

Pick Your Poison: At War With Nature

(by Maxina Ventura, Sonoma Pesticide Alert 6/16/00)

In a June 15th article on plans to control Pierce's Disease, spread by the glassy-winged sharpshooter, Supervisor Paul Kelley is quoted in the Santa Rosa Press Democrat as saying, "No option should be ruled out if the pest became a serious threat to the county's \$2 billion wine industry." Though Agricultural Commissioner John Westoby has said that he doesn't believe that aerial spraying will be necessary in residential areas, he hasn't ruled it out nor has he clarified what he considers residential areas.

According to Sonoma County Tax Assessor, James Gallagher, city areas of Sonoma County account for only 80 square miles (5%) while the rest of county lands comprise 1,580 square miles. No one has ruled out Lorsban (active ingredient Chlorpyrifos), the organophosphate which was sprayed by air to fight the sharpshooter in Riverside county both in March and June of this year. June 19th John Westoby said that the Ag. Department is going to "go with" the recommendations by the scientific panel set commenced by Secretary Lyons of the California Department of Food and Agriculture and pointed out that they are not recommending aerial spraying as they evaluate the spraying started June 20th house to house in Porterville, Tulare County. When asked what he considered residential areas, he said, "I don't know. I guess you could say urban areas." In responding to the question of whether there has been a lot of concern expressed about aerial spraying in Sonoma County he said, "It's kind of sad in a way... it's making people understandably antsy. I think it's not even a possibility for what might be called residential areas," apparently referring to the 80 square miles of city lands in Sonoma County.

Due to its extreme toxicity, Chlorpyrifos was banned by the EPA June 8th, 2000, for virtually all uses in residential and commercial buildings. Chlorpyrifos is a nerve toxin that inhibits Cholinesterase, an enzyme critical to nervous system function. It can cause headaches, dizziness, mental confusion, an inability to concentrate, blurred vision, vomiting, stomach cramps, uncontrolled urination, diarrhea, seizures, birth defects and multiple chemical sensitivity. This insecticide has been linked to organophosphate-induced delayed neuropathy (OPIDN), a nervous system disorder resulting in weakness or paralysis of the extremities. In children, acute exposure most often results in seizures and mental changes such as lethargy and coma. Chlorpyrifos is easily absorbed via inhalation, ingestion or through the skin. Symptoms may not be evident for up to one to four weeks after exposure. Studies have shown that this insecticide can persist up to eight years after application." Yet, the Ag. Commissioner has not ruled out using it in the majority of the county which, because of drift, would expose everyone in this county and people and the environment beyond county borders.

Perhaps because of public concern over the use of Chlorpyrifos in Temecula and concerns about its possible use elsewhere Agricultural Commissioners find themselves contemplating less notorious, but no less insidious, alternatives. According to articles last week in the Press Democrat and the Fresno Bee Sevin (active ingredient Carbaryl) is going to be used as the weapon of choice in Fresno and Tulare counties

beginning June 20th in Tulare county and will be applied around people's homes. The Ag. Commissioner has authorized spraying over the objections of residents, even if residents refuse to allow chemical sprayings fearing for their families' health. Residents are being warned to remove pets from the areas to be sprayed, cover fish ponds and refrain from harvesting fruits and vegetables for a prescribed period after application. And John Westoby, Sonoma County Ag. Comm. is referred to in the 6/15/00 Press Democrat as saying that Carbaryl is a good choice for residential spraying. He is quoted as saying, "It's safe and effective and has been around for years and years." DDT, long-banned for U.S., use has been around for "years and years," as has been Chlorpyrifos.

The EPA doesn't even allow pesticides to be advertised or promoted as being safe. Veda Federighi, of the Department of Pesticide Regulation, the pesticide regulatory arm of the EPA, clarified: "The way we put it, every substance can be used in a safe or an unsafe way. The scientists will say, and why EPA doesn't allow the statement that pesticides are safe is that, safety is a matter of dose. There's no way to prove safety, which is the absence of harm. Scientists will tell you there are no poisons at all, only poisonous doses. When used per the label they can be used safely. But people don't always follow label instructions," the latter having been reported by the United Farm Workers and other farmworker advocates.

Carbaryl is of a class of pesticides referred to as carbamates. Carbamates are closely linked with organophosphates in terms of acute effects and both attack the nervous system. If one does not suffer repeated exposures the body has a better chance with carbamates than organophosphates to recover. Carbamates interfere with production of the enzyme cholinesterase, which affects nerve impulses. Sevin was noted in an EPA description discussed in the June 14th Fresno Bee article to have moderate to low toxicity in humans. Although Carbaryl is an insecticide, all animals-- including humans-- are affected by it. The short-term effects of exposure to Carbaryl include nausea, vomiting, blurred vision, convulsions, volatility and aggression, coma and respiratory failure.

Will Sumner, Certified Toxicologist of Scientific Certification Systems in Oakland, California, points out that Carbaryl is a nerve poison. "Relatively speaking, yes, it is less toxic than Chlorpyrifos BUT this is a matter of comparing poisons. Carbaryl still has a level of toxicity over time." According to monthly pesticide use reports, people in this county regularly have been exposed to Carbaryl used on vines. We need to take seriously the detrimental effects of any exposure and especially of exposure all around us if the Ag. Commissioner ok's its use anywhere in this county in the quest to eradicate this sharpshooter if it is found here (eggs have been discovered on ornamental plants brought in from S. California).

Sumner quoted the 1993 National Academy of Sciences report: "Carbaryl as a nerve toxin affects the developing nervous systems of infants and kids." He stressed longterm concerns for development in children. Beyond that, he said that, "The problem is that their approach is to kill the insect instead of curing the disease." He brought up the possibility of using beneficial insects such as wasps.

Fresno Ag. Department entomologist, Norman Smith, has said that, "Beneficial wasps are only being looked at for use after trying to eradicate the glassy-winged sharpshooter with Carbaryl." Asked if they expect eradication with Carbaryl, he said they do not know if it will work. In fact, Lynn Thomas, Ag. Commissioner of Tulare County, is quoted in the June 14th Fresno Bee as saying, "We're not aiming for eradication, we're looking at containment." Ironically, as quoted in the Fresno Bee article of the 14th, "Carabaryl is extremely toxic to aquatic invertebrates and to honeybees." In the same article, Jerry Prieto, Fresno County's Ag. Commissioner pointed out that, "One of the side effects is that it kills off the good bugs, the beneficial predatory insects."

Steve Lyle of the California Department of Agriculture, which is providing funding to Agricultural Commissioners throughout the state and overseeing eradication and control attempts, said they are funding an ambitious biological control project involving parasitic wasps. They are in the planning stages and hope to build an insectary where they will breed wasps which prey on the glassy-winged sharpshooter. They are considering a native Californian species of wasp but are also considering a Mexican wasp which is in quarantine for another 7 months. Lyle did not know why the wasp was in quarantine.

There is controversy about introducing non-Native wasps which would prey on the glassy-winged sharpshooter. Many fear a non-Native species upsetting a delicate environmental balance, as has been seen with non-Native bullfrogs in California. In the short run wasps are a non-toxic alternative to chemicals but the larger picture demands a longterm plan. Sonoma Pesticide Alert asserts that, buffer zones at least comparable to what is demanded of organic growers receiving esteemed certification from California Certified Organic Farmers will be a necessary step in avoiding future pest infestation threats vineyard to vineyard. In a letter of response to Sonoma Pesticide Alert, Dave Bengston, Agricultural Commissioner of Mendocino County, said, "I agree that buffer zones would do a lot to reduce and eliminate problems, and I have proposed that buffer zones be provided for in the planning process. The proposal failed."

Additionally, Sonoma Pesticide Alert points out that vines grown with organic methods will better be able to withstand stresses including unwanted pests, viruses and bacteria. And for the shortterm, since Bob Wynn, the state's interim coordinator to lead the efforts against Pierce's Disease and the glassy-winged sharpshooter, said in an article in the Temecula Californian, "The effort is to slow the artificial spread of this pest." Ornamentals, grapes and other host plants for the glassy-winged sharpshooter from counties where the sharpshooter has been seen simply need to be kept out of this county. The list of host plants boasts 121 varieties of woody plants and herbaceous plants, according to the Glassy-winged sharpshooter Advisory List from the California Department of Food and Agriculture.

Emphasis on biological controls must be another shortterm priority. Nick Toscano, UC Riverside's lead person looking at biological controls shared some of their consideration such as the three native microwasps which lay their eggs in the sharpshooters' eggs; soap-based insecticides; "Surround," a clay dust which reflects light back to the insect so that it cannot see the plant. Ben Drake, a

Temecula grape grower spoke about "Abound," a fungus-based insecticide and at a community meeting in Sonoma Rhonda Smith, the UC Davis Cooperative Extension Viticulture Advisor to Sonoma County, mentioned a cinnamon-based insecticide being explored recently. Bob Roberson of the Integrated Pest Control office of the California Department of Food and Agriculture says Zinc is being considered as a bacterial control and temperature controlling of vines is the subject of research since bacteria die at cold temperatures, leading to less bacteria problems in Oregon and Washington state.

In the March 13th edition of the Wall Street Journal of Riverside, California, John Dyson, chairman of the Williams and Selyem winery in Napa, is quoted: "This thing needs to be bottled up before it wipes us out. They're already wiped out down there, they just don't know it." The writer continues, "That's why growers in the north advocate the quarantine approach. Worried that eggs of the sharpshooters may arrive in grapes and other produce shipped north, some are lobbying the state to classify the bug as a class-B pest. That would require such quarantine procedures as setting up road inspection points on north-south highways to halt shipments of any crops known to carry the insect's eggs. Temecula's vineyards would be financially hurt, because a quarantine would restrict them from shipping grapes to other parts of the state for crushing."

Ray Green, head of California's state registration for organic growers sheds light on why there has not been more understood about the successes of organic growing methods. Organic agriculture comprises approximately 2% of total agriculture in the U.S. He referred to the report by Mark Lipson, 'Searching For the "O-Word"' published by the Organic Farming Research Foundation. "As of 1995 there were only 34 projects funded by the Federal government explicitly focussed on organic systems or working methods and describing experimental settings consistent with conditions found on organic farms." The funding for these projects was \$1.5 million dollars, less than 1/10 of 1% of the USDA's portfolio for FY1995 funding. The balance went primarily into conventional growing methods research and extension. Lipson offers, "Recently there's been a fractional, very small increase in funding but it's not yet been systematic. There are policy developments that hopefully will produce a more deliberate, systematic approach."

When questioned about the possible impact on organic growers of widespread sprayings of organophosphates or carbamates, Lipson, the policy person at the Organic Farming Research Foundation, said, "Aerial spraying threatens the livelihood of organic growers. The state would probably allow their product to be sold as organic but it undermines, or at least raises questions for consumers about what organic means. This also raises the question of whether the state is going to differentially defend the rights of organic growers in a lesser way than they are going to defend other specific industries." He continued, "On one level it's a problem we shouldn't have to be facing, the aerial spraying of insects which we know is futile. It's a setback for the possibility of biological control. It hurts the ability of the environment to deal with this pest on its own." In discussing research efforts and monies toward such Lipson said, "For 10 years or more the UC system has been dismantling the biological control program. Hundreds of millions of dollars has been spent on molecular biology and genetic engineering while biological control research has been reduced

to a real crumb. They've lost generations' worth of scientists and technicians. Now they have nothing to do but panic and start spraying." He concluded, "It's absurd-- this is not going to eradicate the sharpshooter. It probably won't even control it. They are causing more problems, putting more stress on the biological resiliency of the environment."

Mendocino County's Agricultural Commissioner is quoted in the Ukiah Daily Journal: "Spraying doesn't work. If you're not careful you can help spread the disease." He explained that sharpshooters have a highly developed sense of taste and as soon as they taste a pesticide they jump to another plant.

While the State Legislature justified the allocation of nearly \$14 million of taxpayer money (and it is matched by the Federal Government) to the war against the sharpshooter by claiming that not doing so would threaten the economy of the entire state, it appears that the Sonoma County economy isn't as dependent on the wine industry as some believe. According to Ben Stone at the Sonoma County Economic Development Board, a recent estimate that the wine industry accounts for \$2 billion of the total Sonoma County economy is a bit high, even including ancillary activities beyond production (\$500 million) and added-value (\$1 billion). He also says that the electronics industry contributes \$3-1/2- 4 billion to Sonoma County's economy, and is growing rapidly.

Even if growers or the Agricultural Department do not aerial spray Lorsban, as they did in Temecula this past March and also in June, or switch from Lorsban to a slightly less vehement sister poison, such as Sevin, panic over the glassy-winged sharpshooter threatens to endow Sonoma County with a long-lasting toxic legacy. Studies show that Chlorpyrifos can persist up to eight years after application.

Maxina Ventura for the Sonoma Valley Voice, 6/16/00