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Submitted by e-mail to: opp-docket@epa.gov

RE: Public comments for OPP-2003-0376
Carbaryl Interim Reregistration Eligibility Decision

Thank you for the opportunity to comment on the recent IRED released for carbaryl. These comments are submitted by Beyond Pesticides, a national public interest organization, and Mr. Jeff Anderson, a beekeeper in Minnesota and California and active member of both State bee organizations, the American Beekeepers Federation and American Honey Producers, the two largest national beekeeper associations in the U.S. Over 300 private beekeepers, companies, organizations and others have joined us to request that the Agency strengthen the bee caution and better calculate the harmful effects of carbaryl on U.S. pollinator populations – an often forgotten key to the productivity of our entire agricultural system as well as the health of our overall ecosystem. The organizations are listed on page 7.

Beekeepers nationwide (illustrated by the broad support of these comments) have had longstanding problems with carbaryl since its introduction. In relation to the current IRED, we are extremely concerned that relevant and vital bee kill information submitted during the last IRED comment period (June 2003, OPP-2003-0101) was dismissed in the current IRED (OPP-2003-0376). Furthermore, the bee kill information submitted for that period was not made a part of the Agency's edocket system that provides the public access to critical documents. Therefore those documents are not currently available for the public to consider during this round of the IRED. We request that the Agency please put the attached Washington database of bee kill incidents (Appendix 2) along with the other appendices to be made apart of the public record via edocket; and ensure that the potential for harm to the bee and honey industry caused by the use of carbaryl is fairly and thoroughly assessed and properly mitigated.

The comments below and subsequently attached appendices should serve to inform the Agency of our key requests and provided information. We are requesting the agency to:

- 1) Improve the bee caution statement to match the intent of the law and protect pollinators.
- 2) Correct and improve carbaryl labels with a proper bee caution.
- 3) Cancel registered uses for mosquito abatement, APHIS grasshopper control and forestry.
- 4) Require a chronic honey bee study to evaluate the sublethal, chronic effects of carbaryl on bee behavior, colonies and pollinator production

These comments shall also serve to set the public record straight on the issue of bee kill information due to the use of carbaryl as well as inform the Agency of incorrect and misrepresented information contained in one of the current IRED background documents.

Pollinators provide an essential ecological function in both agricultural and wildland ecosystems. Protection of pollinators should be the highest priority of the EPA, as without them crops would not produce harvests and wild plant communities would decline. The EPA's Bee Precautionary Labeling Statements must recognize the paramount importance of bees as pollinators and ensure adequate protection for both managed and feral colonies of honey bees and populations of native bees.¹

Bee kill information ignored by the current IRED

The current IRED continues to show that there are only three incidents involving bees since carbaryl's first registration. This is a gross misrepresentation of the facts and of data submitted to the agency.² In an effort to better inform the agency, the Washington State Database of carbaryl incidents was submitted to EPA during the 2003 public comments period (See Appendix 2). In the current IRED, which is obligated to consider comments provided by the public, there is no mention of the approximately 70 carbaryl incidents included in that submitted database. The agency also fails to mention the important fact that *no other state compiles bee kill information*. Even in Washington State, the numbers of incidents are under reported. EPA acknowledges this point in the current IRED, but fails to provide sufficient mitigation measures (see request #1) to fix the problem.³

EPA's response to pollinators and environmentalists is inadequate and insulting.

EFED Response: The NRDC is correct in asserting that the EFED chapter states that carbaryl is highly toxic to beneficial insects and that bee kill incidents have been associated with some uses of carbaryl. However, many bee kill incidents do not contain sufficient detail to clearly implicate carbaryl (see the response to comments from Rundquest Law Office [Reference Number 37], Jeffrey Anderson [Reference Number 29], and Steve Ellis [Reference Number 42] regarding bee issues below). EFED has recommended that additional studies be conducted to determine whether chronic exposure to carbaryl impacts bee hives. With this additional information, EFED may be able to make more reliable recommendations to mitigate the potential effects of carbaryl on honey bees.

¹ This section provided by The Xerces Society (<http://www.xerces.org>), an international non-profit organization dedicated to protecting biological diversity through invertebrate conservation.

² OPP-2003-0376-002, Page 79. "A total of five incidents related to carbaryl are reported in the Ecological Incident Information System. Two of the reports do not contain any data but rather reflect general concerns expressed by the American Beekeeper Federation and the Honey Industry Council on the role pesticides play in bee kills. The remaining three incidents are: a bee mortality incident associated with 0.08 ppm carbaryl residues in North Carolina; another North Carolina bee mortality incident more likely attributable to methyl parathion than carbaryl; and a Washington State bee mortality incident associated with carbaryl use on asparagus. EPA also received comments from Minnesota bee keepers expressing concerns about carbaryl on poplar groves."

³ Ecological Incidents. Reports of ecological incidents also play a role in EPA's assessment of ecological toxicity effects. *The documented fish and wildlife kills in EPA's Ecological Incident Information Systems are believed to be a small fraction of total mortality caused by pesticides.* To be entered in EPA's database, mortality incidents must be seen, reported, investigated and have investigation reports submitted to EPA, and all these necessary steps may not occur for a variety of reasons. For carbaryl, there are relatively few reports of ecological incidents. Discussions of the several incidents involving birds, small mammals, bees, and fish are included in the following sections that describe carbaryl effects on these animals.

The agency states that beekeepers are not providing “sufficient detail to clearly implicate carbaryl” in the bee kills. Furthermore, the agency implies that the agency will not take action until there is study on chronic damage. Although we are arguing that carbaryl use is causing long-term (chronic) damage to a bee that is not our only reasoning for the bee kills. Bees are suffering from acute exposure to carbaryl, in Minnesota, California, Montana and elsewhere. The agency does have clear data on this but is choosing to ignore it (for example, the incidents reported by Washington State). Regardless of whether or not harm is proven to the agency – the agency still has a clear responsibility to ensure the bee caution is working and being followed. FIFRA 48 FR 404 confirms this point:

“Congress charged EPA with regulating pesticide use in a manner that will prevent unreasonable risk of pesticide exposure to man or the environment. **Congressional intent would not be carried out if EPA encouraged pesticide users to engage in unsafe activities by not charging violations in cases where no actual harm occurred.**” [Emphasis added.]

Either way, beekeepers *are* showing sufficient proof of bee kills due to carbaryl, and take serious issue with EPA’s summary of the situation addressed below.

Incorrect and Misrepresented Information

EPA’s summary of the situation of carbaryl and bee kills in Minnesota is erroneous and perpetuates several misrepresentations that warrant clarification and correction. (Review of Minnesota Department of Agriculture and Minnesota District Court Information Materials Related to Bee Kill Incidents and Carbaryl Use on Hybrid Poplars, OPP-2003-0376-0010.)

1. Bee kills in the state of Minnesota are not just “alleged” as stated in EPA’s summary.

They are reported, as all pesticide incidents are reported. Investigations of the bee kills have not questioned the existence of a declining bee population, or the bee kills themselves, but rather the *cause* of the bee kills. The large numbers of colonies of bees that have died or have been relocated to other areas to minimize losses is not being questioned. The losses are tracked by the U.S. Department of Agriculture (USDA). According to USDA NASS surveys, 10,000 bee colonies from Central Minnesota, representing roughly 1/3 of all U.S. losses since 2000, have died or gone missing in recent years (see Appendix 4-1 and 4-2). Carbaryl is indeed implicated as the cause of numerous incidents.

2. Minnesota beekeepers have sufficient data showing that applications of carbaryl [Sevin XLR Plus] resulted in recent bee kill incidents, in contradiction to the implications in EPA’s summary OPP-2003-0376-0010. Several positive finds from Minnesota showing carbaryl residues in dead bees and pollen by the Minnesota Department of Agriculture (MDA) and a private lab were submitted to the agency (see Appendix 3-1 through 3-7).

3. The head enforcement person of the MDA, Paul Liemandt, testified that if bees are foraging in the area during the day, then it is still permissible by MDA for applicators to use carbaryl (see Appendix 1, para 3). However, such an interpretation is in distinct violation of the label, which specifically states, “do not apply if bees are foraging in the treatment area.” In *Steve Ellis, et al. v. International Paper, et al.* (Case #A030679) the Minnesota Appeal court stated that because MDA has primacy delegated by EPA and the Head of MDA Enforcement, Paul Liemandt, is an employee of MDA, then Mr. Liemandt can determine EPA’s intent of the label. EPA’s background document (OPP-2003-0376-0010) states that, “carbaryl was applied by licensed applicators following label instructions.” However, if MDA is interpreting compliance as

applicators being able to apply carbaryl when bees are foraging, then in what case would a violation of the bee caution on the label be a violation? In other words, what is the purpose of a bee caution?

Minnesota beekeepers have repeatedly asked EPA Region 5 to act to address and correct MDA on its interpretation and enforcement of the label to protect pollinators. We also contacted Ann Lindsey, deputy director of the Office of Pesticide Programs, to no avail (see Appendix 5-1 and 5-2).

4. It is imperative that the agency realize that while damage occurs when carbaryl is used according to label instructions, there is also evidence found by MDA that licensed applicators DO NOT apply carbaryl according to label instructions (see Appendix 3-3). Furthermore, carbaryl applications were NOT conducted at night to minimize impacts to beneficial insects, as erroneously claimed by EPA. A synopsis of close to 500 applicator records of carbaryl show that, in the excess of 90 percent of applications were made midday – the prime time for pollinators to be present. The agency has this data.

5. Lastly, we would like to clarify that EPA incorrectly names MDA as one of the defendants in an on-going legal case to do with bee kills and carbaryl. In fact, no legal action is taking place between beekeepers in Minnesota and the MDA. Action is being taken between beekeepers in Minnesota and the Minnesota Department of Natural Resources and International Paper.

We request the agency:

- 1) Improve the bee caution statement for carbaryl to better match the intent of the law.**

As we know, pollinators are decreasing nationwide at an alarming rate – with shortages recorded in several states for several crops. EPA and USDA have recognized this problem and have moved to protect pollinators. However, it is imperative not only that protective measures are in place but also that those measures are clearly stated and enforced. To quote the IRED, “To address toxicity concerns for honey bees, a bee protection statement must be added to the Environmental Hazards section of carbaryl product labels, as follows; “This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.”

There are essentially two types of bee cautions. One states “if bees are visiting the treatment area”, the other states, “while bees are actively visiting the treatment area”. The word “foraging” is also used and is being interpreted as “actively visiting” (see Appendix 3-8). To the untrained eye, the difference between the two is not easily distinguishable though it is essential. The latter means the pesticide does not have a lasting toxic residue and means the applicator should actually see bees in order not to spray, while the former is more protective, referring to products ‘extended’ toxic residues and is meant to protect bees from chemical residues that remain in the area at toxic levels long after application.

The fact is, that anytime there is bloom, there are pollinators. Therefore, the application of carbaryl to bloom is the problem – particularly due to the length of toxicity of carbaryl. All the groups signing on to this statement agree that EPA must bring the bee caution more in line with the intent of the law, have it enforced. The fact that MDA is not properly enforcing the label and

restricting the use of carbaryl even when bees are actively (visibly) in the area (let alone not visible but still visiting) is a separate problem (see Appendix 1).

To solve this on-going problem, and better align the cautionary statement with the USDA's original intent of the law to protect pollinators, we request that the agency change the bee caution for Group I 'extend residual' poisons (see Appendix 6) as follows:

"This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds."

"This product has residual toxicity problems for pollinators" should also be added to all products with longer residual toxicities for absolute clarity.

This modification would in effect make an applicator responsible for assessing whether or not there is bloom present before applying, rather than the more difficult process of finding out if pollinators are present. When bloom is present pollinators will be present, period. This change will also create a more easily enforced scenario for state regulators and other concerned parties.

Protecting honey bees is a major concern, but they are not the only pollinators at risk. The agency stated in its Draft Guidance for Pesticide Registrants on Bee Precautionary Labeling (2000) that if honey bees are protected then other bee species and pollinators will also be protected. Unfortunately, experts agree that this is not true. Colonies of feral honey bees, native bees and other pollinators cannot be moved as they do not live in hives. Pollinator biology and behavior differs enough that basing protection on one single species renders the protection ineffective.

Modifying the label caution to prohibit application to bloom will better reflect the reality of all pollinator activity and will serve to protect our nation's pollinators so that natural ecosystems and agricultural production may continue.

All pesticide labels that carry the bee caution should also be modified under the "directions for use" section and in the special directions for all specific crops to incorporate a protection of pollinators. "Do not apply this product to blooming crops or weeds."

2) Correct the carbaryl label with the proper bee caution!

The current carbaryl (Sevin XLR) label is incorrect. Carbaryl has a longer residual toxicity than its alternatives, hence the reason the product is marked XLR (extra long residual). Long residues of carbaryl result in bee mortality for longer than 4 days, according to EPA documents (see Appendix 3-7). EPA shows carbaryl's 110 ppm (parts per million) half-life is 3.7 days – bringing toxicity down to 55 ppm. Yet, the LD50 [lethal dose for contact] for honey bees is only 9.57 ppm. (See appendix 7 & 7.1) However, the label for Sevin XLR Plus, EPA Reg. No. 264-333, states "Do not apply this product or allow it to drift to blooming crops or weeds if bees are foraging in the treatment area."

The bee caution uses the term "foraging" rather than "visiting" which seems confusing for many. MDA and US EPA are interpreting the Sevin label of "foraging" as "actively foraging" (see Appendix 3-8). There are several problems with this, one being that beekeepers cannot prevent the loss of their bees (up to 4 days post-application) and two, that they do not have proper legal

recourse when Sevin applications result in mass bee kills due to remaining residue on crops. The use of “foraging” versus “visiting” is apparently confusing regulators as well since US EPA also said foraging means “actively visiting.” The label as is, is incorrect.

3) Cancel the registered use of carbaryl for mosquito abatement, APHIS grasshopper control and forestry.

Due to the problems associated with application to bloom and the killing of pollinators, the risks to human health, and the plethora of alternatives with lower toxicities and residual times, the agency should cancel the above uses immediately. There are no mitigation measures proposed that suffice.

On Mosquito Abatement and Grasshopper control: The agency is well aware that these two uses of carbaryl are highly contentious with many in society.

These uses should be canceled for three main reasons.

One, carbaryl exceeds the agency’s level of concern for human applicators (particularly when used in aerial applications for mosquito or grasshopper treatment). Bayer CropScience’s argument (in OPP-2003-0376-0007) that newer equipment lessens exposure is hypothetical and certainly does not apply across the board. We support the agency’s decision to use data from the Pesticide Handlers Exposure Database. Protection must be provided for all applicators, including those using old equipment in all corners of the country. Grasshopper treatments using carbaryl also kill pollinators.

Beekeeper Tim Fortner from Broadus Montana suffered severe colony losses in three different years. In 1980, 350 colonies were killed; 1986, 450 colonies; in 1987, 800 colonies. Litigation was pursued Federal District Court in Billing Montana, and won in 1987 by Mr. Fortner (*Fortner vs US Government*). Apparently, the agency has no record of these incidents even though they were heavily documented since it was not mentioned in the current or previous IRED. All 20-30 samples collected by APHIS and/or Montana Department of Agriculture showed positive for carbaryl. In 1987, APHIS paid for damages in settlement (CV8995BLG/JDS). APHIS has not sprayed this area for grasshoppers since the 1987 incident. APHIS has made good on their promise in court and moved grasshopper abatement spraying to other areas. Other beekeepers have suffered losses, but refuse to file complaints after seeing what Mr. Fortner went through. Combining the impacts on pollinators with the impacts on humans, the chemical meets the definition of causing unreasonable harm to both human health and the environment.

Two, there are much better, less toxic and persistent alternatives in use for both mosquito and grasshopper control. The cost of alternatives can be slightly higher (which could be reduced when combined with better cultural practices), but is not prohibitive. Retaining this use encourages bad practices and counters the agency’s efforts to promote Integrated Pest Management (IPM).

Three, in the risk assessment, the agency found that “All carbaryl uses, even at less than maximum label rates, exceed the endangered species LOC for both freshwater and marine/estuarine invertebrates. At less than maximum label rates, the endangered species LOC is exceeded for freshwater fish.”

On forestry: The use should be canceled. One of the most common forestry uses of carbaryl is for the cottonwood leaf beetle. Hybrid poplar plantations with bloom in the under-story (see

Appendix 8) intermixed in agricultural areas, can never be 'safely' sprayed with carbaryl. Better alternatives exist – both chemical and non-chemical. Just because carbaryl may be a cheaper alternative to other chemicals (but obviously not cheaper to non-chemical alternatives in the long run), is not a sufficient justification to maintain use of a chemical that causes unreasonable harm. Furthermore, there is no way carbaryl can be applied to a forest setting, with bloom present and where bees visit, without causing serious bee kills. According to data contained in the current IRED, carbaryl's estimated half-life for forestry application on foliar is 21 days (IRED 2003-0376-002). That puts the carbaryl residues at 55 ppm on day 21 post application; honeybee contact toxicity is 9.57ppm (See Appendix 7-1 and 7-2).

4) Require a chronic honey bee study to evaluate the sublethal, chronic effects of carbaryl on bee behavior, colonies and pollinator production.

We support the agency's call for a study on the chronic sublethal effects to bees. However, we do not believe that lack of this data should prevent the agency from addressing, assessing, and mitigating the immediate problems of carbaryl use to bloom, which is causing pollinator decline.

Sincerely,

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Appendices

1	1998 Email Exchanges and Testimony by regulatory officials.
2	Compilation of Washington Carbaryl incidents, 1992-2000. Unknown why tracking stopped in 2000. Speculation is that beekeepers are demoralized by system and are no longer reporting.
3-1	Pesticide Misuse Investigation Case File Number CF-2609. (1998)
3-2	MDA Laboratory Sample R9808006 (1998). Carbaryl detected in bee kill.
3-3	Case File Number CF-3723. MDA notice that label violation did occur.
3-4	MDA Laboratory Sample R9907265 (1999). Carbaryl detected in bee kill.
3-5	Conclusion and Determinations / Pesticide Misuse Investigation CF-5941, CF-5992, CF-6004, CF-6040 (2000)
3-6	Medallion Laboratories (2001). Carbaryl detected in bee kill.
3-7	EPA OPP email confirming half-life of carbaryl
3-8	Emails between US EPA and MDA on meaning of "foraging"
4-1	History of MDA Enforcement Regarding Hybrid Poplars and Sevin XLR Plus
4-2	USDA, National Agricultural Statistics Survey Honey and Bee statistics 1995 - 2003
5-1	Copy of complaint to EPA Region 5 (one of several).
5-2	Complaint sent to Ann Lindsey, deputy director of the EPA Office of Pesticide Program
6	USDA PR Notice 68-19: Notice with respect to required labeling statements for certain economic poisons to protect honeybees and other pollinating insects
7-1	Calculation showing relationship between material on plant and material necessary to kill bee
7-2	Calculation showing ppm that kills a bee

Jim Downing, US EPA 1998

(email to EPA officials including Amy Breedlove. RE: Bee Labeling, January 16, 1998 9:50AM)

Q: During what time would bees have to forage in the treatment area to trigger the prohibition?

A: The statement should be interpreted to mean, that during the time of bloom that bees are or could be expected to visit or forage a blooming crop or weed, no applications of the pesticide can take place. This would typically be for up to a couple of weeks during time of bloom. With PennCap-M, the residual toxicity to bees can last from four to seven days. Therefore, if there is crop (or blooming weeds in the crop) bloom and bees are likely to forage during bloom time, then bees are at risk no matter what time of day PennCap-M might be applied. For pesticides unlike methyl parathion, that do not exhibit residual toxicity to bees, applications could safely be made if bees were not present, such as during night time hours. However, for pesticides (like methyl parathion) with residual toxicity to bees, if there's crop bloom or blooming weeds attractive to bees, then the potential for bee kills exist. Therefore, mitigation measures must be in place.

Jim Roelofs /David Stangel, US EPA 2002

(email exchange. RE: Bee Labeling, January 16, 1998 9:50AM)

Q: In the case of applying Sevin XLR to a hybrid poplar tree plantation, does the above language mean that Sevin XLR applications to a site with blooming crops or weeds would only be prohibited if bees are actually physically present or does it mean that Sevin cannot be applied at all if bees are visiting the field, even if they are not present during the application?

A: The current language does mean actively visiting, which may not be as protective as it should be, hence the proposal in our PR Notice is to put a specific time-period of toxicity on the label (based on data) easier said than done, however, and it's not clear how we will ultimately come down on this issue.

Paul Liemandt, MDA

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Q: Would an application at 7:00a.m., 8:00a.m., 9:00a.m., 10:00 a.m. be permissible under this label? **A:** Permissible. **Q:** And if bees are foraging in the area during the day, does that affect any of those answers? Is it still permissible during those hours? **A:** Yes. **Q:** Is it true that Sevin can leave a residue on blooming crops or weeds. **A:** Yes. **Q:** And is there what's known as a dry-down time for those residues? **A:** I don't have the basis for answering your question. I do know that some labels, for example, will say, Do not enter an area until the pesticide has dried. **Q:** You're not familiar, in the case of Sevin, whether or not that's an issue in determining a label violation? **A:** Well, in regard to evaluating compliance with the label, no. **Q:** It's not one that you here at the department currently take into account, though, is that right, in determining label violations or potential label violations concerning Sevin XLR Plus applications? **A:** That's correct.

State of Minnesota Court of Appeals page 10...

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Based on the record in this case, we are persuaded that Liemandt's expert testimony is the official agency testimony for both the MDA and the EPA and is entitled to deference. Deferring to Liemandt's interpretation of the Sevin label, we hold that the bee caution on the label only prohibited respondents from spraying Sevin when a significant number of bees were actively foraging in an area with a significant number of blooming flowers or weeds, and that the remainder of the label was discretionary. As the district court correctly noted, to hold otherwise would effectively prohibit all applications of Sevin throughout the entire growing season, as appellants assert that there are always blooming weeds and flowers in IP's and DNR's poplar groves and that bees are regularly foraging three to five miles from the bee yards.

Compilation of Washington Carbaryl incidents

Case #	Action	County	# of Hives	Kill Magnitude	Method	Pesticides Involved	Amt.	Target Site
1992								
109Y-92	NAI	Yakima	90	unknown	ground	Carbaryl	ND	orchard
112Y-92	NAI	Yakima	300	unknown	ground	Carbaryl	ND	orchard
147Y-92	WL	Benton	186	unknown	ground, aerial	Carbaryl	ND	orchard
						Carbaryl	ND	
						Carbaryl	ND	
240Y-92	NAI	Yakima	36	unknown	unknown	Carbaryl	ND	unknown
Note: Many of the methyl parathion kills in 1992 were classified as moderate to severe.								
Case #	Action	County	# of Hives	Kill Magnitude	Method	Pesticides Involved	Amt.	Target Site
1993								
091Y-93	NAI	Yakima	262	slight to mod	unknown	Carbaryl	ND	unknown
096Y-93	NAI	Yakima	168	slight to mod.	unknown	Carbaryl	ND	unknown
105Y-93	NAI	Yakima	250	slight	unknown	Carbaryl	ND	unknown
150Y-93	NAI	Yakima	274	slight to mod.	unknown	Carbaryl	ND	unknown
151Y-93	NAI	Yakima	130	slight	unknown	Carbaryl	ND	unknown
Case #	Action	County	# of Hives	Kill Magnitude	Method	Pesticides Involved	Amt.	Target Site
1994								
012Y-94	NAI	Benton	228	unknown	ground	Carbaryl	1.07 ppm	orchard
						Carbaryl	0.06 ppm	
016Y-94	NAI	Grant	250	slight to mod.	ground	Carbaryl	ND	orchard
						Carbaryl	0.09 ppm	
017Y-94	NAI	Yakima	unknown	slight	ground	Carbaryl	n/a	orchard
018Y-94	NAI	Yakima	76	low	ground	Carbaryl	0.02 ppm	orchard
019Y-94	NAI	Yakima	70	low	ground	Carbaryl	0.06 ppm	orchard
						1-Naphthol	0.07 ppm	
020Y-94	NAI	Yakima	1,000	unknown	ground	Carbaryl	0.006 ppm	orchard
						1-Naphthol	0.17 ppm	
						Carbaryl	0.09 ppm	
						1-Naphthol	0.42 ppm	
021Y-94	WL	Yakima	1,000	unknown	ground	Carbaryl	0.21 ppm	orchard
						1-Naphthol	0.55 ppm	

Compilation of Washington Carbaryl incidents

022Y-94	NAI	Yakima	120	low to mod	ground			orchard
						Carbaryl	0.13 ppm	
023Y-94	WL	Yakima	76	high	ground			orchard
						1-Napthol	1.02 ppm	
027Y-94	NAI	Yakima	100	low	ground			orchard
						Carbaryl	ND	
029Y-94	WL	Yakima	100	high	ground			orchard
						1-Napthol	0.54 ppm	
029Y-94	WL	Yakima	100	high	ground			orchard
						Carbaryl	0.07 ppm	
035Y-94	Fine	Franklin	400	high	aerial			asparagus
						1-Napthol	.168 ppm	
035Y-94	Fine	Franklin	400	high	aerial			asparagus
						Carbaryl	0.018 ppm	
098Y-94	NAI	Franklin	100	unknown	unknown			n/a
						Carbaryl	ND	
098Y-94	NAI	Franklin	100	unknown	unknown			n/a
						Carbamate	ND	
101Y-94	NAI	Yakima	30	unknown	unknown			n/a
						Carbamate	ND	
102Y-94	NAI	Franklin	unknown	unknown	unknown			n/a
						Carbamate	ND	
Case #	Action	County	# of Hives	Kill Magnitude	Method	Pesticides Involved	Amt.	Target Site
1995								
007C-95	NOC	Grant	108	unknown	ground			orchard
						Carbaryl	Trace	
						Carbaryl	Trace	
						Carbaryl	9.9 ppm	
008C-95	NAI	Grant	16	unknown	ground			orchard
						Carbaryl	9.9 ppm	
						Carbaryl	ND	
010Y-95	NAI	Yakima	unknown	unknown	ground			orchard
						Carbaryl	410 ppm	
021Y-95	NAI	Yakima	unknown	unknown	ground			orchard
						Carbaryl	ND	
Case #	Action	County	# of Hives	Kill Magnitude	Method	Pesticides Involved	Amt.	Target Site
1996								
20Y-96	NAI	Yakima	76	Moderate	Ground			Orchard

Compilation of Washington Carbaryl incidents

						Azinphos Methyl/Carbaryl	.11ppm/.04ppm	
21Y-96	NAI	Yakima	430	Moderate	Ground	Azinphos Methyl / Carbaryl / Methyl Parathion	.23ppm/.06ppm/1.55ppm	Orchard
31Y-96	NAI	Yakima	120	Unknown	Unknown	Carbaryl	.24ppm	Unknown
Case #	Action	County	# of Hives	Kill Magnitude	Method	Pesticides Involved	Amt.	Target Site
1997								
005Y-97	NOC							
005Y-97	NOC	Benton	84	Unknown	Ground	Carbaryl/Chlorpyrifos	1.13ppm/.12ppm	Orchard
Case #	Action	County	# of Hives	Kill Magnitude	Method	Pesticides Involved	Amt.	Target Site
1998								
006S-98	NAI	Chelan	102	Slight	Unknown			Unknown
						OP Scan / Carb scan	ND	
Case #	Action	County	# of Hives	Kill Magnitude	Method	Pesticides Involved	Amt.	Target Site
1999								
011C-99	NAI	Grant	46	moderate	unknown	Carbaryl	Trace	Unknown
						Carbaryl	20ppm	
012C-99	NAI	Grant	110-120	moderate	unknown	Carbaryl	ND	Unknown
						Carbaryl	Trace	
						Carbaryl	ND	
						Carbaryl	0.11ppm	
						Carbaryl	12ppm	
013C-99	NOC	Grant	>50	moderate	Unknown	Carbaryl	Trace	Unknown
						Carbaryl	20 ppm	
020C-99	NOC (2)	Grant	150	unknown	Ground	azinphos methyl / carbaryl	0.17 ppm / 0.15 ppm	orchard
						azinphos methyl / carbaryl	18 ppm / 0.14 ppm	
						azinphos methyl	0.65 ppm	
						azinphos methyl / carbaryl	2.3 ppm / 0.13 ppm	
						azinphos methyl / carbaryl	0.24 ppm / trace	
						azinphos methyl / carbaryl	4.9 ppm / 1.1 ppm	
034C-99	NOC	Grant	150	unknown	Air			potato & alfalfa seed crop

Compilation of Washington Carbaryl incidents

Case #	Action	County	# of Hives	Kill Magnitude	Method	Pesticides Involved	Amt.	Target Site
						Carbaryl / Methamidophos / Dimethoate	8.0ppm / 0.45ppm / Trace	
042C-99	NAI	Grant	200	moderate	unknown	OP/CH/Carbamate Screen	ND	Unknown
						OP/CH/Carbamate Screen	ND	
						OP/CH/Carbamate Screen	ND	
043C-99	NAI	Grant	30	unknown	unknown			Unknown
						OP/CH/Carbamate Screen	ND	
						OP/CH/Carbamate Screen	ND	
						OP/CH/Carbamate Screen	ND	
021Y-99	NAI	Yakima	50	Heavy	Ground	Carbaryl	0.20 ppm	apples & orch. ground cover
022Y-99	NAI	Yakima	unknown	slight	Ground	Carbaryl	trace @ mdl 0.030	orchard
023Y-99	NAI	Yakima	12	moderate	Ground	Carbaryl	trace @ mdl 0.030	orchard
024Y-99	Fine	Yakima	192	moderate	Ground	Carbaryl	trace	apple & cherry
						1-Napthol	trace	
025Y-99	NAI	Yakima	131	unknown	Ground	Carbaryl	trace @ mdl 0.030 ppm	unknown
						1-Napthol	trace @ mdl 0.096	unknown
026Y-99	NOC	Yakima	unknown	unknown	Ground	Carbaryl	trace mdl @ 0.030 ppm	orchard
						Carbaryl	0.34 ppm	orchard
2000								
014Y-00	NAI*	Yakima	60	3,000 to 4,000	unknown	carbaryl	1.2 ppm	unknown

Compilation of Washington Carbaryl incidents

				dead bees* *each site, unknown # of				
016Y-00	NAI	Yakima	96	Moderate	Unknown	chlorpyrifos / carbaryl / avermect	0.96ppm/t race/ND	unknown
						chlorpyrifos / carbaryl / avermect	0.17 ppm / trace / ND	
						chlorpyrifos / carbaryl / avermect	0.16ppm / 21 ppm / ND	
						chlorpyrifos / carbaryl / avermect	0.17ppm / 16 ppm / ND	
						chlorpyrifos / carbaryl / avermect	0.95ppm / ND / ND	
						chlorpyrifos / carbaryl / avermect	1.4ppm / 0.44ppm / ND	
						chlorpyrifos / carbaryl / avermect	0.96ppm / trace / ND	
050Y-00	NAI	Yakima	unknown	unknown	unknown	carbamate scan/disulfotan	ND/0.13 ppm	unknown
						carbamate scan/disulfotan	ND/0.22 ppm	
2001								
none listed								
2002								
none listed								



Minnesota Department of Agriculture

NOV 02 1998

Steve Ellis
Rt 1 Box 117A
Barrett, MN56311

SUBJECT: Pesticide Misuse Investigation Case File Number CF-2609

Dear Mr. Ellis:

The Minnesota Department of Agriculture (MDA), has completed its investigation of the above pesticide misuse complaint. You alleged that an application of pesticide(s) made in and around your beeyard caused a bee kill. You said that the property owner made the application.

MDA's investigation determined that the application by the property owner was a herbicide and not a likely cause for the bee kill. Additionally, a lab analysis of some of the dead bees had a detection for carbaryl, an insecticide, which would be a likely cause of the bee kill. MDA was unable to determine where the carbaryl came from.

We have evaluated the information and facts available in this case and do not believe there is evidence to support the allegation. Therefore, we are closing this investigation. If you have any questions regarding the above, please contact John Peckham at (651) 297-2614.

Sincerely,

A handwritten signature in cursive script that reads "John C. Peckham".

/John C. Peckham, Supervisor
Field Surveillance & Investigations Section
Agronomy & Plant Protection Services Division

cc: Mark Magnusson, ACI



Minnesota Department of Agriculture

Region 5

Report of Analysis

Laboratory Sample R9808006

Field Sample FY98MM56

Date Collected 31-JUL-98
Field Inspector MAGNUSSON, MARK
Division Contact MCCOY, CORA

Sample Location Steve Ellis
Rt. 1, Box 117A
Barrett, MN 56311

Sample Information:

Product Type Other Date Received 4-Aug-98
Amount 1 mylar bag Checkout Date 10-Sep-98
Description Dead decayed bees Date Complete 18-Sep-98

Analysis Method: ACEONITRILE EXTRACT
CANADIAN CLEAN-UP

Results*:
Analyte Concentration
CARBARYL 0.13 ppm
LIST 1 NOT DETECTED

Analyst Comments:
S098085 EWB1467:

Phillip Hansen (handwritten signature)

21-Sep-98

Phillip Hansen, Laboratory Supervisor

Date

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An equal opportunity employer



Minnesota Department of Agriculture

February 15, 2000

(651)296-5136

Steve Ellis
Rt1Box117A
Barrett,MN56311

SUBJECT: Case File Closed
Case File Number CF-3723 ,

Dear Mr. Ellis:

On or about July 22, 1999 you had contacted the Minnesota Department of Agriculture (MDA) alleging that an application of a pesticide was made that result in a bee kill. The MDA has completed the investigation of the pesticide application.

The MDA's investigation has determined that a violation of the Minnesota Pesticide Law did occur. As a result MDA has taken appropriate enforcement action against the responsible party. The case file is now closed. If you desire to obtain more information regarding the case file, contact Chuck Tyier, Data Practices and Records Manager at (651) 297-3997.

Thank you for your assistance in notifying the MDA of the suspected violation.

Sincerely, _____

-/^\ .V^\

yS^uuL^ \^w^

Steven Poncin, Pesticide Regulatory Advisor
Enforcement Unit
Agronomy and Plant Protection Division

SP:se



Region 5

Minnesota Department of Agriculture

Report of Analysis

Laboratory Sample R9907265

Date Collected 23-Jul-99
Field Inspector FICK, MIKE
Division Contact MCCOY, CORA

Field Sample MF99-25

Sample Location Steve Ellis
Rt. 1, Box 117A
Barrei-t, MN 5C311

Sample Information:

Product Type	Other	Date Received	28-Jul-99
Amount	1 x 500 ml	Checkout Date	4-Aug-99
Description	Dead bees	Date Complete	13-Aug-99

Analysis 'Method: CARBAMATES EWB 1516

Results*:

Analyte	Concentration
CARBARYL	0.8 ppm

Analyst Comments:

S099D51


Phillip Hsu

Date
18-Aug-99

nson , Laboratory Supervisor • 90 West Plato Boulevard ' St. Paul. Minnesota 55107-2094
• (651) 297-2200 • TTY (651) 297-535;...-800-627-3529 •
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Minnesota Department of Agriculture

February 8, 2002

651/297-4872

Jeff Anderson
7342 River Road
Oakdale, CA 95361

Also SENT BY FAX 209/847-4731

SUBJECT: Conclusion and Determinations / Pesticide Misuse Investigation CF-5941,
CF-5992, CF-6004, CF-6040

Dear Mr. Anderson:

The Minnesota Department of Agriculture (MDA) has completed its investigations and evaluations of your pesticide misuse complaints.

On August 15, 2001 [Complaint "A"], September 6, 2001 [Complaint "B"], September 12, 2001 [Complaint "C"], and September 26, 2001 [Complaint "D"] the MDA received complaints from you alleging bee kills due to Sevin pesticide applications made to nearby hybrid poplars.

Subsequently, MDA investigators met with you, performed inspections of your bee yards, and obtained samples of bee mortalities and one sample of bee pollen from your bee yards for analysis by the MDA Division of Laboratory Services. As part of those inspections and ensuing investigatory and laboratory work, MDA documented pertinent facts, including the following:

- Distances of hybrid poplar fields from your bee yards;
- Whether or not these poplars were treated with insecticide(s);
- Which insecticide(s) were used, how they were used and when; and,
- Whether or not laboratory analysis was justified, taking into account the above specific circumstances, and if justified, was carbaryl, the active ingredient in Sevin XLR Plus insecticide, detected in bee tissue from bee mortalities taken from your bee yards.

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Jeff Anderson
February 8, 2002
Page Two

In the instances of your separate complaints,

Complaint "A":

- (a) MDA identified hybrid poplar fields managed by International Paper located less than V^* to V_i mile from your bee yard. All fields had been treated with Sevin XLR Plus insecticide (EPA Reg. 264-333; active ingredient, carbaryl) on August 10, 2001 from 9:30-11:00 a.m. International Paper pre-notified you in writing prior to this treatment of its intent to utilize insecticides to control pests in the hybrid poplar fields.
- (b) A bee sample taken at this yard was analyzed by MDA Laboratory Services; no detection of carbaryl was reported.
- (c) A bee sample taken at this yard and submitted by yourself to a private laboratory reported: .028 ppm methomyi; .152 ppm 1-naphthol; .034 ppm carbaryl.

Complaint "B":

- (a) MDA identified one hybrid poplar field, managed by International Paper, located V^* mile distance from your bee yard. The field had been treated with Novodor (EPA Registration #73049-48; active ingredient: Bacillus thuringiensis ssp) insecticide on August 10, 2001. The MDA identified one other hybrid poplar field within two miles distance from the bee yard;

however, this field received no insecticide treatments. MDA could not identify any other poplar fields within six miles of the bee yard.
- (b) A bee sample taken at this yard was analyzed by MDA Laboratory Services; no detection of carbaryl was reported.
- (c) A bee sample taken at this yard and submitted by yourself to a private laboratory reported: <.02 ppm o-phenylphenol; .104 ppm Diphenylamine.

Complaint "C":

For Three Bee Yards:

- (a) MDA identified three hybrid poplar fields from 1 V_s to greater than 2 V_z miles distance from these bee yards. MDAs investigation determined that none of these three fields were treated with Sevin XLR Plus insecticide.
- (b) Three bee mortality samples (one from each of the yards) were not analyzed by the MDA in view of the above fact that no Sevin XLR Plus insecticide treatments occurred in fields in close proximity to these three bee yards.

Jeff Anderson
February 8, 2002
Page Three

For the Other Three Bee Yards:

- (a) MDA identified three hybrid poplar fields from $\frac{1}{2}$ to 1 $\frac{1}{2}$ miles distance from these three bee yards. MDAs investigation determined that one of the fields was treated with Sevin XLR Plus insecticide on August 23, 2001 from 7:00-8:00 p.m., and other two fields were treated on August 24, 2001 with Sevin XLR Plus insecticide from 6:30-7:30 a.m.
- (b) Three bee mortality samples (one from each of the yards) were analyzed by MDA Laboratory Services; no detection of carbaryl was reported.

Complaint "D":

For Two Bee Yards:

- (a) MDA identified no hybrid poplar fields within two miles distance of these two bee yards.
- (b) No samples were taken for these two bee yards due to the above proximity issue.

For the Other Five Bee Yards;

- (a) MDA identified fourteen (14) hybrid poplar fields within $\frac{1}{8}$ to two miles distance from these five bee yards. MDAs investigation determined that only a portion of these fields were treated with Sevin XLR Plus insecticide, and the treatments that did occur were performed 40 days or more prior to your complaint.
- (b) Five bee mortality samples (one from each of the yards) and one bee pollen sample were taken but not analyzed by the MDA due to the extended lapse of time (40 days or more) between the known Sevin XLR Plus insecticide treatment(s) and your report of bee mortalities.

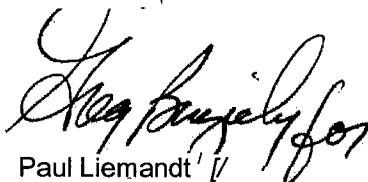
In all instances, MDAs investigation finds insufficient evidence to substantiate your allegations of bee mortalities resulting from pesticide use or misuse. The department acknowledges the variance in laboratory results (Complaints "A", "B"); however, our regulatory and enforcement programs rely solely on results reported by MDA Division of Laboratory Services, a US Environmental Protection Agency quality control/quality assured pesticide residue testing laboratory. In regard to several of your complaints, the department determined through its field investigations that treatments involving Sevin insecticide did not occur as you alleged or as might have been speculated. Indeed, in Complaint "B" the investigation found that Novodor insecticide - a known low-to-no toxicity insecticide in regard to bee exposure - was used, and not Sevin as presumed.

Jeff Anderson
February 8, 2002
Page Four

All known instances of Sevin XLR Plus insecticide use, as documented by our investigation of your complaints, were found to be in compliance with label directions. The only issue involving label directions was the mid-morning treatment documented as part of Complaint "A". The Sevin XLR Plus insecticide label advises users to utilize late evening to early morning treatments for maximum honey bee hazard reduction. In light of this MDA will be issuing an Advisory Notice to the pesticide applicator, cautioning that person to follow label advisories.

As I believe you are aware, the MDA is currently engaging several experts in bee keeping, hybrid poplar agronomy, and other related fields in an effort to further investigate possible causes for your and others reported recent bee mortalities. Additionally, the department is exploring opportunities within the pesticide industry and the US Environmental Protection Agency regarding availability and promotion of low impact (for bees) insecticides. We are concerned and want to facilitate as best we can an attempt to identify factors which impact the health of the bee keeping and honey production industry in Minnesota. If you have any questions regarding the above, please call me at (651) 297-4872.

Sincerely



Paul Liemandt
Manager, Environmental Response & Enforcement Section
Agronomy & Plant Protection Division

PML:GMG:se

cc: John Peckham, Supervisor., MDA Agricultural Chemicals
Investigation Unit
Mike Pick, MDA Agricultural Chemical Investigator
Blane White, MDA Apiary Inspector

Mike Fresvik, Manager, MDA Environmental Regulatory Section

Medallion Laboratories



9000 Plymouth Avenue •
Minneapolis, MN 55427
Jeff Andersen
California-Minn. Honey Farms
721 3rd Ave NE
EagleBend, MN
56446

Analytical Report

1-800-245-5615
(763) 764-4453
Fax: (763)764-4010

Date Submitted: 20Aug2001
Date Reported: 4Sep2001
Library Number: 2001-07390
Company Number: CALIFORNIAMINN01
P.O. Number: ANDERSEN20

MULTIRESIDUE ANALYSIS RESULTS

Medallion ID: 2001054605
Customer ID: BEES
Sample Description: Bees

Organo Halides - ND(0.100ppm)
Organo Nitrogen - ND(0.100ppm)
Organo Phosphates - ND(0.100ppm)
N-methyl Carbamates - 0.028ppm Methomyl, 0.152ppm 1-Napthol, 0.034ppm Carbaryl,
rest ND(0.050ppm)***

*** Note that 1-Napthol is the breakdown product of Carbaryl and the two should be added together for total Carbaryl. Therefore, 0.186 ppm for Carbaryl in the bees.

ND = None Detected. Limits in ().

Signed By _____

For Medallion Laboratories

S

General Mills

Shawnee Hoover

From: "Jeff Anderson" <jsa.cmhf@juno.com>
To: <shoover@beyondpesticides.org>
Sent: Tuesday, December 14, 2004 5:57 PM
Attach: This is what it looks like.doc
Subject: Appendix 3-7

----- Forwarded message -----

From: "Blane White" <Blane.White@state.mn.us>
To: <jsa.cmhf@juno.com>
Date: Mon, 23 Jun 2003 11:53:01 -0500
Subject: Fwd: Carbaryl Bee Language
Message-ID: <sef6ea2f.073@mda-grp>
Received: from mx08.lax.untld.com (mx08.lax.untld.com [10.130.24.68])
by maildeliver13.lax.untld.com with SMTP id AAA9RQNEBAPQ3G8S
for <jsa.cmhf@juno.com> (sender <Blane.White@state.mn.us>);
Mon, 23 Jun 2003 09:53:21 -0700 (PST)
Received: from mail.state.mn.us (state.mn.us [156.99.125.109])
by mx08.lax.untld.com with SMTP id AAA9RQNEBAB5GEK2
for <jsa.cmhf@juno.com> (sender <Blane.White@state.mn.us>);
Mon, 23 Jun 2003 09:53:21 -0700 (PST)
Received: from MDA-GRP ([156.98.177.15] [156.98.177.15]) by
mail.state.mn.us with ESMTP for jsa.cmhf@juno.com; Mon, 23 Jun 2003
11:53:20 -0500
Received: from STP-MTA by MDA-GRP
with Novell_GroupWise; Mon, 23 Jun 2003 11:53:19 -0500
X-Mailer: Novell GroupWise Internet Agent 6.5.0
MIME-Version: 1.0
Content-Type: text/plain; charset=US-ASCII
Content-Transfer-Encoding: 7bit
Content-Disposition: inline
Return-Path: <Blane.White@state.mn.us>
Message-ID: <sef6ea2f.073@mda-grp>

line

Hi Jeff,

Forward this to beekeepers and others that might be interested. Just got this from EPA so your comments were heard and considered. Also forward to ABF and AHPA.

blane

Blane White
MN Dept of Agriculture
blane.white@state.mn.us

>>> <Britten.Anthony@epamail.epa.gov> 6/23/2003 11:10:39 AM >>>

Here is proposed label language for Minnesota labels only that I mentioned to you on the phone. Appreciate if you can share this as broadly as possible with all State folks who might be concerned with this use. Analysis shows that honey bees exposed to 24-hr residues of carbaryl (80% wettable powder applied at a rate of 1 lb/A) experienced 69% mortality on an acute exposure basis. The foliar dissipation half-life used for carbaryl was 3.7 days, which is the basis for the 4 day proposal.

Appendix 3-7

12/15/2004

This product is toxic to bees exposed to treatment and for 4 days following treatment. Do not apply this product to blooming, pollen-shedding or nectar-producing parts of plants if bees may forage on the plants during this time period, unless the application is made in response to a public health emergency declared by appropriate state or federal authorities.

Thanks.... please contact me if there is feedback.

Anthony (Tony) Britten, Chemical Review Manager
Special Review and Reregistration Division
Office of Pesticide Programs (MC 7508C)
703 308-8179 Voice
703 308-8005 Fax

Emails Exchanged:

David Stange, US EPA, I/DC/USEPA/US@EPA
John Sierk, Minnesota Department of Agriculture
Jim Roelofs, US EPA

David:

The label for Sevin XLR Plus, EPA Reg. No. 264-333, states "Do not apply this product or allow it to drift to blooming crops or weeds if bees are foraging in the treatment area."

In the case of applying Sevin XLR to a hybrid poplar tree plantation, does the above language mean that Sevin XLR applications to a site with blooming crops or weeds would only be prohibited if bees are actually physically present or does it mean that Sevin cannot be applied at all if bees are visiting the field, even if they are not present during the application?

Thank you for your help.

John C. Sierk
Minnesota Department of Agriculture
90 W. Plato Blvd.
St. Paul, MN 55107
Phone: 651-296-4292
Fax: 651-297-2271
E-mail: john.sierk@state.mn.us

From: <Roelofs.Jim@epamail.epa.gov>
To: <John.Sierk@state.mn.us>
Date: 12/4/01 12:59PM
Subject: Re: Sevin XLR

in response to your recent message, resending old answer.

—— Forwarded by Jim Roelofs/DC/USEPA/US on 12/04/01 03:51 PM ——

Jim Roelofs
To: David Stangel/DC/USEPA/US@EPA
09/14/01 09:24 AM
cc: John Sierk <John.Sierk@state.mn.us>
Subject: Re: Sevin XLR(Document link: Jim Roelofs)

The current language does mean actively visiting, which may not be as protective as it should be, hence the proposal in our PR Notice is to put a specific time-period of toxicity on the label (based on data).

Easier said than done, however, and its not clear how we will ultimately come down on this issue.

History of MDA Enforcement Regarding Hybrid Poplars and Sevin XLR Plus

Year	Lab Test	Enforcement Action	Damages to Bees
1998	MDA Lab Positive Carbaryl	“Unable to determine where Carbaryl was applied”	* Dead and weakened beehives * Contaminated Equipment
1999	MDA Lab Positive Carbaryl	“Compiled a Notice of Intent Enforcement Action stating \$500 fine for application of pesticide resulting in bee kill	* Lost Honey Production * Lost Pollination income
2000	MDA Lab No Detect Imidcloprid	MDA Apiary Inspector retrieved bee, pollen, and honey samples MDA did not test for Carbaryl	* Beehives ceased to exist in hybrid poplar area
2001	Medallion Lab Positive Carbaryl MDA N.D. Carbaryl	Advisory Notice to applicator due to 11 AM application	* Over \$2 Million in losses to three beekeepers, 3000 hives disappeared
2002	MDA Positive Carbaryl in bees and pollen	Case referred to MDA Enforcement No bee enforcement actions taken as of 5/13/2004	* Other beekeepers choose to just leave or quit, 7,000 colonies disappear
2003	NA	None needed	* loss of entire bee territories

USDA, National Agricultural Statistics Survey Honey and Bee statistics 1995 thru 2003

State MN	Honey Producing Colonies x 1000	Yield per Colony Pounds	Production 1000 Pounds	Stocks	Total Production	Average Price per Pound Cents
1995	165	82	13,530	1,218	14,748	70
1996	150	77	11,550	1,617	13,167	90
1997	145	73	10,585	2,011	12,596	74
1998	140	79	11,060	2,765	13,825	65
1999	145	82	11,890	3,210	15,100	61
2000	150	90	13,500	3,105	16,605	57
2001	135	81	10,935	1,859	12,794	65
2002	117	73	8,541	1,110	9,651	147
2003	120	83	9,960	1,892	11,852	146

Total US	Honey Producing Colonies x 1000	Yield per Colony Pounds	Production 1000Pounds	Stocks	Total Production	Average Price per Pound Cents
1995	2,648	79.5	210,516	42,226	252,742	68.5
1996	2,564	77.3	198,197	46,967	245,164	88.8
1997	2,631	74.7	196,536	70,696	267,232	75.2
1998	2,633	83.7	220,316	80,808	301,124	65.5
1999	2,688	76.4	205,250	79,375	284,625	60.1
2000	2,620	84.1	220,339	85,328	305,667	59.7
2001	2,506	74	185,461	64,556	250,017	70.4
2002	2,574	66.7	171,718	39,393	211,111	132.7
2003	2,590	69.9	181,096	40,735	221,831	140.4

US	MN	Average Honey Price
Total losses 1995 thru 2000 1.16% 28,000 hives	Total Losses 1995 Thru 2000 7% 15,000 hives	\$.57
Total losses 2000 thru 2003 1.15% 30,000 hives	Total Losses 2000 thru 2003 20% 30,000 hives	\$1.40

Minnesota lost 15,000 of the 28,000 total loss of US colonies between 1995 and 2000
 Minnesota lost **30,000** of the **30,000** total loss of US colonies between 2000 and 2003

Minnesota lost 45,000 of 58,000 total US colonies between 1995 and 2003

Dale Meyer
DT-8J
USEPA REGION 5
77 West Jackson Boulevard
Chicago, IL 60604-3507

May 17th 2004

Dear Dale Meyer

This morning in response to the letter I received dated May 4th from Minnesota Department of Agriculture in regard to properly registering bee locations; I went on the website to verify my location information. In this process I discovered a very disturbing fact. The MDA website will not tie registered bee locations to the appropriate beekeeper.

I called Val Cervenka the new Apiary Coordinator and asked about the proper method to retrieve that information. Val went on line and attempted to retrieve it as we spoke. She was also unable to access the information. Val talked with the database personnel, and called me back. Apparently there is a glitch in the MDA system that is not allowing the proper processing of information.

The reason that I wish to bring this to your attention is that in 2002 I had discovered a major discrepancy in the MDA bee data base. In just my bee location information there were somewhere around 250 errors, that from only around 100 registered locations. I spent several days in a dialog with Chris Candy the data entry person correcting my information, and corresponding information in the MDA database. Chris and I went to the extent of passing worksheets in Excel format back and forth to verify the accuracy. Our lists matched, I have the State ID numbers in my database that correspond to my locations. I have even used that information when registering bee mortality complaints to the MDA.

I am requesting that you would personally go to the MDA website and attempt to pick out information any random county, and see if you can locate the properly registered beekeeper with this system. Is this an additional example of MDA's 'proactive' approach to protecting honeybees in Minnesota? (third year and counting?)

An honest applicator who truly wishes to not kill bees can not use the 'proper' system to notify any beekeeper of his spray plans.

To follow-up on your recent letter, I have requested an invitation at your recommendation to the next meeting of the Minnesota Apairy Advisory Committee on May 26th. I re-requested that by phone this AM to Val Cervenka, Val indicated that Geir Friisoe sets up the meetings, and that she was aware of my request for invitation, and that she has expected that has already gone out. She checked her records and verified that has not occurred. I expect to attend with or without invitation, but at the original meeting it was suggested that nonmember maybe should not be allow time to speak. I feel that being the issue of bees and pesticides, specifically relative to hybrid poplar is one of the intended topic, and that is the primary reason for your invitation to the meeting that it would be appropriate for you to also request that a 'formal' invitation be extended to me.

On a closely related topic. I requested by e-mail that during your visit to Minnesota that you would schedule time to come to the Eagle Bend area and observe first hand the poplar tree bee locations situation. I have not heard back... I feel that it is in the scope of your responsibility as Region 5 overseer of Minnesota Primacy as it relates to pesticides to make the effort to be fully informed on this problem.

I would appreciate a written response that you have received this message, and that you have taken time to verify the problems with the Minnesota Data base.

Waiting to hear on scheduling for your visit to my area...

Respectfully

Jeff Anderson
California Minnesota Honey Farms
721 Wells Street
Eagle Bend MN 56446

Shawnee Hoover

From: "Jeff Anderson" <jsa.cmhf@juno.com>
To: <shoover@beyondpesticides.org>
Sent: Thursday, December 09, 2004 11:49 AM
Attach: Dear Jim.doc; Timothy A.doc
Subject: Fw: Pesticides in Minnesota

----- Forwarded message -----

From: Jeff Anderson <JSA.CMHF@juno.com>
 To: lindsay.anne@epa.gov
 Date: Sun, 16 Mar 2003 20:16:34 -0800
 Subject: Pesticides in Minnesota
 Message-ID: <20030316.201636.1896.3.JSA.CMHF@juno.com>
 X-Mailer: Juno 4.0.11
 MIME-Version: 1.0
 Content-Type: multipart/mixed; boundary=---_JNP_000_62af.632c.3103
 Full-Name: Jeff Anderson
 X-Juno-Size: 98794
 X-Juno-Fcc: Sent Items
 Message-ID: <20030316.201636.1896.3.JSA.CMHF@juno.com>

Anne E. Lindsay
 7506C
 USEPA Headquarters
 Ariel Rios Building
 1200 Pennsylvania Avenue, N. W.
 Washington, DC 20460
 703-305-5265
lindsay.anne@epa.gov

Dear Anne

My name is Jeff Anderson. I am a Migratory Beekeeper based in Eagle Bend Minnesota.

I am requesting that you instigate a review of how Minnesota Department of Agriculture is handling your EPA program for pesticide enforcement.

My experience the last three years has led me to believe that EPA is being negligent in its duty to adequately regulate the States primacy. I have contacted a Jim Roeloffs at EPA on this topic, and had several contacts with Region 5 director John Ward. I understand that John has since moved to a different position, and I have not had direct contact with the new director. After having been brushed off several times, I have turned over this issue to an attorney that has also been brushed off.

I have done extensive personal reviewing of the FIFRA documents related to the pesticide issue, and I believe that Minnesota Department of Agriculture is CLEARLY in error in their interpretation of the pesticide labels on at least 6 pesticides that are being applied in my area. I requested, in writing that Minnesota Department of Agriculture, specifically John Seirk, review the labels on these materials, and make a decision. Minnesota Department of Agriculture has deferred this to the Minnesota Attorney Generals Office, whom referred it directly back to Minnesota Department of Agriculture.

Appendix 5-2

12/14/2004

It is my opinion that I have spoken with all the correct State agencies about this issue, and that due to their unwillingness to act, that it is your responsibility to review their inactions.

This process was started in the fall of 2000, and is showing no resolution.

The crop in question is hybrid poplar tree plantations, planted on CRP land, managed by Minnesota DNR, for Federal DOE. Also involved is International Paper Corporation who has planted over 13000 acres in my area, and is headed somewhere toward 25000 acres. Minnesota Legislature has declared hybrid poplar trees to be cropland agriculture. The herbicides in question are, Lorox DF, Low Vol 4, Squadron, Pendulum, Transline, and Fusilade, and the insecticide is Sevin XLR Plus.

In my opinion there are at least two reasons why several of the herbicides can not be used. First is that several of the mentioned herbicides are specifically registered for NON-CROPLAND tree plantations. The second reason is more environmental in nature. Hybrid poplar trees like to have their feet wet. Several of the herbicides have specific warning for against using in areas that have shallow ground water, or streams or lakes adjacent; we have both situations adjacent to most poplar tree plantations in the area.

As to Sevin XLR Plus, The first attachment is a series of e-mails between your regulator people, and my thoughts. Since writing my thoughts , I have come across this from the Federal Label Review Manual, chapter 9.

Toxicity Group I

Product contains any active ingredient with acute LD50 of 2 micrograms/bee or less

Precautionary Statement if Extended Residual Toxicity is Displayed

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

The above language is the mandatory language that is found on the Sevin XLR Plus label.

I took the liberty of capitalizing the exact quote from the EPA chart of toxicity into the bee caution. As you can see, it is word for word with the exception of the "foraging" instead of "visiting". As a beekeeper I believe that the words are synonymous. The Sevin label is as follows;

BEE CAUTION

THIS PRODUCT IS HIGHLY TOXIC TO BEE EXPOSED TO DIRECT TREATMENT OR RESIDUES ON BLOOMING CROP OR WEEDS. However, field studies have shown that SEVIN® brand XLR PLUS Carbaryl Insecticide is less hazardous to honey bees than other carbaryl products when direct application to bees is avoided and the spray residues have dried. For maximum honey bee hazard reduction, apply from late evening to early morning or when bees are not foraging. **DO NOT APPLY THIS PRODUCT OR ALLOW IT TO DRIFT TO BLOOMING CROPS OR WEEDS IF BEE ARE FORAGING IN THE TREATMENT AREA.** However, applications may be made during foraging periods if the beekeeper takes one of the following precautionary measures prior to bee flight activity on the day of treatment: (1) Confine the honey bees to the hive by covering the colony or screening the entrance or; (2) locate hives beyond bee flight range from the treated area. Precautionary measures may be discontinued after spray residues have dried. Contact your cooperative Agricultural Extension Service or your local Aventis CropScience representative for further information.

DIRECTIONS FOR USE

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

I recommend that you look at the May 10, 2000
PESTICIDE REGISTRATION (PR) NOTICE 2000-5
NOTICE TO MANUFACTURERS, PRODUCERS,
FORMULATORS AND REGISTRANTS OF PESTICIDES.

Here are a couple of short excerpts;

This notice provides guidance to the registrant for improving the clarity of labeling statements in order to avoid confusing directions and precautions, and to prevent the misuse of pesticides. The Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) section 2(ee) defines the term "to use any registered pesticide in a manner inconsistent with its labeling" (i.e., misuse) as use of "...any registered pesticide in a manner not permitted by the labeling...."

Mandatory statements, which commonly use imperative verbs such as "must" or "shall," either REQUIRE ACTION or PROHIBIT the user from taking certain ACTION. Advisory statements generally provide information, either in support of the mandatory statements or about the product in general. To ensure that the INTENT of each labeling statement is clear, mandatory statements need to be clearly distinguishable from advisory statements.

The intent of the Sevin XLR Plus label is to PROHIBIT application with foraging bees in the area. Paul Liemandt at Minnesota Department of Agriculture Pesticide enforcement has stated in deposition that it means significant number of actively foraging bees. The word actively is only used on class one insecticides that have very short residue times, that can be safely dissipated before the next foraging period. Sevin XLR Plus CLEARLY is not in this category.

Here are several sentences taken from comments on Rule 47 FR 16799. If the Agency were to determine the seriousness of a violation based on actual harm which occurred in a particular case, pesticide users would be encouraged to take the risk of misusing a pesticide, with the hope that no actual harm would result from their unlawful act. Congress charged EPA with regulating pesticide use in a manner which prevent unreasonable risk of pesticide exposure to man or the environment. Congressional intent would not be carried out if EPA encouraged pesticide users to engage in unsafe activities by not charging violations in cases where no actual harm occurred. For this reason the final rule retains the language of the proposed rule.

I have over 500 records of Sevin XLR Plus applications the last several years, and most are during midday with bloom and bees both present.

Pulling all of these thoughts together. It is my opinion that Minnesota Department of Agriculture, nonaction of my pesticide complaints for over three seasons is TOTALLY unacceptable.

I would appreciate a written explanation of measures that you are taking to rectify this situation. I believe that a State with this enforcement attitude should lose its EPA delegated, primacy enforcement provisions.

Thanks Sincerely

Jeff Anderson

Owner of

California Minnesota Honey Farms

7342 River Road Oakdale California 95361

Phone 209-847-4731, 209-345-2045 or

721 Wells Street Eagle Bend Minnesota 56446

218-738-6712

PS If you think that I am the only one with a problem check out this article,
http://news.mpr.org/features/2003/02/18_gundersond_onepesticide/

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PESTICIDES REGULATION DIVISION
WASHINGTON, D. C. 20250

November 29, 1968

NOTICE TO MANUFACTURERS, FORMULATORS, DISTRIBUTORS,
AND REGISTRANTS OF ECONOMIC POISONS

Notice with respect to required labeling statements for certain economic poisons to protect honeybees and other pollinating insects

In an effort to prevent or reduce damage to honeybees and other important pollinating insects, labeling statements will be required for certain economic poisons as indicated below. These requirements will apply to products containing any of the pesticide chemicals listed in groups I or II below and intended for use as:

1. Foliage treatments to agricultural crops;
2. Mosquito abatement treatments;
3. Foliage treatment to forests or shade trees.

If a particular use pattern is shown to be less hazardous to bees and other pollinating insects, consideration will be given to reducing these requirements. These requirements will not normally apply to products intended only for use as soil applications or dormant applications.

Products containing any of the pesticide chemicals listed under Group I below will be considered highly toxic to bees. When such products are intended for use as indicated in items 1, 2, or 3 above, the following statement will be required on the label:

"This product is highly toxic to bees exposed to direct treatment or residues on crops. Protective information may be obtained from your Cooperative Agricultural Extension Service."

GROUP I

Aldrin	Fenthion (Baytex)
Arsenicals	Gardona
Azinphosethyl (Ethyl Guthion)	Heptachlor
Azinphosmethyl (Guthion)	Imidan
Azodrin	Lindane
Benzene hexachloride (BIIC)	Malathion
Bidrin	Matacil

Chlordane
 Cryolite
 Dasanit (Bayer 253.41)
 Diazinon
 DDT as ULV
 Dieldrin
 Dursban
 EPN

Mutli.T Tr 11 III on
 MevinphO;
 O'liocdrtii)
 Mobam
 Naled (Dibrom).
 Parathion
 Phosphamidon (Dimercron)
 Tepp
 Zectran
 Zinophos

Carbaryl (Sevin) ..

Methyl parathion

Products containing any of the pesticide chemicals listed in Group II below will be considered toxic to bees. When such products are intended for use as indicated in items 1, 2, or 3 above, the following statement will be required on the label:

"This product is toxic to bees and should not be applied when bees are actively visiting the area."

GROUP II

Abate (Biothiotr)
 Binapacryl (Morocide)
 Carbophenothion (Trithion)
 DDT
 Demeton (Systox)
 Dilan
 Disulfoton (Di-Syston)
 Endosulfan (Thiodan)
 Endrin
 Ethion (Nialate)

Methoxychlor
 Methyl demeton (Meta-Systox)
 Mirex
 Perthane
 Phorate (Thimet)
 Phostex
 Sabadilla
 Tarter emetic
 TDE (Rhothane) /
 Toxaphene
 Trichlorfon (Dylox, Dipterex)

Labels for products containing one or more of the pesticide chemicals listed in Groups I or II above should be amended to add the appropriate statement regarding bees. This statement should be placed in the vicinity of the fish or wildlife cautions on the label. This change should be made in an orderly manner to avoid undue hardship or economic loss to the registrant.

It is not considered necessary to discard printed labels or to make special revisions solely for the purpose of adding the required bee-statement. It can be added as labels are revised and, in all cases,

should be added before submitting labels for reregistration.

It is not necessary to submit labels to the Division for review because of the addition of the required bee statement.

Harold G. Alford
Harold G. Alford
Assistant Director
for Registration

Determine how long Carbaryl is toxic to bees on contact after a spray.

EPA agreed on an average half life of 3 days...

$$\%left = e^{-k \cdot t} \quad \text{gives} \quad .5 = e^{-k \cdot 3} \quad \ln(.5) = -k \cdot 3 \quad k := \frac{\ln(.5)}{-3}$$

Define Parts Per Million

$$\text{ppm} := 10^{-6}$$

Concentration needed to kill a bee

$$\text{Conc}_{\text{Crit}} := 9.57 \text{ppm}$$

Assume spray is the lowest 110 ppm

$$\text{Conc}_{\text{Spray}} := 110 \text{ppm}$$

Percent Left

$$\frac{\text{Conc}_{\text{Crit}}}{\text{Conc}_{\text{Spray}}} = 0.09$$

$$\frac{\text{Conc}_{\text{Crit}}}{\text{Conc}_{\text{Spray}}} = e^{-k \cdot t} \quad \ln\left(\frac{\text{Conc}_{\text{Crit}}}{\text{Conc}_{\text{Spray}}}\right) = -k \cdot t \quad t := \frac{\ln\left(\frac{\text{Conc}_{\text{Crit}}}{\text{Conc}_{\text{Spray}}}\right)}{-k} \quad t = 10.57 \text{ days}$$

Assuming spray is the average which is 315 ppm

$$\text{Conc}_{\text{Spray}} := 315 \text{ppm}$$

Percent Left

$$\frac{\text{Conc}_{\text{Crit}}}{\text{Conc}_{\text{Spray}}} = 0.03$$

$$\frac{\text{Conc}_{\text{Crit}}}{\text{Conc}_{\text{Spray}}} = e^{-k \cdot t} \quad \ln\left(\frac{\text{Conc}_{\text{Crit}}}{\text{Conc}_{\text{Spray}}}\right) = -k \cdot t \quad t := \frac{\ln\left(\frac{\text{Conc}_{\text{Crit}}}{\text{Conc}_{\text{Spray}}}\right)}{-k} \quad t = 15.12 \text{ days}$$

If bee was tested the day that it was killed

Define Parts Per Million

$$\text{ppm} := 10^{-6}$$

Weight of Average Bee

$$W_{\text{bee}} := 115\text{mg}$$

Critical Mass of Sevin required to kill bee by contact.

$$\text{Contact}_{\text{crit}} := .001\text{mg}$$

Amount needed to kill bee by contact.

$$\frac{\text{Contact}_{\text{crit}}}{W_{\text{bee}} + \text{Contact}_{\text{crit}}} = 9.57\text{ppm} \quad - \text{ by weight}$$