100601
SHAUGHNESSEY NO.

21
REVIEW NO

EEB BRANCH REVIEW

DATE: IN 4/29/81 OUT 5/11/81

FILE OR REG. NO. 81-NJ-10, 81-NJ-13

PETITION OR EXP. PERMIT NO.

DATE OF SUBMISSION 4/13/81

DATE RECEIVED BY HED 4/28/81

RD REQUESTED COMPLETION DATE 5/13/81

EEB ESTIMATED COMPLETION DATE

RD ACTION CODE/TYPE OF REVIEW 510/ Section 18

TYPE PRODUCT(S): I, D, H, F, N, R, S Insecticide/Nematicide

DATA ACCESSION NO(S).

PRODUCT MANAGER NO. D. Stubbs (41)

PRODUCT NAME(S) Nemacur 15 G

Nemacur 3 SC

COMPANY NAME State of New Jersey

SUBMISSION PURPOSE Section 18 request for use of these formulations on bearing peach and nectarine trees

SHAUGHNESSEY NO.	CHEMICAL, & FORMULATION	% A.I.

3 pages w/ attachment (7 pages)

ENVIRONMENTAL SAFETY REVIEW

100 PESTICIDE NAME

Nemacur

100.1 PRODUCT NAME

Nemacur 15G and 3SC

100.2 SUBMISSION PURPOSE

Section 18 - Emergency Use Permit.
Second year request for Nemacur 3SC, first year request for Nemacur 15G use on bearing peach and nectarine trees in New Jersey.

100.3 NATURE AND SCOPE OF THE EMERGENCY

Nematode feeding injury to peach and nectarine trees contributes to weakening of the trees. The trees are then more susceptible to winter injury which then reduces next years crop. There are apparently no suitable alternative chemicals for controling nematodes on bearing fruit trees.

It is hoped that by using Nemacur the yield per acre for the 1982 crop would increase approximately 35% over the 1981 crop, progressing to a 66% increase in crop yield in later years as the disease is controlled.

100.4 APPLICATION METHODS AND TREATMENT AREA

A maximum of 50,000 pounds active ingredient formulated as 15G or 3SC will be needed to treat approximately 5000 acres in New Jersey.

The recommended rate of application is 10 lb. a.i. /A, once.

Applications will be made using a suitable granular spreader for the 15G and a weed sprayer for the 3SC.

Application will commence after August, 1981. Suggested pre-harvest interval is 60 days.

Use period is August, 1981 to May, 1982.

104.1 DISCUSSION

The toxicity, the concerns associated with the use of this chemical, and the requirements that must be satisfied for registration have been discussed at length in previous reviews.

It suffices, for the purposes of this Section 18, to briefly indicate what these are. Nemacur is an organophosphate that is highly toxic to all animal species for which we have data. It is moderately persistent, is subject to leaching and runoff and is systemic. The risk to non-target organisms from actual use is still open to question. An avian acute LD_{50} study and a field monitoring study are needed to complete a risk assessment. Prior to registration an aquatic invertebrate LC_{50} study is required. Additionally, a better handle on the environmental fate of this chemical is needed.

Only One application from August 1981 to May 1982 is requested herein. Considering the fact that Nemacur is already registered for cotton, peanuts, soybeans and ornamentals, this emergency request is minor in comparison. During a telephone conversation, John Springer, Rutgers Research and Development Center, Bridgeton, New Jersey, indicated to me that there were no obvious indications of any non-target problems associated with the use of Nemacur 3SC during last years' emergency exemption. This year the 15G is requested in addition to the 3SC, although it will probably be used very little according to Dr. Springer.

105 CONCLUSIONS

The Ecological Effects Branch has completed review of the requested emergency exemption for Nemacur use on peach and nectarine trees. We recommend approval.

The Department of Environmental Conservation must ensure that areas inhabited by the peregrine falcon be excluded from treatment.

Direct any questions and report any adverse effects to Rick Stevens, 703-557-5600.

Richard R. Stevens
Biologist, Section 4
EEB/HED

May 11, 1981

Harry T. Craven
Head, Section 4
EEB/HED

Clayton Bushong
Chief, Ecological Effects Branch
Hazard Evaluation Division

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF ENVIRONMENTAL QUALITY
OFFICE OF PESTICIDE CONTROL
380 Scotch Road, West Trenton, N.J. 08628

April 13, 1981

Mr. Edwin L. Johnson
Deputy Assistant Administrator
For Pesticide Programs TS-766
U.S. EPA
401 M St., S.W.
Washington, DC 20460

Dear Mr. Johnson:

The New Jersey Department of Environmental Protection, Bureau of Pesticide Control requests a specific exemption for the use of nemacur for the control of nematodes on bearing peach and nectarine trees.

Please refer to the attached data to support this request.

Thank you for your consideration.

Sincerely,

Raymond A. Ferrarin

Raymond A. Ferrarin
Acting Chief
NJ Bureau of Pesticide Control

Attached

RF:TK:mm

APPLICATION FOR AN EMERGENCY EXEMPTION UNDER SECTION 18 OF FIFRA

Type: Check One
xx Specific (Complete all items)
____ Quarantine - Public Health (Complete items 1-7)
____ Crisis Notification (Complete all items)

1. Name and address of applicant:

New Jersey Agricultural Experiment Station

Cook College

New Brunswick, New Jersey 08903

2. Name, address and telephone number of contact individual (knowledgeable expert):

Dr. John K. Springer, Rutgers Research & Development Center, R.D. #S,

Box 232, Bridgeton, New Jersey 08302

(609) 455-3100

3. Name of Pest: Nematodes

4. Proposed control program:
(a) Pesticide(s) proposed for use:
(1) Trade Name - Formulation - EPA Registration Number or EPA Experimental Use Permit Number:

Nemacur 15G and 3SC

(b) Rate of application: (Pounds of active ingredient per acre)

10 lb ai/43,560 sq.ft. = 1 ACRE

(c) Number of applications per acre

1

(d) Method(s) of application:

Granular - Suitable granular spreader.

Liquid - Apply with properly calibrated weed sprayer.

(e) Total quantity of active ingredient and/or product required:

50,000 lb ai

(f) Suggested pre-harvest interval:

'60 days

(g) The length of time the emergency exemption will be required:

August, 1981 to May 1, 1982

5. Site:

Bearing Peach and Nectarine Trees

6. Description of emergency: Peach Decline is a disorder which causes and annual loss of 15% of the trees in 2-5 year old blocks and 4-5% loss in blocks planted to older trees. Research has shown that Peach Decline results from winter injury to weakened trees and the principal cause of weakened trees is nematode feeding injury. Effective nematode control has consistently provided essentially 100% control.

With the cancellation of DBCP nematicides, no nematicide can be used for bearing peach trees. Both Furadan and Nemacur are cleared for nonbearing peach trees. Research has shown that nematode control on nonbearing trees delays the appearance of Peach Decline but does not eliminate this disorder. Mobay Chemical Corp. has submitted a petition for a national label on bearing peaches, nectarines, plums, cherries, apples and pears. Since this use pattern is not cleared to be cleared for this season, we are requesting its use for New Jersey in 1981-1982.

Preferred date for pesticide application to start: August 1, 1981, for varieties already harvested

7. (a) Registered pesticides for the site/pest:

(1) None for bearing trees

(2) Furadan 10G and 4F for nonbearing trees

(3) Nemacur 15G and 3SC for nonbearing trees

(4)

(5)

(6)

(7)

(8)

(9)

(10) _____

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(11) _____

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(12) _____

_____

_____

Use separate continuation sheet, if needed.

(b) Other methods of control: (biological, cultural, mechanical, etc.) Give a brief description of each method and a brief explanation why each method is ineffective.

With the cancellation of DBCP nematicides, no nematicide can legally be used on bearing trees.

Use separate continuation sheet, if needed.

8. (a) Cost of producing the crop (per acre) over the last four growing seasons

YEAR	
19 77 -	$1,460.00
19 78 -	$1,620.00
19 79 -	$1,800.00
19 80 -	$2,000.00

Cost estimate for producing the crop (per acre) for the upcoming growing season: $2,250.00

(b) Crop yield (per acre) over the last four growing seasons:

YEAR

1977 - 8,148 lb/A

1978 - 5,185 lb/A

1979 - 7,037 lb/A

1980 - 6,667 lb/A

An estimate of the crop yield (per acre) for the upcoming growing season:

With registered pesticides:

No presently labeled material for bearing trees. 6,667 lb/A for 1981 with current practices.

With the pesticide proposed under the emergency exemption:

No increase for 1981 but an increase to 9,000 lb/A for 1982 crop, progressing to 15,000 lb/A in later years as the disease is controlled.

(c) Price received for the crop over the last four growing seasons: (Reported in appropriate units)

YEAR

1977 - $ 0.170/lb

1978 - $ 0.236/lb

1979 - $ 0.169/lb

19__ - Unknown

An estimate of the price that will be received for the crop for the upcoming growing season: (Reported in appropriate units)

Unknown

(d) An estimate of the percent of control of the pest with registered pesticides over the last four growing seasons:

YEAR

19 77 - 0% on bearing trees; 0% on nonbearing trees

19 78 - 0% on bearing trees; 0% on nonbearing trees

19 79 - 0% on bearing trees; 75% on nonbearing trees

19 80 - 0% on bearing trees; 99% on nonbearing trees

(e) An estimate of the percent of control of the pest for the upcoming growing season with registered pesticides and with the pesticide proposed for use under the emergency exemption:

Reg. 0% on bearing trees; 99% on nonbearing.

*Exemption 0% on bearing trees; 99% on nonbearing.

*Effectiveness of exemption will be on the increased control of Peach Decline during the winter of 1981-1982 and on yield in 1982.