (Smallflower)
Mustard species
Nightshade, eastern black¹
Pigweed
 (Palmer)
 (Tall waterhemp)

Poinsettia, wild
Prickly sida
 (Teaweed)
Ragweed -
 (Common)
 (Giant)¹
Smartweed
 (Ladysthumb)
 (Pennsylvania)
Sunflower, common
Velvetleaf¹

¹ Eastern black nightshade, giant ragweed, and velvetleaf are controlled by preplant incorporated treatments only.

SONALAN/Scepter tank-mix or Scepter overlay treatments will aid in the control and reduce competition from these additional weeds:

Morningglory¹
 (Entireleaf)
 (Ivyleaf)
 (Tall)
Nutsedge, Yellow²

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Control of these weeds may be erratic, ranging from poor to excellent depending upon soil temperature, time of weed germination, depth of weed seed in the soil and the amount and timing of soil moisture. Control may be improved with timely cultivation.

¹ For best activity on morningglory species use tank-mix preplant incorporated treatments.

² Use tank-mix preplant incorporated treatments only to aid in control of yellow nutsedge.

SONALAN/Scepter Early Postemergence Directions

SONALAN should be applied as a preplant incorporated treatment. Follow soil preparation, application and soil mixing procedures described on the SONALAN label. Apply Scepter as a postemergence treatment after crop emergence, but before weeds exceed a height of 12 inches. Apply when weeds are actively growing.

Do not apply Scepter postemergence when soybeans and weeds have been subjected to stress conditions such as temperature and moisture extremes.

Scepter herbicide does not contain a surfactant in the formulation. For postemergence applications, the addition of 2 pints of nonionic surfactant per 100 gallons of spray mixture is required.

SONALAN/Scepter early postemergence combination controls the weeds listed on the SONALAN label for SONALAN general weed control plus these additional weeds:

- ✓ Cocklebur, common
- Pigweed
- (Palmer)
- (Tall waterhemp)
- Poinsettia, wild

SONALAN/Scepter tank-mixes or SONALAN/Scepter overlay treatments may also be followed by sequential postemergence treatments of Scepter to control Florida beggarweed, mexicanweed and sicklepod. See the sequential program section of the Scepter label for application directions. Use sequential treatments in states recommended on the Scepter label only.

Wait at least ten (10) days before cultivating after a postemergence treatment of Scepter.

There must be an interval of at least 90 days between the last Scepter application and soybean harvest.

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Broadcast Rates Per Acre: (All Scepter methods of application)

<u>Soil Texture</u>	<u>SONALAN E.C.</u> (Pints)	<u>Scepter</u> (Pints)
Coarse	1 1/4 - 2	2/3
Medium	1 3/4 - 2 1/2	2/3
Fine	2 1/4 - 3 ✓	2/3 ✓

Precautions

1. Do not plant small grains or rice within 4 months following an application of Scepter.
2. Do not plant corn, cotton, edible beans, grain sorghum, peanuts or tobacco within 11 months following an application of Scepter.
3. Do not plant other crops within 18 months following an application of Scepter.
4. Following an application of Scepter, only those rotational crops harvested at maturity may be used for feed or food.
5. Do not use Scepter on crops other than soybeans.
6. Do not allow livestock to graze on fields treated with Scepter and do not feed treated forage, hay or straw to livestock.
7. Crops other than soybeans may be injured by spray drift or other indirect contact with Scepter.

Read the SONALAN and Scepter labels carefully for additional directions, precautions and limitations before applying these products. The use of Scepter is limited to those states listed on the Scepter label.

SONALAN® E.C. - ethalfluralin - Elanco Products Company
Scepter® - imazaquin - American Cyanamid Company

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Indianapolis, Indiana 46285

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SONALAN® E.C. (E.P.A. REG. NO. 1471-122)

Chemigation Application Directions

SONALAN may be applied through center pivot or lateral-move overhead sprinkler irrigation systems equipped for chemigation for general weed control (except groundcherry and nightshade) in soybeans and drybeans. See Specific Crop Recommendations in the SONALAN label to determine appropriate rates to use for each crop. SONALAN must be applied before weed emergence or to weed-free soil. SONALAN does not control established weeds. Apply SONALAN in one-half (1/2) to one (1) inch of irrigation water per acre at rates recommended for each crop. Soil incorporation is not required when SONALAN is applied through irrigation systems

Prepare an injection mixture using a minimum of one (1) part water to one (1) part product in an injection mixture tank. Meter the mixture into irrigation system during entire period. The following precautions and recommendations must be followed to chemigate SONALAN.

1. Apply only through properly maintained irrigation systems having continuously moving laterals and providing uniform distribution of water. Where a system does not provide uniform water distribution such as at the extreme ends of the lateral, around supports, where treated discharge water is released from water powered motors, or where extreme changes in elevation occur, unacceptable weed control or crop injury may occur.
2. Apply the product only through irrigation systems containing antisiphon and check valves, to prevent water source contamination, overflow and siphoning of the injection mixture, and interlocking controls between the metering device and the water pump, to insure simultaneous shut-off.
3. Inject the product with a positive displacement pump into the main line ahead of a right angle turn, to insure adequate mixing.
4. Application of more than label recommended quantities of irrigation water per acre may result in decreased product performance by removing the pesticide from the zone of effectiveness.

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6. Greater accuracy in pesticide calibration and distribution will be achieved by injecting a larger volume of a more dilute herbicide mixture per hour.
7. Constant agitation should be maintained in the injection mixture tank during the entire period of pesticide application.
8. Sample Calculation: one hundred thirty-five (135) acres to be covered by irrigation system.

Recommended rate of 2 pints per acre times 135 acres equals 270 pints of product.

Add the 270 pints (33 3/4 gallons) of product to a 500 gallon nurse tank and fill with water. Apply the entire 500 gallons to 135 acres.

Irrigation system requires 20 hours to apply one (1) inch of water to 135 acres.

Injection rate equals 500 gallons divided by 20 hours equals 25 gallons per hour or 53.33 fluid ounces to be injected per minute.

Calibrate injection pump to deliver the herbicide mix into the irrigation system at the rate of 53.33 fluid ounces per minutes.

9. Posting Requirements: Areas being treated with pesticides applied through irrigation systems must be posted at the usual entrances to the area, at bulletin boards where workers assemble and where the treated area lies adjacent to roads, residential areas, or any other areas such as schools, parks or other public facilities. Posted signs must be legible from 25 feet away and be printed in English and any other appropriate language such as Spanish. Signs must be posted prior to application, during application and for at least one week after application, but may remain in place indefinitely. The sign must indicate the following:

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NOTICE

Pesticides are applied in irrigation water in this field. Do not enter this field when the irrigation system is operating. Do not drink, bathe in or play in water or in furrows, puddles, ponds, canals or ditches associated with this irrigation system.

Read the SONALAN E.C. label for additional directions, precautions and limitations before use.

SONALAN® E.C. - ethalfluralin - Elanco Products Company

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Revised 03/05/86 - deleted reference to use of tank-mixes with other compounds in the SONALAN label and also deleted a precaution concerning cucurbits which have been removed from the label. Added statements to indicate specific crops that may be treated and a statement to see specific crop recommendations for appropriate use rates for general weed control (except groundcherry and nightshade).

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A Division of Eli Lilly and Company
Indianapolis, Indiana 46285

SONALAN® E.C. (E.P.A. REG. NO. 1471-122)

SONALAN/Scepter® for Weed Control in Soybeans

SONALAN/Scepter may be applied as a preplant incorporated tank-mix treatment. Scepter may also be applied as a preemergence overlay treatment or as an early postemergence treatment following a preplant incorporated application of SONALAN.

SONALAN/Scepter Tank-Mix Directions

SONALAN/Scepter tank-mix should be applied as a preplant incorporated treatment. Follow soil preparation, mixing and application procedures described on the SONALAN label. Apply SONALAN/Scepter and shallowly incorporate. Incorporate into the soil within 2 days after application and plant soybeans within 14 days after application. Use equipment that provides uniform 2 inch incorporation. See the Scepter label for additional incorporation directions.

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If soybeans are planted on beds, apply and incorporate after bed formation.

SONALAN/Scepter Overlay Directions

SONALAN should be applied as a preplant incorporated treatment. Follow soil preparation, application and soil mixing procedures described on the SONALAN label. Apply Scepter after planting but before the crop emerges. Where Scepter is applied as a surface applied overlay treatment rainfall or overhead irrigation is necessary to move Scepter into the weed germination zone. The amount of rainfall or irrigation required depends on existing soil moisture, soil texture and organic matter content. Sufficient water to moisten the soil to a depth of 2 inches is normally adequate. If adequate moisture is not received within 7 days after a surface applied treatment then a cultivation is recommended to control escaped weeds.

Morningglory
(Pitted)
(Smallflower)
Mustard species
Nightshade, eastern black¹
Pigweed
(Palmer)
(Tall waterhemp)

Ragweed
(Common)
(Giant)¹
Smartweed
(Ladysthumb)
(Pennsylvania)
Sunflower, common
Velvetleaf¹

¹ Eastern black nightshade, giant ragweed, and velvetleaf are controlled by preplant incorporated treatments only.

SONALAN/Scepter tank-mix or Scepter overlay treatments will aid in the control and reduce competition from these additional weeds:

Morningglory¹
(Entireleaf)
(Ivyleaf)
(Tall)
Nutsedge, Yellow²

Control of these weeds may be erratic, ranging from poor to excellent depending upon soil temperature, time of weed germination, depth of weed seed in the soil and the amount and timing of soil moisture. Control may be improved with timely cultivation.

¹ For best activity on morningglory species use tank-mix preplant incorporated treatments.

² Use tank-mix preplant incorporated treatments only to aid in control of yellow nutsedge.

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SONALAN/Scepter Early Postemergence Directions

SONALAN should be applied as a preplant incorporated treatment. Follow soil preparation, application and soil mixing procedures described on the SONALAN label. Apply Scepter as an early post-emergence treatment when weeds are actively growing and before volunteer corn exceeds a height of 1 inch and broadleaf weed species exceed a height of 2 inches. Timing of application should be based on the size of the weeds and not on the growth stage of soybeans.

Do not apply Scepter postemergence when soybeans and weeds are stressed by conditions such as drought or cold, wet weather.

Scepter herbicide contains a surfactant in the formulation. No additional surfactant should be added to the spray solution.

SONALAN/Scepter early postemergence combination controls the weeds listed on the SONALAN label for SONALAN general weed control plus these additional weeds:

Grasses

Volunteer corn¹

Broadleaf Weeds

Cocklebur, common¹
Morningglory
(Pitted)
(Smallflower)
Mustard species
Nightshade, eastern black

Pigweed¹
(Palmer)
(Tall waterhemp)
Ragweed, common
Smartweed
(Ladysthumb)
(Pennsylvania)

¹ These weeds are very sensitive to Scepter and can be controlled up to a maximum height of 12 inches.

SONALAN/Scepter tank-mixes or SONALAN/Scepter overlay treatments may also be followed by sequential postemergence treatments of Scepter to control Florida beggerweed, mexicanweed and sicklepod. See the sequential program section of the Scepter label for application directions. Use sequential treatments in states recommended on the Scepter label only.

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Wait at least ten (10) days before cultivating after a postemergence treatment of Scepter.

Broadcast Rates Per Acre: (All Scepter methods of application)

<u>Soil Texture</u>	<u>SONALAN E.C.</u> (Pints)	<u>Scepter</u> (Pints)	
Coarse	1 1/4 - 2	2/3	
Medium	1 3/4 - 2 1/2 ✓	2/3	241-289
Fine	2 1/4 - 3	2/3	

Precautions

1. Do not plant small grains or rice within 4 months following an application of Scepter.
2. Do not plant corn, cotton, edible beans, grain sorghum, peanuts or tobacco within 11 months following an application of Scepter.
3. Do not plant other crops within 18 months following an application of Scepter.
4. Following an application of Scepter, only those rotational crops harvested at maturity may be used for feed or food.
5. Do not use Scepter on crops other than soybeans.
6. Do not allow livestock to graze on fields treated with Scepter and do not feed treated forage, hay or straw to livestock.
7. Crops other than soybeans may be injured by spray drift or other indirect contact with Scepter.

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Read the SONALAN and Scepter labels carefully for additional directions, precautions and limitations before applying these products. The use of Scepter is limited to those states listed on the Scepter label.

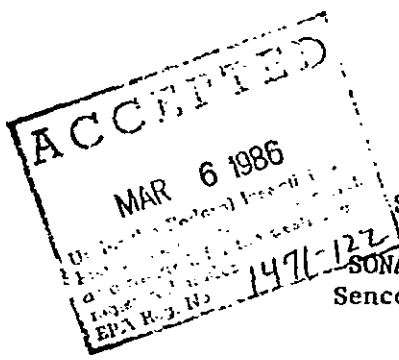
SONALAN® E.C. - ethalfluralin - Elanco Products Company
Scepter® - imazaquin - American Cyanamid Company

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(Revised 03/18/86)

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(Revised 02/27/86)

SONALAN® E.C. (E.P.A. REG. NO. 1471-122)
SONALAN/Command® and SONALAN/Command/Lexone® or
Sencor® Combinations for Weed Control in Soybeans

SONALAN may be tank-mixed with Command or Command plus Lexone or
Sencor for weed control in soybeans.

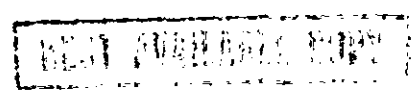
SONALAN/Command Tank-Mix

SONALAN/Command will control the following weeds:

Grasses:

Annual bluegrass
Barnyardgrass
Crabgrass
 (Large crabgrass)
 (Smooth crabgrass)
Foxtail
 (Giant foxtail)
 (Green foxtail)
 (Foxtail millet)
 (Pigeongrass)
 (Yellow foxtail)

Goosegrass
Johnsongrass
 (from seed)
Junglerice
Oat, wild¹
Panicum, fall
Panicum, Texas
 (Buffalograss)
 (Coloradograss)
Ryegrass, Italian
 (Annual ryegrass)
Shattercane
 (Wild cane)
Signalgrass, broadleaf
 (Brachiaria)
Witchgrass



Broadleaf Weeds:

Buckwheat, wild
Carpetweed
Catchfly, conical
Chickweed, common
Fiddleneck tarweed
Henbit
Kochia
Lambsquarters, common
Pigweed
 (Prostrate pigweed)
 (Redroot pigweed)
 (Smooth pigweed)
 (Tumble pigweed)
Purslane, common

Pusley, Florida
Rockpurslane, redmaids
Thistle, Russian
Velvetleaf
 (Buttonweed)

- ¹ SONALAN/Command will provide wild oat control except those germinating below the SONALAN/Command treated zone. ✓

SONALAN/Command will provide partial control or suppression of the following weeds:

Jimsonweed
Morningglory, annual
Nightshade, eastern black
Prickly sida
 (Teaweed)

Ragweed, common
Smartweed, Pennsylvania
Venice mallow

Control of these weeds may be erratic, ranging from poor to excellent depending upon soil temperature, time of weed germination, depth of weed seed in the soil and the amount and timing of soil moisture. Control may be improved with timely cultivation.

SONALAN/Command should be applied as a preplant incorporated tank-mix treatment. Follow soil preparation, application and incorporation procedures described on the SONALAN label.

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Broadcast Rates Per Acre:

<u>Soil Texture</u>	<u>SONALAN E.C.</u> (Pints)	<u>Command 6 E.C.</u> (Pints)
Coarse	1 1/4 ~ 2 ✓	1/2
Medium	1 3/4 ~ 2 1/2	3/4 ✓
Fine	2 1/4 ~ 3	1

SONALAN/Command/Lexone or Sencor Tank-Mix:

SONALAN/Command/Lexone or Sencor controls those weeds listed for SONALAN/Command plus these additional weeds:

Jimsonweed	Sesbania, hemp
Prickly sida	Smartweed, Pennsylvania
(Teaweed)	Spotted spurge
Ragweed, common	Venice mallow ¹
	Wild mustard ¹

SONALAN/Command/Lexone or Sencor also provides partial control or suppression of common cocklebur, annual morningglory and giant ragweed. Control of these weeds may be erratic, ranging from poor to excellent depending upon soil temperature, time of weed germination, depth of weed seed in the soil and the amount and timing of soil moisture. Control may be improved with timely cultivation.

SONALAN/Command/Lexone or Sencor should be applied as a preplant incorporated tank-mix treatment. Follow soil preparation, application and incorporation procedures described on the SONALAN label.

Broadcast Rates Per Acre:

<u>Soil Texture</u>	<u>SONALAN E.C.</u> (Pints)	<u>Command 6 E.C.</u> (Pints)	<u>Lexone 4L or Sencor 4F</u> (Pints)	<u>Lexone Dry Flowable or Sencor Dry Flowable</u> (Pounds)
Coarse	1 1/4 ~ 2	1/2	1/3-1/2 ¹	1/4 - 1/3 ¹ ✓
Medium	1 3/4 ~ 2 1/2	3/4	1/2-3/4	1/3 - 1/2
Fine	2 1/4 ~ 3	1	3/4-1	1/2 - 2/3

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- ¹ Use the higher rate in the rate range in areas where weed populations are dense, for control of Venice mallow and wild mustard and for best control of common cocklebur, annual morningglory and giant ragweed.

Precautions:

Following application of Command do not plant wheat, oats, barley, rye or alfalfa in the fall of the year of application or in the spring of the year following application as crop injury may occur. Other rotational crops may be planted 10 months after application. Do not allow livestock to graze on treated soybean vines and do not feed treated vines or vine trash to livestock. Do not use Lexone or Sencor on coarse soils with less than 1% organic matter.

Read the SONALAN, Command, Lexone, or Sencor labels carefully for additional directions, precautions and limitations before applying these products. ✓

SONALAN® - ethalfluralin - Elanco Products Company
Command® - dimethazone - FMC Corporation
Lexone® - metribuzin - E.I. DuPont de Nemours and Company
Sencor® - metribuzin - Bayer GmbH

Elanco Products Company
A Division of Eli Lilly and Company
Indianapolis, Indiana 46285

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(Revised 02/27/86)

SONALAN® E.C. (E.P.A. REG. NO. 1471-122)
SONALAN® DRY FLOWABLE (E.P.A. REG. NO. 1471-152)

PARTIALLY CONTROLLED OR SUPPRESSED WEEDS

Sonalan provides partial control or suppression of:

Morningglory, Annual
Pennsylvania smartweed

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Revised 02/03/86

1471-122

Shattercane (Wild cane)	<i>Sorghum bicolor</i>
Signalgrass, broadleaf (Brachiaria)	<i>Brachiaria platyphylla</i>
Witchgrass	<i>Panicum capillare</i>
Broadleaf Weeds:	
Buckwheat, wild	<i>Polygonum convolvulus</i>
Carpelweed	<i>Mollugo verticillata</i>
Catchfly, conical	<i>Silene conica</i>
Chickweed, common	<i>Stellaria media</i>
Fiddleneck tarweed	<i>Amsinckia lycopsoides</i>
Groundcherry ² (annual) (Lanceleaf groundcherry) (Wright's groundcherry)	<i>Physalis lanceifolia</i> <i>Physalis Wrightii</i>
Henbit	<i>Lamium amplexicaule</i>
Kochia	<i>Kochia scoparia</i>
Lambsquarters, common	<i>Chenopodium album</i>
Nightshade ² (annual) (Black nightshade) (Eastern black nightshade) ² (Hairy nightshade)	<i>Solanum</i> spp.
Pigweed (Prostrate pigweed) (Redroot pigweed) (Smooth pigweed) (Tumble pigweed)	<i>Amaranthus</i> spp.

¹ See page 30 for special instructions for control in dry bean
² See page 18 for special instructions for control in soybean

Purslane, common	<i>Portulaca oleracea</i>
Pusley, Florida	<i>Richardia scabra</i>
Rockpurslane, redmaids	<i>Calandrinia caulescens</i>
Thistle, Russian	<i>Salsola kali</i>

Soil Preparation—General Directions

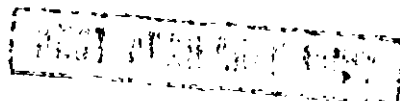
~~For crops other than cucurbits, Sonalan should be mixed uniformly into the top two (2) to three (3) inches of soil. For cucurbits, Sonalan should be used only as a surface application. See surface application directions beginning on page 41.~~

Factors that influence uniform application and incorporation of Sonalan are:

Crop Residues or Existing Weeds: Ground cover such as crop residues or existing weeds, can interfere with the incorporation of Sonalan into the soil. A manageable level of such ground cover will allow the Sonalan to be uniformly mixed into the top two (2) to three (3) inches of soil. If the level of the ground cover is such that this cannot be done, the soil must be tilled prior to the application of Sonalan.

Roughness: The soil surface should be smooth enough so that you can operate a sprayer and incorporate equipment efficiently and at speeds which ensure a uniform application and incorporation of Sonalan.

General Soil Conditions: To assure uniform incorporation of Sonalan, soil moisture conditions should be such that large clods can be broken up during the incorporation process.





Net Contents 2½ Gallons

**A selective herbicide for
preemergence control of certain
annual grasses and broadleaf weeds**

Active Ingredient:

ethalfluralin* N-ethyl-N-(2-methyl-2-propenyl)-2,6-
dinitro-4-(trifluoromethyl)benzenamine 35.1%

Inert Ingredients 64.9%

Contains 3 pounds active ingredient per gallon.

*Sonalan®—the registered trademark for Elanco Products ethalfluralin

Keep Out of Reach of Children.

WARNING

See back of container for additional precautionary statements.

EPA Reg. No. 1471-122
EPA Est. 1471-IN-2
FN 0802

WS 1093 AMX

161****/EC**36/LABELS7US/****/115

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Directions for Use

See literature on side of container for complete directions for use.

Read all directions carefully before applying.

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

Precautionary Statements

Hazards to Humans and Domestic Animals

WARNING

Sonalan[®] E.C. formulation is irritating to the eyes and skin. Avoid breathing vapors. Avoid contact with skin, eyes, or clothing. Do not contaminate foodstuffs or feed. Harmful if swallowed or absorbed through the skin. ~~The active ingredient, ethion, may cause skin sensitization~~ ~~respiratory irritation~~. Use protective clothing such as coveralls, long sleeved shirt, and impermeable gloves when handling or using this product.

First Aid: In case of contact, immediately flush eyes or skin with plenty of water. For eyes, call a physician. Remove and wash contaminated clothing before reuse.

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Environmental Hazards

This pesticide is toxic to fish. Do not apply directly to any body of water or wetlands. Do not contaminate water by cleaning of equipment or disposal of wastes. Runoff or erosion from treated areas may be hazardous to fish in neighboring areas.

STORAGE AND DISPOSAL

Storage: Avoid freezing. Store above 40°F (5°C). If frozen, poor weed control may result. Do not use or store near heat or open flame. Store in original container only. In case of leak or spill, use absorbent materials to contain liquids and dispose as waste.

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

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

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.

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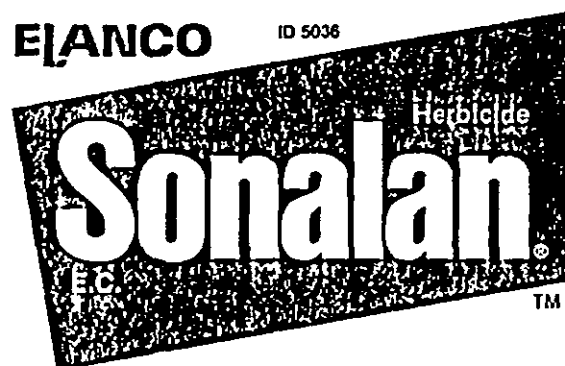
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ID 5036

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161****/EC**36/LABELS/US/****/116

ELANCO

ID 5036



A selective herbicide for
preemergence control of
certain annual grasses and
broadleaf weeds

Active Ingredient:
ethalluratin* *N*-ethyl-*N*-(2-methyl-2-
propenyl)-2,6-dinitro-4-(trifluoro-
methyl)benzenamine 35.1%
Inert Ingredients 64.9%
Contains 3 pounds active ingredient per gallon.

*Sonalan®—the registered trademark for
Elanco Products ethalluratin

EPA Reg. No. 1471-122

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

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Literature revised May-83, 1985
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Precautionary Statements

Keep Out of Reach of Children

Hazards to Humans and Domestic Animals WARNING

Sonalan E.C. formulation is irritating to the eyes and skin. Avoid breathing vapors. Avoid contact with skin, eyes, or clothing. Do not contaminate foodstuffs or feed. Harmful if swallowed or absorbed through the skin. Use protective clothing such as coveralls, long sleeved shirt, and impermeable gloves when handling or using this product.

First Aid: In case of contact, immediately flush eyes or skin with plenty of water. For eyes, call a physician. Remove and wash contaminated clothing before reuse.

Environmental Hazards

This pesticide is toxic to fish. Do not apply directly to any body of water or wetlands. Do not contaminate water by cleaning of equipment or disposal of wastes. Runoff or erosion from treated areas may be hazardous to fish in neighboring areas.

STORAGE AND DISPOSAL

Storage: Avoid freezing. Store above 40°F (5°C). If frozen, poor weed control may result. Do not use or store near heat or open flame. Store in original container only. In case of leak or spill, use absorbent materials to contain liquids and dispose as waste.

Pesticide Disposal: Pesticide, spray mixture, or rinse water that cannot be used according to label instructions must be disposed of according to applicable federal, state or local procedures. Do not contaminate water, food or feed by storage or disposal. Pesticide wastes are toxic. 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.

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

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

Bulk/Mini-bulk Tank Handling: Tanks that have been used for phenoxy-type herbicides should not be used for Sonalan. To clean, triple rinse (or equivalent) and wash with appropriate cleaners before reusing.

General Agricultural Precaution

Poor weed control and/or crop injury may result if directions are not followed. Uneven application, over

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application or improper incorporation can result in erratic weed control or injury to the treated or rotational crops.

Do not graze or forage crop grown in treated soil or cut for hay or silage.

Do not apply Sonalan to soils which are wet, cloddy, or subject to prolonged periods of flooding because poor weed control or crop injury may result.

Do not apply to any area not specified on the label.

Rotational Restrictions

In case of crop failure, replant only crops listed on this label. In California and Arizona, do not plant sugarbeets, red beets, spinach or oats within eight (8) months following an application of three (3) pints per acre or more of Sonalan.

Directions for Use

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

Sonalan is a preemergence herbicide that controls many annual grasses and broadleaf weeds. Sonalan controls weeds as they germinate. Sonalan will not control established weeds.

Mixing and Application Directions

Sonalan Alone

Start with a clean spray tank. Fill sprayer one-third ($\frac{1}{3}$) to one-half ($\frac{1}{2}$) full with clean water or liquid fertilizer. Start agitation. Add correct quantity of Sonalan, continue agitation and finish filling the tank.

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Sonalan Tank Mix

Vigorous, continuous agitation is required for all tank mixes. Sparger pipe agitators generally provide the best agitation in spray tanks. To prevent foaming, avoid stirring or splashing air into the mixture during filling by placing the end of the fill pipe below the surface of the water in the spray tank. Do not allow the mixture to siphon back into the water source.

Mixing order: Fill the tank one-fourth ($\frac{1}{4}$) to one-third ($\frac{1}{3}$) full with clean water or liquid fertilizer. (See page 9 for additional liquid fertilizer mixing instructions). Start the agitation. Add in the following order: dry flowables, wettable powders (WP), aqueous suspensions (AS), flowables (F), or liquids (L) to the water and agitate until the product(s) are completely dispersed. Allow additional mixing and dispersion time when using dry flowable products. Continue agitation and fill tank to three-fourths ($\frac{3}{4}$) full, add the Sonalan or other emulsifiable concentrates (EC) and mix thoroughly. Then add any solution (S) formulations, agitate and finish filling. Maintain agitation during filling and through application. If spraying and agitation must be stopped before the tank is empty, the materials may settle to the bottom. In this case, it is important to resuspend all of the material in the bottom of the tank before continuing the spray application. A sparger agitator is particularly useful for this purpose. Sometimes it is more difficult to resuspend settled material than it is to suspend it originally.

Read and carefully follow all label instructions for each material added to the tank. Premixing dry and

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If replanting is necessary,

In all areas do not rotate to sugarbeets the year following an application of Sonalan unless the Sonalan treated soil is moldboard plowed to a depth of at least six (6) inches prior to planting sugarbeets.

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flowable formulations with water (slurrying) and pouring the slurry through a 20 or 35 mesh wetting screen in the top of the tank will help assure good initial dispersion in the tank. Line screens in the tank should be no finer than 50 mesh (100 mesh is finer than 50 mesh).

If a buildup of material on the walls of the spray tank is observed, wash the tank with soapy water between fillings. Rinse and continue the spraying operation. Clean the tank, lines, and screens thoroughly after use. Check the sprayer daily to ensure proper calibration and uniform application. Do not apply Sonalan when the wind can cause drifting of spray particles which can result in non-uniform application.

Application

Apply Sonalan in at least five (5) gallons of water or liquid fertilizer per acre (broadcast basis), using any properly calibrated, low pressure herbicide sprayer that will apply the spray uniformly.

Application with Liquid Fertilizer

Sonalan may be mixed with most liquid fertilizer materials. Combinations of Sonalan with solutions and suspension type fertilizers have provided weed and grass control equal to the same rates of Sonalan applied in water. Follow Sonalan label recommendations regarding rates per acre, crops, incorporation directions, special instructions, cautions and special precautions.

Individual state regulations relating to liquid fertilizer

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mixing, registration, labeling and applications are the responsibility of the individual and/or company selling the fertilizer and chemical mixture.

Liquid Fertilizer Mixing Instructions

~~Sonalan In Liquid Fertilizer~~

Emulsifiable concentrates, such as Sonalan, can be mixed with liquid fertilizers. In all cases, continuous agitation is required to prevent the Sonalan from rising to the surface as an oily layer. When necessary, (see Liquid Fertilizer Compatibility Test on page 10), a compatibility agent can be used to ensure that the Sonalan emulsifies properly (i.e., has a milky appearance rather than an oily layer). The use of compatibility agents is especially important when tank mixing emulsifiable concentrates (EC) with dry flowables, wettable powders (WP), flowables (F), liquids (L), aqueous suspensions (AS), or solutions (S) in liquid fertilizer. If the emulsion is not properly formed, and the EC rises to the surface of the fertilizer as an oil ("oils out"), the oil may combine with the wettable powder, flowable, or suspension to form oily curds (viscous phase) which are difficult to disperse.

Any one of the compatibility agents listed on page 10 is helpful in causing emulsifiable concentrates to form non-oiling mixtures with liquid fertilizers. These compatibility agents can be used at rates as low as one and one-half (1½) to two (2) pints per ton of liquid fertilizer and should be mixed well with the fertilizer before adding the emulsifiable concentrate.

Read the label on the compatibility agent and follow the directions.

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9. Spray-Aide™
(Miller
Chemical and
Fertilizer
Corp.,
Hanover, PA).

1. Sponto 168D (Wilco 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, MO)
5. Rigo Compatibility Agent (Rigo Company, Buckner, KY)
6. Amoco Spray Mate (Amoco Oil Co., Chicago, IL)
7. Kim-Link (Universal Coop, Minneapolis, MN)
8. Blendex (Helena Chemical Co., Cayce-West Columbia, SC)

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

Testing for Tank Mix Compatibility in Liquid Fertilizers:

Emulsifiable concentrates alone or in tank mixture with dry flowables, wettable powders (WP), liquids (L), flowables (F), aqueous suspensions (AS), or solutions (S), may not combine properly with some fluid fertilizer materials. Small quantities should always be tested before full-scale mixing. This will determine whether a compatibility agent is needed, and which agent does the best job. The eight (8) agents listed above have been thoroughly tested. There are many other surfactants on the market which were not designed for use with liquid fertilizers.

Use the following test to select the correct agent for your mixture:

1. Put one (1) pint of the liquid fertilizer in a quart jar.

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2. Add one (1) to four (4) teaspoonful(s) of the dry flowable, WP, L, F, or AS formulations (depending on the recommended rate per acre) to the liquid fertilizer. Close jar and agitate until dispersed evenly in the fertilizer. If the materials do not disperse well, it may be necessary to slurry the chemicals in water before adding to the fertilizer.
3. After dispersing the materials (Step 2), add three (3) to four (4) teaspoonfuls of the Sonalan to the jar and shake well. Add solution herbicides to the mixture last and agitate. Observe the jar for about 10 minutes. If the materials rise to the surface and form a thick layer (oily curds) which will not disperse when agitated, a compatibility agent is needed. If the mixture is easily dispersed to its original state with slight agitation, no agent is needed, but good agitation must be provided in the fertilizer spray tank.
4. If the need for a compatibility agent is shown in Step 3, using a clean quart jar, start at Step 1 above, add one-half (1/2) teaspoonful of the compatibility agent to the liquid fertilizer, mix well, then repeat Steps 2 and 3.

An effective compatibility agent will cause the mixture to remain uniformly mixed with little or no separating or oil rising to the surface for one-half (1/2) hour or longer. If slight separation does occur, two (2) to three (3) inversions of the jar should give a uniform remix. If oily curds form which will not disperse, more agent or another agent should be tried.

Use a clean jar for each test. The compatible mixture

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will have a uniform appearance and will be relatively easy to keep mixed with gentle agitation of the jar.

Application with Dry Bulk Fertilizer

Dry bulk fertilizer may be impregnated or coated with Sonalan. Application of dry bulk fertilizer impregnated with Sonalan has provided weed and grass control equal to the same rates of Sonalan applied in liquid carriers.

Follow Sonalan label recommendations regarding rates per acre, crops, incorporation directions, special instructions, cautions and special precautions.

Individual state regulations relating to dry bulk fertilizer blending, registration, labeling and application are the responsibility of the individual and/or company selling the fertilizer and chemical mixture.

Limitations: Apply a minimum of 200 pounds per acre of dry fertilizer impregnated with Sonalan at the recommended rate. Most dry fertilizers can be used for Sonalan impregnation. When coated ammonium nitrate and/or limestone are used alone, do not impregnate with Sonalan. These materials will not absorb the herbicide. Blends containing mixtures of these materials can be impregnated.

Impregnation: Use any closed drum, belt, ribbon or other commonly used dry bulk fertilizer blender. Nozzles used to spray the Sonalan onto the fertilizer should be placed to provide uniform spray coverage. Add water to the Sonalan to give a total volume of at least six (6) pints per ton of fertilizer.

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Sonalan—Preplant Incorporated Application

Weeds Controlled by Sonalan—

Sonalan applied preplant soil incorporated will control the following weeds:

Grasses:

Annual bluegrass	<i>Poa annua</i>
Barnyardgrass	<i>Echinochloa crus-galli</i>
Crabgrass	<i>Digitaria</i> spp.
(Large crabgrass)	
(Smooth crabgrass)	
Foxtail	<i>Setaria</i> spp.
(Giant foxtail)	
(Green foxtail)	
(Foxtail millet)	
(Pigeongrass)	
(Yellow foxtail)	
Goosegrass	<i>Eleusine indica</i>
Johnsongrass (from seed)	<i>Sorghum halepense</i>
Junglerice	<i>Echinochloa colonum</i>
Oat, wild	<i>Avena fatua</i>
Panicum, fall	<i>Panicum dichotomiflorum</i>
Panicum Texas	<i>Panicum texanum</i>
(Bullatograss)	
(Colorado grass)	
Ryegrass, Italian	<i>Lolium multiflorum</i>
(Annual ryegrass)	

Sonalan will provide wild oat control except those germinating below the Sonalan treated zone.

Shattercane (Wild cane)	<i>Sorghum bicolor</i>
Signalgrass, broadleaf (Brachiaria)	<i>Brachiaria platyphylla</i>
Witchgrass	<i>Panicum capillare</i>
Broadleaf Weeds:	
Buckwheat, wild	<i>Polygonum convolvulus</i>
Carpelweed	<i>Mollugo verticillata</i>
Catchfly, conical	<i>Silene conica</i>
Chickweed, common	<i>Stellaria media</i>
Fiddleneck tarweed	<i>Amsinckia lycopsoides</i>
Groundcherry* (annual) (Lanceleaf groundcherry)	<i>Physalis lanceifolia</i>
(Wright's groundcherry)	<i>Physalis Wrightii</i>
Henbit	<i>Lamium amplexicaule</i>
Kochia	<i>Kochia scoparia</i>
Lambsquarters, common	<i>Chenopodium album</i>
Nightshade* (annual) (Black nightshade) (Eastern black nightshade) [†] (Hairy nightshade)	<i>Solanum</i> spp.
Pigweed (Prostrate pigweed) (Redroot pigweed) (Smooth pigweed) (Tumble pigweed)	<i>Amaranthus</i> spp.

* See page 30 for special instructions for control in dry bean
† See page 18 for special instructions for control in soybean

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Purslane, common	<i>Portulaca oleracea</i>
Pusley, Florida	<i>Richardia scabra</i>
Rockpurslane, redmaids	<i>Calandrinia caulescens</i>
Thistle, Russian	<i>Salsola kali</i>

Soil Preparation—General Directions

~~For crops other than cucurbits, Sonalan should be~~
~~mixed uniformly into the top two (2) to three (3) inches~~
~~of soil. For cucurbits, Sonalan should be used only as~~
~~a surface application. See surface application direc-~~
~~tions beginning on page 41.~~

Factors that influence uniform application and incorporation of Sonalan are:

Crop Residues or Existing Weeds: Ground cover, such as crop residues or existing weeds, can interfere with the incorporation of Sonalan into the soil. A manageable level of such ground cover will allow the Sonalan to be uniformly mixed into the top two (2) to three (3) inches of soil. If the level of the ground cover is such that this cannot be done, the soil must be tilled prior to the application of Sonalan.

Roughness: The soil surface should be smooth enough so that you can operate a sprayer and incorporation equipment efficiently and at speeds which ensure a uniform application and incorporation of Sonalan.

General Soil Conditions: To assure uniform incorporation of Sonalan, soil moisture conditions should be such that large clods can be broken up during the incorporation process.

Soil Mixing Directions

Use incorporation equipment that thoroughly and uniformly mixes Sonalan into the top two (2) to three (3) inches of the seedbed, or erratic weed control and/or crop injury may result.

Incorporation Before Planting

Apply Sonalan up to three (3) weeks prior to planting. Sonalan should be thoroughly and uniformly mixed into the top two (2) to three (3) inches of the seedbed within two (2) days after application.

Incorporation In Bedded Culture

Application prior to bedding: Apply Sonalan and mix thoroughly into the top two (2) to three (3) inches of soil. The bedding operation provides additional mixing. Do not expose untreated soil during post-bedding operations.*

Application after bedding: Knock off beds to planting height before applying Sonalan. Apply Sonalan and mix thoroughly with equipment that will conform to the bed shape. Do not leave untreated soil exposed.*

*Avoid removal of treated soil from the seedbed before or during the planting operation. This would expose untreated soil, allowing weeds to germinate in the drill row.

Cultivation after Planting

Soil treated with Sonalan may be shallowly cultivated without reducing the weed control activity of Sonalan. Do not cultivate deeper than the treated soil since this

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may bring untreated soil to the surface, and poor weed control may result.

Soil Texture Guide

The amount of Sonalan applied will vary with the soil texture and organic matter. A fine textured soil will require more Sonalan per acre than a coarse soil. Choose the proper rate based on the following soil texture group and specific crop recommendations. Do not exceed recommended rates.

Soil Texture Group	Soil Classification
Coarse soils: (Light)	Sand, loamy sand, sandy loam
Medium soils:	Loam, silty clay loam*, silt loam, silt, sandy clay loam*
Fine soils: (Heavy)	Clay, clay loam, silty clay loam*, silty clay, sandy clay, sandy clay loam*

* Silty clay loam and sandy clay loam soils are transitional soils and may be classified as either medium or fine 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 they are predominately clay, they are usually classified as fine textured soils.

These recommendations are given as the broadcast rates of Sonalan per acre. Where a rate range is shown, use the lower rate for coarser textured soils or soils with lower organic matter. Use the higher rate, where a rate range is shown, on soils containing more than five percent (5%) organic matter.

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Where soil texture is variable within the same field, use the higher recommended Sonalan rate for the coarser textured soil.

Sonalan is not recommended for use on soils containing more than 10% organic matter.

Crop Recommendations

Soybean—Sonalan Alone

General weed control—except groundcherry and nightshade:

Sonalan should be applied as a preplant incorporated treatment. Follow recommended soil preparation, application, and incorporation procedures for Sonalan.

For broader spectrum weed control, Sonalan may be used in combination with Amiben, Basagran, Blazer, Dual, Lasso, Lexone, Lorox, Sencor and Vernam. Read the combination product label for directions, cautions and limitations prior to use.

Broadcast Rates per Acre

Soil Texture	Sonalan (pints)
Coarse	1½-2
Medium	2-2½
Fine	2½-3

Eastern Black Nightshade—Partial Control:

Sonalan should be applied as a preplant incorporated treatment for partial control of nightshade in medium and fine textured soils. Follow recommended soil preparation and application procedures for Sonalan.

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Two incorporation passes are required for partial control of eastern black nightshade. For broader spectrum weed control, Sonalan may be used in combination with Amiben, Basagran, Blazer, Dual, Lasso, Lexone, Sencor and Vernam. Read the combination product label for directions, cautions and limitations prior to use.

Lorox,

Broadcast Rates per Acre

Soil Texture	Sonalan (pints)
Medium	3
Fine	3½

Soybean—Sonalan/Amiben® Tank Mix or Overlay

Sonalan/Amiben should be applied as a preplant incorporated tank mix or Sonalan preplant incorporated followed by an Amiben overlay. The Sonalan/Amiben combination effectively controls the weeds listed for Sonalan alone for general weed control plus these additional weeds:

Black nightshade
Common ragweed
Pennsylvania smartweed
Velvetleaf
Wild mustard

Soybean Precautions: Soybeans should be planted no more than two (2) inches deep after early season adverse weather conditions have passed, especially when using higher rate programs. Excessively deep planting or cool, wet weather early in the growth cycle causes additional stress to the soybean plant. These factors may result in reduced stands, delayed maturity and reduced yields.

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Broadcast Rates per Acre

Soil Texture	Sonalan		Amiben	
	General Weed Control	Partial Control Eastern Black Nightshade	Amiben 2S	Amiben DS
Coarse	(pints) 1½-2	(pints) N/A	(quarts) 4-6**	(pounds) 24-36**
Medium	1½-2½	3*	4-6	24-36
Fine	2½-3	3½*	4-6	24-36

*Two incorporation passes are required for partial control of eastern black nightshade.

**Use the higher rate where heavy populations of smartweed, velvetleaf, ragweed, wild mustard or black nightshade are expected. Read the Amiben label for directions, cautions and limitations prior to use.

Soybean—Sonalan/Dual® Tank Mix or Overlay

Sonalan/Dual should be applied as a preplant incorporated tank mix or Sonalan preplant incorporated followed by a Dual overlay. The Sonalan/Dual combination effectively controls the weeds listed for Sonalan alone for general weed control plus these additional weeds:

Black nightshade	Southwestern cupgrass
Prairie cupgrass	Yellow rutsedge
Red rice	Galinsoga

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Additional weeds partially controlled by this combination include:

Hairy nightshade Sandbur
Volunteer sorghum

Follow recommended soil preparation procedures for Sonalan. Apply the tank mix in at least 10 gallons of water per acre up to 14 days prior to planting. Incorporate the tank mix within two (2) days after application in the top two (2) inches of soil. When Dual is applied as an overlay to Sonalan, apply Dual after planting (behind the planter) prior to crop and weed emergence.

Broadcast Rates per Acre

Soil Texture	Sonalan		Dual 8E	
	General Weed Control	Partial Control of Eastern Black Nightshade	Less than 3% O.M.	3% O.M. or greater
Coarse	(pints) 1½-2	(pints) N/A	(pints) 1½-2	(pints) 2
Medium	1½-2½	3*	2-2½	2-2½
Fine	2½-3	3½*	2-2½	2½-3

*Two incorporation passes are required for partial control of eastern black nightshade.

Read the Dual label for directions, cautions and limitations prior to use.

Soybean—Sonalan/Lasso® Tank Mix or Overlay

Sonalan/Lasso should be applied as a preplant incorporated tank mix or Sonalan preplant incorporated

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additional weeds controlled,

additional weeds controlled,

followed by a Lasso overlay. The Sonalan/Lasso combination effectively controls the weeds listed for Sonalan alone for general weed control plus these additional weeds:

Galinsoga	Witchgrass
Black nightshade*	Florida pusley
Hairy nightshade*	Yellow nutsedge*
Red rice*	

Additional weeds partially controlled by this combination include:

Florida beggarweed	Spiny sida (leaweed)
Common ragweed	Smartweed

Sonalan/Lasso tank mix: Follow recommended soil preparation recommendations for Sonalan. Apply Sonalan/ Lasso in a minimum of 15 gallons of water or liquid fertilizer per acre and incorporate thoroughly into the top two (2) inches of soil. Apply the tank mix up to seven (7) days prior to planting.

Sonalan preplant incorporated followed by Lasso overlay: Apply and incorporate Sonalan according to recommended soil preparation application and incorporation procedures.

*Check beneath the rate label for additional Lasso directions

*Use a minimum of two and one-half (2 1/2) quarts of Lasso to control these weeds

*Use from 1 1/2 to four (4) quarts of Lasso per acre to be applied alone or combined with the textured soils in a tank mix combination preplant incorporated only for control of these weeds

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Sonalan/Lasso Tank Mix Preplant Incorporated

Broadcast Rates per Acre

Soil Texture	Sonalan		Lasso
	General Weed Control	Partial Control of Eastern Black Nightshade	
Coarse	(pints) 1 1/2-2	(pints) N/A	(quarts) 2 1/2
Medium	1 1/2-2 1/2	3*	3-3 1/2
Fine	2-3	3 1/2*	3 1/2-4

Lasso or Lasso Micro-Tech

2 1/4

*Two incorporation passes are required for partial control of eastern black nightshade.

Sonalan Preplant Incorporated Followed by Lasso Overlay

Broadcast Rates per Acre

Soil Texture	Sonalan		Lasso	
	General Weed Control	Partial Control of Eastern Black Nightshade	Less than 3% O.M.	3% O.M. or greater
Coarse	(pints) 1 1/2-2	(pints) N/A	(quarts) 2	(quarts) 2
Medium	1 1/2-2 1/2	3*	2 1/2	2 1/2-3
Fine	2-3	3 1/2*	3	3-4

Lasso or Lasso Micro-Tech

2 1/4

*Two incorporation passes are required for partial control of eastern black nightshade

Read the Lasso label for directions, cautions and limitations prior to use.

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additional weeds controlled,

Lexone or Sencor

Sencor

Soybean—Sonalan/Lexone® or Sonalan/Sencor® Tank Mix or Overlay

Sonalan plus Lexone or Sencor ~~may~~ be applied as a preplant incorporated tank mix or Sonalan preplant incorporated followed by a ~~Sencor or Lexone~~ overlay. Do not allow Sonalan/~~Sencor~~ or Sonalan/~~Lexone~~ tank mix to remain in the tank overnight. The Sonalan/Lexone or Sonalan/Sencor combination effectively controls the weeds listed for Sonalan alone for general weed control plus these additional weeds:

Jimsonweed	Hemp sesbania
Venice mallow	Pennsylvania smartweed
Wild mustard	Prickly sida
Common ragweed	Velvetleaf

Control of cocklebur, morningglory, and giant ragweed may be erratic, ranging from poor to excellent depending upon soil temperature, time of weed germination, depth of weed seed in the soil and the amount and timing of soil moisture. Control may be improved with timely cultivation.

Follow recommended soil preparation, application, and incorporation directions for Sonalan.

should

Broadcast Rates per Acre

Soil Texture	Sonalan		Lexone or Sencor	
	General Weed Control	Partial Control Eastern Black Nightshade	Lexone 50W/4L or Sencor 50WP/4	Lexone or Sencor Dry Flowable
	(pints)	(pints)	(pounds or (pints))	(pounds)
Coarse	1½-2	N/A	½**	⅓**
Medium	1½-2½	3*	¾	½
Fine	2½-3	3½*	1	¾

*Two incorporation passes are required for partial control of eastern black nightshade.

**Do not use ~~Sencor/Lexone~~ on coarse soils with less than one percent (1%) organic matter.

Additional Precaution: For ~~Sencor/Lexone~~ tank mixes, do not plant any crop other than soybeans within four (4) months after treatment. Over application, uneven application, or improper soil incorporation may result in crop injury, soil residue, or erratic weed control. Seedling disease, cold weather, deep planting, excessive moisture, soil pH over seven and one-half (7.5), high salt concentration or drought may weaken crop seedlings and increase possibility of damage from the Sonalan/~~Sencor~~ or Sonalan/~~Lexone~~ tank mix. Under these conditions, delayed crop development or reduced yields may result. Read the ~~Sencor~~ and ~~Lexone~~ labels for directions, cautions and limitations prior to use. Do not use the foliage from soybeans

Lexone/Sencor

Lexone/Sencor

Lexone

Sencor

Lexone

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Sonalan/Lasso/Lexone or Sencor controls those weeds listed for Sonalan alone for general weed control plus these additional weeds:

Black nightshade^a
 Crowfootgrass
 Galinsoga
 Hairy nightshade^a
 Jimsonweed
 Mallow, Venice
 Mustard, wild

Red rice^b
 Sesbania
 (Coffeebean)
 (Coffeeweed)
 Shepherdspurse
 Pennsylvania Smartweed
 Spotted spurge
 Spurred anoda
 Velvetleaf
 Yellow nutsedge^b

Additional weeds partially controlled by this combination include:

Common ragweed
 Florida Beggarweed

Spiny Sida (teaweed)

a or b Check beneath rate table for additional information.

Follow recommended soil preparation recommendations for Sonalan. Apply the tank-mixes in a minimum of 15 gallons of water or liquid fertilizer per acre. Set equipment to mix the soil no deeper than four inches. Apply the tank-mix up to seven (7) days prior to planting.

Broadcast Rates Per Acre

Soil Texture	Sonalan		Lasso or Lasso Micro-Tech (quarts)	Lexone or Sencor	
	General Weed Control (pints)	Partial Control of Eastern Black Nightshade (pints)		Lexone 4L or Sencor 4 (pints)	Lexone Dry Flowable or Sencor Dry Flowable (pounds)
Coarse	1 1/4 - 2	NA	2 1/2 ✓	1/2**	1/3**
Medium	1 3/4 - 2 1/2	3*	3 - 3 1/2	3/4	1/2 ✓
Fine	2 1/4 - 3	3 1/2*	3 1/2 - 4	1	2/3

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- * Two incorporation passes are required for partial control of eastern black nightshade.
- ** Do not use Lexone or Sencor on coarse soils with less than one (1) percent organic matter.
- a Use a minimum of two and one-half (2 1/2) quarts of Lasso per acre to control these weeds.
- b Use three (3) to four (4) quarts of Lasso per acre on medium and fine textured soils to control these weeds.

Read the Lasso, Lexone and Sencor label for additional weeds controlled, directions, cautions and limitations prior to use.

Soybean - Sonalan/Dual/Lexone or Sonalan/Dual/Sencor Tank-Mix

Sonalan plus Dual and Lexone or Sencor should be applied as a preplant incorporated tank-mix treatment. Do not allow the Sonalan/Dual/Lexone or Sencor tank-mix to remain in the tank overnight.

Sonalan/Dual/Lexone or Sencor controls those weeds listed for Sonalan alone for general weed control plus these additional weeds:

- | | |
|------------------------|-----------------------|
| Black nightshade | Sesbania |
| Crowfootgrass | (Coffeebean) |
| Galinsoga | (Coffeeweed) |
| Jimsonweed | Shepherdspurse |
| Pennsylvania smartweed | Southwestern cupgrass |
| Prairie cupgrass | Spotted spurge |
| Red rice | Spurred anoda |
| | Velvetleaf |
| | Venice mallow |
| | Wild mustard |
| | Yellow nutsedge |

Additional weeds partially controlled by this combination include:

- | | |
|------------------|-------------------|
| Hairy nightshade | Volunteer sorghum |
| Sandbur | |

Follow recommended soil preparation recommendations for Sonalan. Apply the tank-mixes in a minimum of 10 gallons of water or liquid fertilizer per acre. Mix the tank-mix into the top two (2) inches of soil. Apply the tank-mixes up to 14 days prior to planting.

5/10/61

Broadcast Rates Per Acre

Use the recommended rates listed for Sonalan and Dual for the two-way combination; add the recommended rate of Lexone or Sencor for the Sonalan/Dual/Lexone or Sencor tank-mix.

Soil Texture	Sonalan		Dual		Lexone or Sencor	
	General	Partial Control	Less than 3% O.M. (pints)	3% O.M. or Greater (pints)	Lexone 4L	Lexone
	Weed Control (pints)	of Eastern Black Nightshade (pints)			Sencor 4 (pints)	Dry Flowab or Sencor Dry Flowab (pounds)
Coarse	1 1/4 - 2	NA	1 1/2 - 2 ✓	2 ✓	1/2**	1/3** ✓
Medium	1 3/4 - 2 1/2	3*	2 - 1/2 ✓	2 - 2 1/2 ✓	3/4	1/2 ✓
Fine	2 1/4 - 3	3 1/2*	2 - 2 1/2	2 1/2 - 3 ✓	1	2/3

* Two incorporation passes are required for partial control of eastern black nightshade.

** Do not use Sencor or Lexone on coarse soils with less than one (1) percent organic matter.

Read the Dual, Lexone and Sencor labels for additional weeds controlled, directions, cautions and limitations prior to use.

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Insert
Attachment
1

Lorox or Sencor

treated with Sencor or Lorox for feed or forage.

Soybean—Sonalan Preplant Incorporated Followed by Lorox® Overlay

Sonalan should be applied preplant incorporated followed by a Lorox overlay. The Sonalan/Lorox combination effectively controls the weeds listed for Sonalan alone for general weed control plus these additional weeds:

Florida beggarweed
Common ragweed
Smartweed

Follow recommended soil preparation, application, and incorporation procedures for Sonalan. When Lorox is applied as an overlay to Sonalan, apply Lorox as a preemergence application prior to crop and weed emergence. Read the Lorox label for directions, cautions and limitations prior to use.

Broadcast Rates per Acre

Soil Texture	Sonalan		Lorox L	
	General Weed Control	Partial Control of Eastern Black Nightshade	1/2 or 2% O.M.	2 to 5% O.M.**
Coarse	(pints) 1 1/2-2	(pints) N/A	(pints) 1-1 1/2	(pints) 1-3
Medium	(pints) 1 1/2-2 1/2	(pints) 3*	(pints) 1 1/2-2 1/2	(pints) 2 1/2-4
Fine	(pints) 2 1/2-3	(pints) 3 1/2*	(pints) 1 1/2-2 1/2	(pints) 2 1/2-5

*Two incorporation passes are required for partial control of eastern black nightshade.

**Over 5% organic matter use 6 pints Lorox L.

Read the Lorox label for additional weeds controlled, directions, cautions and limitations prior to use.

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Soybean—Sonalan/Vernam® Tank Mix

Sonalan/Vernam effectively controls the weeds listed for Sonalan alone for general weed control plus these additional weeds:

Annual morningglory Yellow nutsedge
Sicklepod Purple nutsedge
Velvetleaf

Apply Sonalan/Vernam in at least 10 gallons per acre of water or liquid fertilizer. Follow recommended soil preparation procedures. Incorporate the tank mix immediately following application. Read the Vernam label for additional directions, cautions and limitations prior to use.

Broadcast Rates per Acre

Soil Texture	Sonalan		Vernam 7E
	General Weed Control	Partial Control of Eastern Black Nightshade	
Coarse	(pints) 1 1/2-2	(pints) N/A	(pints) 2 1/2
Medium	(pints) 1 1/2-2 1/2	(pints) 3*	(pints) 3
Fine	(pints) 2 1/2-3	(pints) 3 1/2*	(pints) 3

*Two incorporation passes are required for partial control of eastern black nightshade.

Soybean—Sonalan Preplant Incorporated Followed by Basagran® Postemergence Application

Sonalan should be applied preplant incorporated followed by a postemergence application of Basagran.

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The Sonalan/Basagran combination effectively controls the weeds listed for Sonalan alone for general weed control plus these additional weeds:

Cocklebur	Ragweed
Jimsonweed	Tropic croton
Prickly sida	Velvetleaf

Consult the Basagran label for specific weed growth stage directions to achieve best results.

Broadcast Rates per Acre

Soil Texture	Sonalan		Basagran**
	General Weed Control	Partial Control of Eastern Black Nightshade	
Coarse	(pints) 1.-2	(pints) N/A	(pints) 2
Medium	2-2½	3*	2
Fine	2½-3	3½*	2

*Two incorporation passes are required for partial control of eastern black nightshade.

** Apply Basagran as follows for optimum results:

Do not treat earlier than weed stage indicated on Basagran label. Add oil concentrate according to label use directions.

Read the Basagran label for additional weeds controlled, directions, cautions and limitations prior to use.

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Soybean—Sonalan Preplant Incorporated Followed by Blazer® Postemergence Application (except California)

Sonalan should be applied preplant incorporated followed by a postemergence application of Blazer.

The Sonalan/Blazer combination effectively controls the weeds listed for Sonalan alone for general weed control plus these additional weeds:

Balloonvine	Hornimglory
Tropic croton	Black nightshade
Wooly croton	Ragweed
Jimsonweed	Smartweed

Balloonvine
Black nightshade
Jimsonweed
Hornimglory

Ragweed
Smartweed
Tropic croton
Wooly croton

Broadcast Rates per Acre

Soil Texture	Sonalan		Blazer**
	General Weed Control	Partial Control of Eastern Black Nightshade	
Coarse	(pints) 1½-2	(pints) N/A	(pints) 2
Medium	2-2½	3*	2
Fine	2½-3	3½*	2

*Two incorporation passes are required for partial control of eastern black nightshade.

** Apply Blazer as follows for optimum results:

1. Apply when weeds are at 2-4 leaf stage and actively growing.
2. Apply in a minimum of 20 GPA.
3. Use 40-60 PSI.

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weeds controlled,

4. Do not use during periods of dry weather when crop and weeds are under stress.

5. Do not apply when temperature is below 70°F.

Read the Blazer label for additional directions, cautions and limitations prior to use.

Dry Bean—Sonalan Alone

(Does not include soybean)

Sonalan should be applied as a preplant incorporated treatment. Follow recommended soil preparation, application, and incorporation procedures for Sonalan.

General weed control—except groundcherry and nightshade:

Broadcast Rates per Acre

Soil Texture	Sonalan (pints)
Coarse	1½-2
Medium	2-2½
Fine	2½-3

For broader spectrum control, Sonalan may be used in combination with Amiben, Dual, Eptam or Lasso. Read the combination product label for directions, cautions and limitations prior to use.

Groundcherry and Nightshade control (annual)—dry bean:

Two incorporation passes are required for groundcherry and nightshade control.

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Do not use these Sonalan rates for garden bean, green bean, snap bean, or string bean.

Broadcast Rates per Acre

Soil Texture	Sonalan (pints)
Coarse	3-3½
Medium	3½-4
Fine	4-4½

For broader spectrum control, Sonalan may be used in combination with Amiben, Dual, Eptam or Lasso. Read the combination product label for directions, cautions and limitations prior to use.

Dry Bean—Sonalan/Amiben® Tank Mix or Overlay

Sonalan/Amiben should be applied as a preplant incorporated tank mix or Sonalan preplant incorporated followed by an Amiben overlay.

The Sonalan/Amiben combination effectively controls the weeds listed for Sonalan alone for general weed control plus these additional weeds:

Black nightshade
Common ragweed
Pennsylvania smartweed
Velvetleaf
Wild mustard

Follow recommended soil preparation, application, and incorporation procedures for Sonalan.

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Broadcast Rates per Acre

Soil Texture	Sonalan		Amiben**	
	General Weed Control	Nightshade and Groundcherry Control*	2S	DS
	(pints)	(pints)	(quarts)	(pounds)
Coarse	1½-2	3-3½	4-6	24-36
Medium	1½-2½	3-4	4-6	24-36
Fine	2½-3	4-4½	4-6	24-36

*Two incorporation passes are required for groundcherry or nightshade control

**Use the higher rate where a heavy population of smartweed, velvetleaf, ragweed, wild mustard, or black nightshade are expected. Read the Amiben label for directions, cautions and limitations prior to use.

Read the Amiben label for additional weeds controlled, directions, cautions and limitations prior to use.

Dry Bean—Sonalan/Dual® Tank Mix or Overlay

Sonalan/Dual should be applied as a preplant incorporated tank mix or Sonalan preplant incorporated followed by a Dual overlay. The Sonalan/Dual combination effectively controls the weeds listed for Sonalan alone for general weed control plus these additional weeds:

Black nightshade	Southwestern cupgrass
Prairie cupgrass	Yellow nutsedge
Red rice	Gainsoga

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Additional weeds partially controlled by this combination include:

Hairy nightshade Sandbur
Volunteer sorghum

Follow recommended soil preparation procedures for Sonalan. Apply the tank mix in at least 10 gallons of water per acre up to 14 days prior to planting. Incorporate the tank mix within two (2) days after application in the top two (2) inches of soil. When Dual is applied as an overlay to Sonalan, apply Dual after planting (behind the planter) prior to crop and weed emergence.

Broadcast Rates per Acre

Soil Texture	Sonalan		Dual 8E	
	General Weed Control	Nightshade and Groundcherry Control*	Less than 3% O.M.	3% O.M. or greater
	(pints)	(pints)	(pints)	(pints)
Coarse	1½-2	3-3½	1½-2	2
Medium	1½-2½	3½-4	2-2½	2-2½
Fine	2½-3	4-4½	2-2½	2½-3

*Two incorporation passes are required for groundcherry or nightshade control.

Read the Dual label for directions, cautions and limitations prior to use.

additional weeds controlled,

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Sonalan plus Eptam or Sonalan plus EPTC should be applied as a pre-plant incorporated tank-mix treatment.

Dry Bean—Sonalan/Eptam[®], Sonalan/EPTC Tank Mixes

The Sonalan/Eptam or other Sonalan/EPTC tank mixes effectively control the weeds listed for Sonalan alone for general weed control plus these additional weeds:

Nightshade (black and hairy)
Nutsedge (purple and yellow)

Follow recommended soil preparation and application directions for Sonalan. Incorporate the tank mix immediately after application.

Broadcast Rates per Acre

Soil Texture	Sonalan		Eptam 7E or other EPTC 7E formulations
	General Weed Control	Nightshade and Groundcherry Control*	
Coarse	(pints) 1½-2	(pints) 3-3 ½	3½
Medium	1½-2	3-4	3½ ✓
Fine	2½-3	4-4 ½	3½

*Two incorporation passes are required for groundcherry or nightshade control.

Read the Eptam or other EPTC labels for directions, cautions and limitations prior to use.

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additional weeds controlled,

Dry Bean—Sonalan/Lasso[®] Tank Mix—

(For use only west of the Mississippi River, except in Kern County, California)

Sonalan/Lasso should be applied as a preplant incorporated tank mix. The Sonalan/Lasso combination effectively controls the weeds listed for Sonalan alone for general weed control plus these additional weeds:

~~Galinsoga~~ ~~Witchgrass~~
~~Black nightshade~~ ~~Florida pusley~~
~~Hairy nightshade~~ ~~Yellow nutsedge~~
~~Red root~~

Black nightshade^b
Florida pusley
Galinsoga
Hairy nightshade^a
Red rice^a
Witchgrass
Yellow nutsedge

Additional weeds partially controlled by this combination include:

~~Florida beggarweed~~ ~~Spiny sida (teaweed)~~
~~Common ragweed~~ ~~Smartweed~~

Common ragweed
Florida beggarweed
Smartweed
Spiny sida (teaweed)

Sonalan/Lasso tank mix: Follow recommended soil preparation recommendations for Sonalan. Apply Sonalan/Lasso in a minimum of 15 gallons of water per acre and incorporate thoroughly into the top two (2) inches of soil. Apply the tank mix up to seven (7) days prior to planting.

*Cross the with the rate table for additional Lasso directions.

*Use a maximum of two and one-half (2 ½) quarts of Lasso on coarse soils and three (3) quarts on medium and fine soils to control these weeds.

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Lasso or
Lasso
Micro-Tech

Broadcast Rates per Acre

Soil Texture	Sonalan		Lasso
	General Weed Control	Nightshade and Groundcherry Control*	
	(pints)	(pints)	(quarts)
Coarse	1½-2	3-3½	2½-3
Medium	1½-2½	3-4	2½-3
Fine	2½-3	4-4½	2½-3

*Two incorporation passes are required for groundcherry or nightshade control

Read the Lasso label for directions, cautions and limitations prior to use

additional weeds
controlled,

**Dry Bean—Sonalan Preplant Incorporated
Followed by Basagran® Postemergence
Application**

Sonalan should be applied preplant incorporated followed by a postemergence application of Basagran.

The Sonalan /Basagran combination effectively controls the weeds listed for Sonalan alone for general weed control plus these additional weeds:

Cocklebur	Ragweed
Jimsonweed	Tropic croton
Prickly sida	Velvetleaf

Consult the Basagran label for specific weed growth stage directions to achieve best results.

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Broadcast Rates per Acre

Soil Texture	Sonalan		Basagran**
	General Weed Control	Nightshade Groundcherry Control*	
	(pints)	(pints)	(pints)
Coarse	1½-2	3-3½	2
Medium	2-2½	3½-4	2
Fine	2½-3	4-4½	2

*Two incorporation passes are required for groundcherry or nightshade control.

**Apply Basagran as follows for optimum results:

Do not treat earlier than weed stage indicated on Basagran label. Add oil concentrate according to label use directions.

Read the Basagran label for additional weeds controlled, directions, cautions and limitations prior to use.

Sunflower—Sonalan Alone

Sonalan should be applied as a preplant incorporated treatment. Follow recommended soil preparation, application and incorporation procedures for Sonalan.

For broader spectrum weed control, Sonalan may be used in combination with Amiben and Eptam. Read the combination product label for directions, cautions and limitations prior to use.

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General weed control—except groundcherry and nightshade:

Broadcast Rates per Acre

Soil Texture	Sonalan (pints)
Coarse	1½ - 2
Medium	2 - 2½
Fine	2½ - 3

Precaution: Do not graze or forage crop grown in treated soil or cut for hay or silage.

Sunflower—Sonalan/Amiben® Tank Mix or Overlay

Sonalan/Amiben should be applied as a preplant incorporated tank mix treatment, or Sonalan preplant incorporated followed by an Amiben overlay treatment. The Sonalan/Amiben combination effectively controls the weeds listed for Sonalan alone for general weed control plus these additional weeds.

Black nightshade Velvetleaf
Common ragweed Wild mustard
Pennsylvania smartweed

Broadcast Rates per Acre

Soil Texture	Sonalan	Amiben	
	General Weed Control (pints)	Amiben 2S (quarts)	Amiben DS (pounds)
Coarse	1½ - 2	4 - 6*	2.4 - 3.6*
Medium	1½ - 2½	4 - 6	2.4 - 3.6
Fine	2½ - 3	4 - 6	2.4 - 3.6

*Use the higher rate where heavy populations of black nightshade, ragweed, smartweed, velvetleaf or wild mustard are expected.

Precaution: Do not graze or forage crop grown in treated soil or cut for hay or silage.

Read the Amiben label for directions, cautions and limitations prior to use.

additional weeds controlled,

Sunflower—Sonalan/Eptam® or Sonalan/EPTC Tank Mix for Use Only in North Dakota, South Dakota and Minnesota.

Sonalan/Eptam or Sonalan/EPTC should be applied as a preplant incorporated tank mix treatment.

The Sonalan/Eptam tank mix effectively controls the weeds listed for Sonalan alone for general weed control plus these additional weeds:

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Annual Weeds
 Annual morningglory
 Bermudagrass (seedling)
 Black nightshade
 Corn spurry
 Fiddleneck
 Goosefoot nettleleaf
 Hairy nightshade
 Rescuegrass
 Ryegrass (Italian)
 Shepherdspurse
 Tumble pigweed
 Volunteer grains (barley, oat, wheat)

Perennial Weeds
 Bermudagrass
 Purple nutsedge
 Yellow nutsedge

Follow recommended soil preparation directions for Sonalan. Apply the tank mix in at least 10 gallons of water or liquid fertilizer per acre. Apply and immediately incorporate the tank mix prior to planting in the spring.

Broadcast Rates per Acre

Soil Texture	Sonalan General Weed Control	Eplam 7E or other EPTC 7E formulations
	(pints)	(pints)
Coarse	1 + 2	2 1/2 - 3 1/2
Medium	1 1/2 - 2 1/2	2 1/2 - 3 1/2
Fine	2 + 3	2 1/2 - 3 1/2

Precaution: Do not graze or forage crop grown in treated soil or cut for hay or silage.

Read the _____ or other EPTC labels for directions, cautions are _____ ins prior to use.

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additional
weeds controlled,

Sonalan—Surface Application (Cucurbit Only)

Weeds Controlled by Sonalan

Sonalan surface applied after planting will control the following weeds:

Grasses:

Crabgrass	<i>Digitaria</i> spp.
(Large crabgrass)	
(Smooth crabgrass)	
Goosegrass	<i>Elyusine indica</i>
Foxtail millet	<i>Setaria italica</i>
Johnsongrass (from seed)	<i>Sorghum halepense</i>
Panicum, fall	<i>Panicum</i> <i>dichotomillorum</i>
Panicum, Texas	<i>Panicum texanum</i>
(Buffalograss)	
(Colorado grass)	
Signalgrass, broadleaf (Brachiaria)	<i>Brachiaria platyphylla</i>

Broadleaf Weeds:

Carpetweed	<i>Mollugo verticillata</i>
Lambsquarters, common	<i>Chenopodium album</i>
Pigweed	<i>Amaranthus</i> spp.
(Prostrate pigweed)	
(Redroot pigweed)	
(Smooth pigweed)	
(Spiny pigweed)	
Purslane, common	<i>Portulaca oleracea</i>
Pustley, Florida	<i>Richardia scabra</i>

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Activation Directions

Irrigated Agriculture: Where overhead sprinkler irrigation (solid set, center pivot or continuous flow lateral move) is used, activate Sonalan with a minimum of one-half inch (1/2") of irrigation water within two (2) days after application. For flood or furrow irrigation, refer to Non-Irrigated Agriculture activation directions below. Irrigated fields may be shallowly cultivated without loss of Sonalan activity.

Non-Irrigated Agriculture: A single, one-half inch (1/2") rainfall within five (5) days of application is necessary to activate Sonalan. If a single one-half inch (1/2") rainfall is not received, a shallow cultivation will activate Sonalan. Rainfall activated Sonalan may be shallowly cultivated without loss of activity.

Crop Recommendations

Cucurbit (Direct Seeded Only)—Sonalan Alone
(For use only in the following states: Alabama, Arizona, Arkansas, California, Florida, Georgia, Idaho, Louisiana, Mississippi, Missouri, New Mexico, North Carolina, Oklahoma, Oregon, South Carolina, Tennessee, Texas and Washington.)

Cantaloupe
Cucumber
Watermelon

Sonalan should be used only as a postplant surface applied herbicide prior to crop and weed emergence. Apply Sonalan within three (3) days after planting. Refer to the section titled "Activation Directions" on page 38.

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Broadcast Rates per Acre

Soil Texture	Sonalan (pints)
Coarse	3
Medium	3-4
Fine	4-4½

Precaution: Do not soil incorporate Sonalan prior to planting cucurbits as crop injury will occur. In case of crop failure, do not replant cucurbits until the next growing season. Do not use Sonalan on cucurbits in association with plastic or hot cap cultural practices as injury will occur.

Delete

Sonalan Performance Guarantee

A Limited Warranty of Sonalan Weed and Grass Control

Elanco Products Company warrants that Sonalan will control the weeds and grasses as indicated on its current label when used according to label directions and subject to the following limitations:

1. Purchaser must notify Elanco promptly if a lack of satisfactory control occurs. Notice must be given within ninety days after the first planting or after application of Sonalan to the treated crop, whichever occurs later.
2. An Elanco representative must be satisfied that Purchaser used Sonalan according to the label directions and must visually observe unsatisfactory control of weeds in the field.

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3 The Purchaser must provide an Elanco representative with an invoice or other satisfactory record which shows the price and quantity of Sonalan purchased.

4 Elanco's liability will be limited to a refund of the purchase price of the Sonalan applied to the acreage on which weed control was not satisfactory or, at the option of the Purchaser, a refund of an equivalent amount of Sonalan.

5. Void outside the U.S.A

Disclaimer of Warranties

The warranty printed above is the only warranty applicable to this product. All other warranties, express or implied, including but not limited to, any implied warranties of merchantability and fitness for a particular purpose, are disclaimed.

Limitation of Damages

Elanco's liability, whether in contract, warranty, tort, negligence, strict liability or otherwise shall not exceed the return of the amount of the purchase price of the Sonalan and under no circumstances shall Elanco be liable for special, indirect or consequential damages.

Inherent Risks of Use

Failure to carefully follow the directions for use of Sonalan, as well as other factors such as seedling disease, cold weather, deep planting, excessive moisture, high salt concentration, sodic soils or drought may result in unsatisfactory weed control or crop injury. Reduced yields may result under these conditions.

Amben®-chloramben, Union Carbide Agricultural Products Company, Inc.
Basagran®-bentazon, BASF Wyandotte Corporation
Braxor®-acifluorfen, Rohm and Haas Company
Dual®-metolachlor, Ciba-Geigy Corporation
Eptam®-EPTC, Stauffer Chemical Company
Lasso®-alachlor, Monsanto Company
Lorseno®-metribuzin, E. I. du Pont de Nemours and Company
Lorox®-linuron, E. I. du Pont de Nemours and Company
Sencor®-metribuzin, Bayer G.M.B.H.
Vernam®-vernolate, Stauffer Chemical Company

Lasso® Micro-Tech™ - alachlor, Monsanto Company