

US EPA ARCHIVE DOCUMENT

GENERAL USE NAME Nematicur

A N ✓

100601 common Ely 0023

12/6/73

chemical Ethyl 3-methyl-4-(methylthio)phenyl (1-methylethyl) phosphoramidate

Company Chemagro Div

Submission 3125-EIL, EIG, EIU, EIA  
3F 1399

Date May 16, 1973

Type of chemical Nematicide

Use Bananas, cabbage, brussel sprouts, carrots, cotton, citrus, potatoes, sugar beets, peanuts, tomatoes, soy beans

Data submitted

Environmental safety

No additional data submitted for fish and wildlife.

### Environmental chemistry (70-15)

1. Bioaccumulation in Bluegill Fish Exposed to  $^{14}\text{C}$ -Nematicur Sulfide.  
Study indicates that Nematicur, as its primary metabolite Nematicur sulfoxide, does not bioaccumulate in fish.
2. Nematicur has no apparent adverse effect on soil microorganisms.
3. Stability in water. Outdoor study using pond water Half-life  $\approx$  about 5 days.
4. Leaching. Some leaching can occur in soils, but leaching would not expect to be an environmental problem
5. Other studies complete, others in progress.

## Conclusion

1. This product is toxic to fish and wildlife. The use on turf has been recently accepted by FEW. Pineapple use also previously accepted.
2. This is a systemic nematicide applied at relatively high rates. Label calls for both band and broadcast soil incorporation.
3. Simulated field tests submitted to date show mortality to birds resulting from granular formulation and spray, even when soil incorporated.
4. Proposed uses - bananas, cabbage, brussel sprouts, carrots, cotton, citrus, potatoes, sugar beets, peanuts, tomatoes, soybeans.  
The potential for wide scale use of Nematicur exists with the proposed uses.
5. The type of studies needed to fully evaluate hazard would be normally required under or during experimental permit.

## Recommendations

1. Obj - See attached comments to registrant. (except EIU, OAR, OAR, OAR)
2. Field monitoring is necessary. The simulated field tests indicate a potential hazard. The next logical step is to evaluate under actual field conditions.
3. Review cannot be completed until such data are available.
4. Label for bananas is acceptable, however, no attempt has been made by reviewer to evaluate possible hazard to birds and other wildlife in banana growing areas. Registrant should be thus advised. Label bears appropriate wild life precautions.

### NOTE:

Chemagro previously submitted applications for temp permits on tomatoes, cotton, peanuts etc. These were objected to and then withdrawn by registrant. We did not previously have an opportunity to ~~offer~~<sup>request</sup> field data for the proposed uses.

JW Alderman  
12.11.73

Nemacur  
Chemagro Corp

3125-E1L, E1G, ~~E1H~~, E1I

After careful review of all available data for Nemacur, we are unable to make a completely definitive determination of this product's safety to birds and other wildlife. Results from the simulated field tests have shown that birds caged over areas treated with Nemacur are subjected to ~~fatal~~<sup>lethal</sup> quantities of pesticide. Additional environmental safety studies are needed to fully evaluate potential hazards under large scale use conditions. We offer the following comments and/or suggestions:

- 1) Field monitoring studies are needed. Studies similar to those recently reviewed for your Baygon submission would be most useful (Baygon - The Effect on the Environment 2F1244; NOV 1, 1971; report No. 17626).
- 2) Both band and broadcast applications need to be evaluated.
- 3) Crops of special concern are cotton, soybeans, peanuts and citrus.

OL; 12/6/73 Jwa

Crop	acres	time of year	wildlife utilization
soybeans	42,409,000	Mar-May	Ala. - - Ark. - - Fla. - - Ill. Fox squirrel Ind. - poor resource Ia. - - Ky. - - La. - - Md. - - Mich. - - Miss. - - Mo. pheasant (2) * prairie ch hen (?) deer Neb. - -

3 cottontail rabbits -  
feed on young plants  
many birds and mammals use the  
soybean for cover once the  
plants have grown sufficiently

Cont Soybean

<u>Crop</u>	<u>acreage</u>	<u>time of applic</u>	<u>wildlife utilization</u>
<u>soybean</u>	42,409,000	Mar - May	Ohio - pheasant

Rabbit

quail

songbird

deer

Upland game birds	***	young leaf and plants
mammals	xx	leaf, plants
hoped browsers	*-xx	leaf, plant

Okla.

deer May-June

mammals

xx

leaf, plants

SC

deer (3)

hoped browsers

\*-xx

leaf, plant

Va

quail

turkey

duck

quail

quail

rabbit

deer

Sugar beets

1,336,000

March, April, (May)

Cal.

--

Idaho pheasants (3)

Nev. pheasants -

songbirds -

Oregon --

Utah songbirds (1)

<u>Crop</u>	<u>acreage</u>	<u>time of applic</u>	<u>wildlife utilization</u>
<u>Citrus</u>		recommended summer in Fla.	Fla — — Arizona May-July low usage by many birds.
<u>Collage</u>	108,300	May, Aug June	Cal. rabbits (3) Fla deer Ga quail rabbits (3) deer anglers (1) Tenn deer rabbits squirrels + other mammals Tex incidental
<u>Brussel Sprouts</u>		NO REPORT	
<u>Carrots</u>	72,100	Apr-May	Cal. rabbit (3) Mich. — — Texas deer others incidental Washington - pheasant 2 quail 2 jacksnipe 2 squirrel 2

<u>Crop</u>	<u>acres</u>	<u>time of applc</u>	<u>wildlife utilization</u>	
potatoes	1,380,000	Mar-April	Cal. songbirds (3) geese - (1) ducks - (3) deer (3)	
Sweet potatoes			Texas - - -	
			Maine - - -	
			Nejron - - -	
			Washington - songbirds	
No REPORT			Cal. - - -	
Tomatoes			Fla - - -	
			GA	gouail (2) rabbit (5) songbird (3)
			md	?
			N.J.	- - -
			Ohio	pheasant 2 ground songbirds 2-3
			S.C.	- - -
				deer
			Tenn	1-2 ow many birds and mammals
			Va	- - -

Songbirds associated  
with insect populations

## Hazard calculations

Label 10% granular

Crops up to 6 lb/A = 6 lb/A a.i.

Citrus " " 300 lb/A = 30 lb/A a.i.

Soil depth (")	6 lb/A (ppm)	30 lb/A (ppm)	
.5	26.5	132.3	} active ingredient
1	13.23	66.15	
2	6.6	33.00	
3	4.4	22.2	
6	2.2	11.1	

6 lb/A = 62.46 mg/ft<sup>2</sup> } on soil surface prior to  
30 lb/A = 312.30 mg/ft<sup>2</sup> } incorporation.

LD<sub>50</sub> for mallards = 1.0 mg/kg }  
" " quail = 0.8 mg/kg }

FEW has previously accepted uses on pineapple and turf.