MINUTES OF THE SENATE COMMIT. ON AGRICULTURE & SMALL BUSI

Held in Room 423-S, at the Statehouse at 10:00 a.m. a. m./p. m.,

on Friday, March 20, 1981, 19____.

All members were present except: Senator Ross Doyen (Excused)
Senator Joe Norvell (Excused)
Senator Joe Warren (Excused)

The next meeting of the Committee will be held at 10:00 a.m. a. m./p. m.,

on Tuesday, March 24, 1981, 19____.

These minutes of the meeting held on Friday, March 20, 1981, 19____ were considered, corrected and approved.

Fred A Kerr
Chairman

The conferees appearing before the Committee were:

C. E. Poindexter, Environmental Protection Agency, Region VII office
Bob Helgesen, KSU Department of Entomology
John Miller, Committee of Farm Organizations

Senator Kerr called the meeting to order. Senator Karr moved, seconded by Senator Arasmith, that the minutes of the March 19, 1981 meeting be approved. Motion carried.

HOUSE BILL 2458

Senator Kerr called attention to the letter which had been distributed received from Terry Shafer, dated March 18, 1981, of the Kansans for State Pest Control. Mrs. Shafer had been contacted but could not appear before the committee today. (Note Attachment "A" to original minutes.)

John Miller, representing the Committee of Farm Organizations, stated they had reviewed this bill and do support passage of House Bill 2458. He felt chinch bugs will be a serious problem in 1981.

C. E. Poindexter, of the EPA, distributed copies of his testimony (See Attachment "B" to original minutes) which sets out the Agency's findings relative to Endrin, particularly considering its risk vs. benefits. It does have to be labeled DANGER. He stated they will work in every way possible within the rules and regulations of the laws to help solve the problem of chinch bugs. Endrin cannot be used legally except for the pale western cut worm and the army cut worm in wheat in western Kansas. Use on grain sorghum is not considered too beneficial. Carbofuran (Furadan) and Carbaryl (Sevin) are as effective and they are federally registered for chinch bug control. Endrin has a chronic effect rather than acute.

Senator Montgomery questioned the interpretation of tolerance since Mr. Poindexter stated any product has to have its tolerance established, which is the residue remaining and cannot exceed the maximum allowed of 5 parts/per million. Then answering Senator Karr's question as to why the companies did not complete this work on Endrin, Mr. Poindexter stated he did not know, other than at the time there were products which seemingly were as effective and the study would be expensive.

Senator Karr felt since we already have authority to move on emergency problems such as the chinch bug infestation, this should be a resolution and not a bill. Mr. Poindexter felt this bill does nothing and he does not feel there would be any changes as a result of its passage.

(MORE)

Bob Helgesen, KSU Entomology Department, clarified that Furadan can be a systemic treatment (Endrin cannot) and a foliage spray. As a foliage treatment, he said data shows Furadan is as effective as Endrin though it is more expensive. (See Attachment "C" to original minutes.) Many factors enter into the ability to control chinch bugs such as wintering conditions, moisture conditions in the spring (not so many chinch bugs in a wet year). Too, Furadan and Sevin are registered and more successful as a foilage application. Sevin requires more treatments than Furadan. Endrin proved effective if applied to the soil surface in controlling chinch bugs--asthey move across the surface of the ground, they pick up enough toxin to kill them. Answering Senator Gannon's question as to the cost comparison, Helgesen stated Furadan costs approximately $5 for ½ pound per acre and Endrin $3 per ¼ pound per acre.

Answering Senator Karr's question as to what KSU is doing in researching ways to control the chinch bugs, Mr. Helgesen stated they are continuously working with this problem. Senator Karr stated he felt we are not putting enough money into research and suggested additional money should be allotted for more intensive research studies.

Meeting adjourned.

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EXHIBIT "A" 3/20/81

Kansans for Safe Pest Control
RR 3
Lawrence, KS 66044
18 March 1981

Senator Fred A. Kerr, Chairman
Senate Committee on Agriculture and Small Business
Statehouse
Topeka, KS 66612

842-1348

Dear Mr. Kerr:

Kansans for Safe Pest Control would like to submit the following comments on HB 2458 to the Senate Committee on Agriculture and Small Business. Please make these comments available to all committee members.

I. HB 2458 should not be passed because there are more profitable approaches to the problem.

We have discussed the chinch bug problem with entomologists at Kansas State University and at the Entomology Division of the Kansas State Board of Agriculture. All agree that there are several alternatives to endrin which are better from the viewpoints of effectiveness, safety, and likelihood of getting the necessary registrations approved. Resources for pursuing all the options are limited, and we would like those resources to be used most effectively.

II. A few words about endrin.

Endrin is a chlorinated hydrocarbon. It was cancelled for most uses upon decision that it met or exceeded criteria for oncogenicity, teratogenicity and reduction in endangered species and non-target species.

Endrin is persistent in soils--it may take 4-8 years for 50% of it to degrade.[1] It bioaccumulates in some fish, at least--for example, fathead minnows exposed to water containing 0.015 parts per billion concentrated the endrin in their own bodies by 10,000 times.[2] It is the chlorinated hydrocarbon most highly toxic to birds, and of all the pesticides tested by the U.S. Fish and Wildlife Service, it was second only to monocrotophos in toxicity to birds. Secondary poisoning of birds from eating contaminated food has been observed.[3]

III. The committee should seek the advice of entomologists at Kansas State University regarding this problem.

Entomologists at Kansas State University have reviewed the research concerning the control of chinch bugs. They have found that currently registered products are more effective than endrin. The apparent ineffectiveness of those products is due to many factors--most notably the presence of chinch bugs in record numbers, combined with weather conditions unfavorable for their control. There is one product which might become available under a Section 18 registration which promises to be more effective and safer than

current controls. We believe that efforts would be better concentrated in that direction.

IV. If the legislature is really interested in solving the chinch bug problem, it should fund research concerning the pest and its control.

Chinch bug outbreaks follow the drought cycle. So, unfortunately, does interest in the insect. Perhaps if more research was done during the years when chinch bugs are not a problem, we would have a better idea of what to do when there is an outbreak.

Sincerely,

Terry Shafer

Terry Shafer
Kansans for Safe Pest Control

References:

1. Dale R. Bottrell, Integrated Pest Management, Council on Environmental Quality, 1979, p.6.

2. David Pimental, Ecological Effects of Pesticides on Non-Target Species, Executive Office of the President, Office of Science and Technology, 1971, p. 44. Also cites other studies on biological concentration and persistence.

3. California Dept. of Food and Agriculture, Report on Environmental Assessment of Pesticide Regulatory Programs, pp. 3.2-74-75. Several references are given.

EXHIBIT "B" 3/20/81

TESTIMONY BEFORE THE AGRICULTUR SMALL BUSINESS COMMITTEE
OF THE KANSAS SENATE

ON

MARCH 20, 1981

BY

C. E. POINDEXTER

Honorable Fred Kerr, Chairman, and members of the committee. Thank you for requesting testimony by the Environmental Protection Agency, Region VII office, on House Bill No. 2458 regarding the use of the pesticide endrin to to control chinch bugs in Kansas.

A review of survey reports by the State Entomologist certainly indicate that the potential for a severe problem with chinch bugs exists for the 1981 growing season in Kansas. As in the past, the regional office is willing to work with the State on resolving this problem within the parameters of the law and regulations. Please keep in mind that the mission of the Agency in regulating pesticides is protection of man and environment from unreasonable adverse effects, while weighing risks and benefits relative to their registration and use.

I believe it would be appropriate to briefly discuss some of the regulatory history on Endrin before discussing the proposed State Act. On July 27, 1976, the Environmental Protection Agency (EPA) published in the Federal Register [41 FR 31316] a Notice of Rebuttable Presumption Against Registration and Continued Registration of Pesticide Products Containing Endrin (RPAR). This action involved all registered federal and state endrin products. The RPAR was issued because the pesticide met or exceeded certain criteria for risks as set forth at Title 40 of the Code of Federal Regulations, Part 162.11(a)(3). In brief, scientific studies showed evidence that the ingredients of endrin induced a statistically significant incidence of liver tumors in test animals. In addition, studies showed a statistically significant incidence of fetotoxicity and teratogenicity in test animals and was presumed to be sufficient to produce the same effects in humans.

Another risk criteria exceeded was the pesticide's effects on nontarget organisms. For example, analysis of brain tissue taken from brown pelicans, an endangered species, revealed endrin levels in the lethal range. Significant population reductions in other nontarget organisms, including numerous fish kills, were also documented. One incident in 1976, which many of you may recall, involved fish kills in some 90 ponds located in South Central Kansas. Other incidents involving migratory waterfowl such as white pelicans, had also been confirmed. An in-depth discussion of these and other findings can be found in the FR Notice of July 27, 1976.

During the period from July, 1976 to November, 1978 considerable testimonies and other written comments were received and considered as part of the risk/benefit assessment process. Public hearings were held by and on behalf of the Administrator at several locations, including Kansas City on May 25, 1977. At least 22 persons testified at the Kansas City hearing. Some were concerned citizens from the general public while others were from the scientific community.

On July 25, 1979, after reviewing all available information, the Agency published its determinations that three of the risk presumptions had not been rebutted, the risks of significant population reductions of nontarget organisms, acute toxicity to wildlife, and potential teratogenicity with respect to humans. It was also determined that the certain uses posed risks which were less than the offsetting economic, social, or environmental benefits, and that these uses could be retained by reducing the risks through modification of the terms and conditions of registration. The July 25 document did initiate actions to unconditionally cancel many of the registered uses of endrin, including all registered uses for chinch bug control and use on small grains for controlling all pests except the army cutworm and pale western cutworm. It also required that registrants modify their labels for the uses not cancelled

to include certain requirements and precautions such as a statement that female workers must wear protective clothing, a statement warning females that endrin causes birth defects in laboratory animals, and other restrictions for use concerning human habitation and bodies of water. On August 28, 1980, a notice was mailed to all registrants requiring that product labels be modified within 30 days or the product registrations would be cancelled. The pesticide endrin does, in addition to the chronic or long term risks, pose an acute toxicity risk to humans. However, it is the opinion of the Agency that this risk can be controlled through labeling compliance and restricting the use to certified applicators.

The issue at hand concerns the State of Kansas' desire to obtain a state registration or an emergency exemption to allow the use of endrin for controlling chinch bugs in Kansas. The Federal Insecticide, Fungicide and Rodenticide Act, as amended, (FIFRA) is clear at Section 3(a) that all pesticides must be registered with the Administrator. Further, the Act states at Section 24(c)(1) that a state may provide registration for additional uses of federally registered pesticides if the registration for such use has not previously been denied, disapproved, or cancelled by the Administrator. And, Section 24(c)(3) specifies that no state may issue a registration for a food or feed use unless there exists a tolerance or exemption that permits the pesticide residue on the particular crop. In view of these restrictions, it is not legally possible to obtain a state registration to control chinch bugs on small grains (a cancelled use), nor to obtain such a registration for the use of endrin to control chinch bugs in grain sorghum since no tolerance exists for endrin on grain sorghum.

Section 18 of the FIFRA does provide that unregistered uses of pesticides can be requested by a Governor or his designee or a Federal Agency under certain conditions which are covered at Title 40, Part 166 of the Code of Federal Regulations. These regulations in part require that the applicant submit in writing information which shows that (1) an emergency exists, (2) all registered and experimental use permit alternatives are ineffective or undesirable for such use, and the reasoning behind each statement (3) such application will not result in illegal food or feed residues and, (4) such use will not result in unreasonable adverse effects to the environment which includes consideration of possible threats to endangered species.

In order to obtain an emergency exemption under Section 18 of the Act to allow the use of endrin for cancelled uses, such as chinch bug control on small grains, the applicant is guided by the "Rules of Practice for Applications under Section 3 and 18 To Modify Previous Cancellation or Suspension Orders" which is found in the Code of Federal Regulations at Title 40, Part 164, subpart D. It is my opinion that the emergency waiver of hearing, as discussed at Part 164.133, could not be exercised in this particular situation. This opinion is based upon the assumption that none of the four required stipulations for such a waiver can be met. Hence, an application to the Administrator for reinstatement of a cancelled use such as endrin on small grains to control chinch bugs would probably constitute a petition for reconsideration of the original cancellation order. The regulations state that The Administrator may determine that such reconsideration is warranted when he finds that (1) the applicant has presented substantial new evidence which may materially affect the prior cancellation or suspension order and which was not available at the time of the final determination, and (2) such evidence could not,

through the exercise of due diligence, have been discovered by the parties to the cancellation or suspension proceeding prior to the issuance of the final order. If the Administrator agrees that it is warranted, he shall publish notice of a public hearing in the Federal Register. All interested parties, including those who participated in the cancellation proceedings, shall receive notice and hearing opportunities. The burden of proof in the hearing shall be on the applicant and he shall proceed first.

On the other hand, an emergency exemption request involving a use which was not considered under the prior cancellation or suspension order would probably not require such public hearings. Since the use of endrin for the control of chinch bugs on grain sorghum was cancelled by Pesticide Registration Notice 71-3 dated March 12, 1971, due to the lack of tolerance or exemption from a tolerance, we have determined that a request for this use under Section 18 would probably not be subject to the public hearing process. However, when consideration is given to the conditions for emergency exemption concurrence or nonconcurrence by the Regional Administrator and those which Headquarters must consider, such as the previously established risks and establishment of a safe residue level, it is very doubtful that such a request could be approved by the Agency. This opinion is based upon present knowledge that other at least equally effective and safer pesticides are available. Research findings published by Kansas State University reportedly show that both carbofuran and carbaryl are as effective and probably more effective than endrin, and are university recommended.

I wish to commmend Secretary Duitsman for his efforts to develop more than one solution to the chinch bug problem. In his testimony of March 17 he explained to you how he is exercising state registration authorities by

considering two new uses of currently registered pesticide products for chinch bug control. These state registrations could prove to be very useful in the battle against the chinch bug. He also stated that the Board is considering emergency exemption requests for two new chemicals. The Agency can more easily cooperate in utilizing the emergency exemption provisions of the Act when considering new chemical uses rather than cancelled uses. With this in mind, and provided the new chemicals meet the aforementioned requirements for emergency exemption, Region VII will make every effort to encourage headquarters approval of these exemption requests.

Thank you again for this opportunity to testify on behalf of the Environmental Protection Agency and I will attempt to answer any questions you may have at this time.

FACT SHEET

REGULATORY HISTORY - ENDRIN

1971 - EPA begins internal review

1975 - Environmental Defense Fund and National Audubon Society petitions EPA to suspend or cancel all uses of endrin

July 27, 1976 - 41 FR 31316 Notice of Rebuttable Presumption Against Registration (RPAR)

May 26, 1977 - Kansas City Hearing on Endrin RPAR

Nov. 2, 1978 - 43 FR 51132 Preliminary Determination Concerning the RPAR

July 25, 1979 - 44 FR 43632 Intent to Cancel Registration and Denial of Applications for Registration of Pesticides Containing Endrin and Statement of Reasons

Aug. 28, 1980 - Notice To Registrants Affected by the Notice of Intent to Cancel and Deny (Compliance with labeling changes within 30 days)

RULES AND REGULATIONS APPLICABLE TO SPECIAL REGISTRATIONS

Dec. 3, 1973 - Section 18 Rules and Regulations (40 CFR, Part 166)

Mar. 18, 1975 - Rules of Practice for Applications Under Section 3 and 18 To Modify Previous Cancellation or Suspension Orders (40 CFR, Part 164.130, Subpart D)

Jan. 7, 1981 - 40 FR 2008 Rules and Regulations for State Registration of Pesticides to meet Special Local Needs

EXHIBIT "C" 3/20/81

FURADAN

KANSAS STATE UNIVERSITY

Department of Er ology

Waters Hall
Manhattan, Kansas 66506
913-532-6154

March 10, 1981

TO: Bill Duitsman

FROM: Bob Helgesen

SUBJECT: A review of some aspects of the chinch bug and its potential impact on sorghum production in 1981.

Bill,

As a matter of review and perhaps of use to both of us at any further "endrin hearings," I would like to take this opportunity to review some aspects of the chinch bug relative to sorghum production and in particular a few issues that did not arise at the house hearings.

CHINCH BUG OUTLOOK FOR 1981

State Board of Agriculture surveys have recently confirmed what we have all suspected. We entered into this winter with very high population of chinch bugs. Overwintering conditions were very favorable for chinch bugs. Consequently, we are entering the 1981 growing season with the highest numbers of chinch bugs the survey has ever recorded. Or, stated in other terms, we face the greatest damage potential to Kansas sorghum by chinch bug that we have ever recorded.

EXISTING CONTROL PRACTICES FOR CHINCH BUG IN SORGHUM

There are two general situations where chemical control is used to control chinch bugs in sorghum. The first of these is controlling chinch bugs as they migrate from winter wheat into sorghum. The second is controlling chinch bugs that are established and reproducing in the sorghum. Although there are problems applying a foliar spray for this latter purpose (drop nozzles, size of plant) our research clearly shows that the materials presently registered for that purpose, Furadan and Sevin, are very good, even under the adverse conditions of 1980.

The issue we are dealing with is controlling chinch bugs migrating from wheat into sorghum. There are two general strategies used in this situation. One is to place a systemic insecticide in the furrow at the time of planting. Presently Furadan 10G is registered for this purpose. When conditions are right this is a very effective means of control for chinch bugs migrating from winter wheat. However, there are two major problems with its use. First, there must be adequate soil moisture for adequate uptake of the insecticide from the soil into the plant. Secondly, the migration of the chinch bugs from the wheat into the sorghum must be within 2 to 3 weeks of planting or the residual activity of the Furadan dissipates to the point where it no longer controls the chinch bug.

These two factors, primarily soil moisture, help explain the failure of Furadan in 1980, when used as a soil-incorporated insecticide.

The second strategy is foliar applications. When a failure takes place or when no insecticide is used at planting the sorghum grower must apply a foliar spray on a very frequent basis (as often as every 2 to 3 days) in order to control the migrating chinch bug.

ENDRIN TO CONTROL MIGRATING CHINCH BUGS

1. Endrin is not a systemic insecticide so it is useless and not formulated for in-furrow application at the time of planting.

2. Endrin is effective as a foliar spray, but our research shows it is no more effective than currently registered materials used in the same way (as a foliar spray). We do not have the research data to comment on residual activity. However, given that the plants are small and growing rapidly at this time, the residual activity is probably quite limited.

3. Endrin can be applied to the soil surface as a barrier treatment. When migrating chinch bugs walk across at treated surface they can accumulate enough toxin to kill a substantial number of bugs. Presently Endrin is not registered for this purpose.

CURRENT RESEARCH AREAS AT KANSAS STATE UNIVERSITY

1. To identify, isolate and develop sorghum lines or varieties that are resistant to chinch bug. We know there is a source of resistance but not immunity to chinch bug. This source of resistant should be an important and integral part of future management programs for the chinch bug.

For the past 3 years we have studied the levels of resistance in commercial and experimental sorghum lines. We have shown limited resistance in some commercial lines and good resistance in some experiments. Extension of this work of course depends on a comprehensive sorghum breeding program.

2. We have initiated research to identify the environmental factors that affect the performace of the chinch bug pathogen, Beauvaria bassiana. This study will allow us to forecast or anticipate the level of control this disease will have on the chinch bug before the onset of a growing season. Also, this study may allow us to select for more virulant strains of the pathogen and provide us with an understanding of how to manipulate the pathogen for most effective chinch bug control.

3. We maintain a continuing research program which evaluates the most effective insecticides for control of the chinch bug relative to migrating and established chinch bugs. The study also evaluates the most effective formulation and types of application of these insecticides. Registration of current insecticides is partly a result of this study.

4. We are also studying cultural practices that impact the survival of the chinch bug, such as planting time relative to the migration of the chinch bug from wheat, and cropping sequence.

SENATE

AGRICULTURE AND SMALL BUSINESS COMMITTEE

DATE Friday, Mar 20, 1981 PLACE: Room 423-S TIME: 10:00 a.m.

GUEST LIST

NAME	ADDRESS	ORGANIZATION
[illegible]	[illegible]	Agr
Don Cayeni	11125 John C Hill Blvd.	FMC CORP.
Jim Robinson	8100 N.W. Wayland K.C. Mo	FMC Corp.
Bob Helgoppen	KSU - Entomology	Manhattan, KS
Glenn Hapwood	Topeka	Bd. of Agriculture
Robert Sentert	Topeka	Bd of Agric.
Ruben B McCullers	U.S. E.P.A. (KC, MO)	
C. C. Poindexter	K.C., Mo.	U.S. EPA Reg. VII
Hoyd Polson		Leg
John O. Miller	Zoplan	Committee of Ks Farm Organizations