WASHINGTON STATE UNIVERSITY
TRI-CITIES

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In response to your request, the USDA Western Region Integrated Pest Management Center provides the following information for your use in the dimethoate reregistration process. The following is an outline of dimethoate use in Alaska, Idaho, Oregon, Utah, and Washington. General comments on dimethoate are provided first, followed by crop-specific information. In addition, there are three attachments to this letter:

- A contact list, should you have additional questions about dimethoate use on a specific crop in our region;
- A copy of *Dimethoate Use in Dry Peas, Lentils, and Chickpeas*, submitted to EPA February 19, 2003 by the USA Dry Pea & Lentil Council; and
- A copy of the document *Activity Tables for Alfalfa Seed in Treasure Valley of Southwest Idaho and Eastern Oregon*. (This document was previously submitted to Lois Rossi in response to questions about dimethoate use on alfalfa seed.)

In the crop information below we have provided dimethoate use information for all crops of interest except head lettuce, apple, and grape. Should EPA decide that there is a possibility of retaining dimethoate use on any of these crops we would be happy to supply the agency with any needed information. Following each crop write-up we have summarized our requests. We have indicated a request to retain uses even on crops that at this time do not appear to be in danger of being dropped from the dimethoate registration simply as an attempt to preclude a decision to drop one of these uses in lieu of another at a later date.

We are particularly concerned with:

- Retaining dimethoate use on the following currently unsupported crops: asparagus grass seed, cottonwood/poplars grown for pulp, and potatoes.

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- Retaining dimethoate use on: alfalfa, alfalfa seed, dry bean, succulent bean, bean seed, cherry, lentil, lentil seed, leaf lettuce, ornamental/shade tree, succulent pea, dry pea, dry pea seed, succulent pea seed, and spinach seed.

- Retaining aerial application on: alfalfa, alfalfa seed, dry bean, succulent bean, bean seed, grass seed, lentil, lentil seed, succulent pea, dry pea, dry pea seed, and succulent pea seed.

- A provision that would allow entry into dimethoate-treated fields for irrigation purposes, or for other short-term activities. (See further discussion in the General Comments section under re-entry.)

In the interest of providing meaningful input to EPA, we do have a comment on the overall process for this project. From the outset it was unclear exactly what information EPA was seeking on which crops. Also there was no clear timeline on when this information was needed by the agency. The information that we received consisted of copies of two tables and a short note written by Phillip Poli of USDA. If EPA is seeking specific information it would be very helpful to have the request itemized. In addition we found the information that we were given to work with contained conflicting information. The *Dimethoate Issues Summary By Group - Draft November 27, 2002* indicates that succulent beans, peas, and spinach uses will be deleted; however, on the same table, under a listing of vegetables with lower application rates, it is stated that use on peas and spinach will be retained. In this same table the notation for head lettuce indicates that a use deletion is only being considered; however, Phillip Poli had information stating that the decision to delete head lettuce was final. While we are very pleased to have the opportunity to provide EPA with information about crop production in our region, our concern is that the information we gather be the information that is most helpful. We hope that you will find the following information useful and we look forward to having the opportunity to provide this type of input in the future.

General Comments

Following are some general comments with respect to this document and dimethoate use.

Formulation: In all cases below application rates given as pints per acre refer to the application of product formulated as four pounds dimethoate per gallon.

Aerial Application: EPA has indicated that the main reason for proposing to delete all dimethoate aerial application is concern for exposure to mixers and loaders. If the agency is simply trying to reduce overall dimethoate exposure we suggest that aerial application be retained only on certain crops. In the discussions below we have identified those crops where retaining aerial application is important to agriculture in the Pacific Northwest. Others suggested that EPA might reconsider assumptions made as part of exposure calculations. In areas of diverse agriculture such as the Pacific Northwest, aerial mixers and loaders are not handling dimethoate all day each day. Additionally, dimethoate applications to many crops are not made

every year, only when pest pressure dictates. Another suggestion is that EPA require dimethoate to be packaged in closed transfer systems. Finally, crop specialists have expressed concern that the loss of aerial application will make dimethoate unusable on many crops due to the logistics of application. As an example, in our area there are tens of thousands of acres of peas, both dry and succulent. Should a major aphid outbreak occur, all acreage would be affected simultaneously. There is simply not enough ground application equipment to apply dimethoate where it is needed in time to preclude major crop destruction.

Re-entry: In many cases discussed below, the proposed REIs will make dimethoate unusable. In the majority of the crops where this is the case, workers need access to fields for routine irrigation operations. In EPA's *Worker Protection Program Fact Sheet: Exception for Irrigation Activities* (http://www.epa.gov/pesticides/safety/workers/irrigati.htm) EPA discusses the exception that allows for early entry into treated fields for the purposes of irrigation. EPA states that "This exception allows workers the flexibility during an REI to perform irrigation tasks that could not have been foreseen and which, if delayed, would cause significant economic loss." In our region many crops are irrigated and access is required to move and perform routine maintenance on irrigation equipment. Neither of these constitutes activities that "could not have been foreseen." Thus in many of the cases discussed below, establishing REIs as long as those proposed will essentially prohibit the use of dimethoate on the crops because access to fields for irrigation will not be allowed. We offer two suggestions:

1) That EPA reword the irrigation early entry provision to allow entry for all irrigation needs not just those that are unforeseen.

2) That EPA consider establishing variable REIs such that the REI changes depending upon the amount of time that is needed in the field in a 24-hour period. Thus if a worker needs access to a field only to move irrigation lines and this will take 2 hours in a given day, the REI will be lower than if a person is entering the field to perform a task like hand weeding that is expected to take 4 hours. An example variable REI is provided below.

	Variable REIs Based on Time in Field							
Field Hours/Day	1	2	3	4	5	6	7	8
REI	2 Day	4 Day	6 Day	8 Day	10 Day	12 Day	14 Day	16 Day

Grape Use: EPA indicated that grape uses will be deleted from the dimethoate registration because of dietary risks and that no comments should be submitted regarding dimethoate use on this crop. Wine grapes, as well as juice grapes, are grown in our area. Dietary exposure from wine grapes should not parallel that of exposure from juice or table grapes. We are requesting that EPA split out wine grapes from juice or table grapes and that dietary exposure for wine grapes be recalculated. We believe that there may be a niche need for the retention of dimethoate use on wine grapes for early season thrips control.

Seed Crops: Many seed crops are produced in the Pacific Northwest. We are making a general request that for crops where EPA is considering disallowing dimethoate use because of

dietary risks (e.g., succulent beans, succulent peas, and spinach) that the agency consider retaining the use on the nonfood/nonfeed seed crop. Typically seed crop acreage is small and there is no dietary risk associated with continued dimethoate use.

Crop Information

Alfalfa: In our region, dimethoate is used to control aphids (pea aphid and spotted alfalfa aphid), lygus, and weevil; and it also provides some mite control in alfalfa. Although alfalfa growers have the use of Warrior (lambda-cyhalothrin), retaining dimethoate use is very important because this chemical is much less expensive than alternatives and because it provides better control for some pests such as spotted alfalfa aphid and alfalfa weevil. (See the cost comparison provided under the alfalfa seed discussion.) Although dimethoate labels allow one application per cutting, estimates from Utah indicate that alfalfa acreage is treated as follows: 80% of acreage is treated once a year, 15% is treated twice a year, and 5% is treated three times a year. Growers in some geographic areas such as the Treasure Valley region (western Idaho and eastern Oregon) use less dimethoate. Alfalfa grower's biggest concerns are the proposed cancellation of aerial application and the proposed 15-day REI for arid regions.

It is estimated that 75% of current dimethoate alfalfa applications are made by air. Crop experts in Idaho have stated that the loss of aerial application for dimethoate use in alfalfa may preclude using this chemical altogether on this crop. Making dimethoate applications by ground is a problem for several reasons. Dimethoate is typically applied relatively close to harvest, in the warm season when the alfalfa is growing rapidly. Aphid populations increase as the crop grows up and the canopy begins to provide shade. At this point the crop is tall enough that the use of ground equipment would damage the crop and the damaged crop would be hard to cut. Yield losses of up to 5% could be expected from the use of ground equipment to make dimethoate applications.

When there is an aphid outbreak, typically it hits all the alfalfa acreage at once. In some areas there aren't enough applicators or equipment to do all the necessary applications by ground in a timely manner. (See note under General Comments.)

When alfalfa is furrow irrigated, ground application is not an option. In order to make a ground application tractors must be carefully driven down the fields so that damage is not caused to the furrows by the tractor tires. At the stage that dimethoate is applied (2 to 3 weeks after cutting), a driver cannot see through the vegetation to make this type of application. Ground applications can only be made to furrow-irrigated alfalfa right after harvest.

The proposed 15-day REI for arid growing regions will pose a problem in our region because of the need to access the fields for irrigation. In Washington, all the alfalfa acreage is irrigated with approximately 75% under center pivot and the remaining 25% irrigated with sprinklers (either wheeled or hand lines). In Utah 95% of the alfalfa is irrigated with 15% of that under center pivot and the remainder either sprinkler or furrow irrigated. In Idaho, 79% of the alfalfa is irrigated, of which it is estimated that half is furrow and half is sprinkler. All these types of irrigation equipment require routine access: sprinklers need to be changed once a day as do hand lines, center pivot systems require daily maintenance, and siphon tubes used for furrow irrigation are changed daily. Should EPA insist on a 15-day REI this will impact all the irrigated alfalfa

production except that grown under furrow irrigation. (Changing siphon tubes does not involve contact with treated foliage.)

We are asking that EPA retain the use of dimethoate on alfalfa, that aerial application be retained for this crop, and that EPA consider either altering the early entry irrigation exemption or consider putting a variable REI in place as has been suggested in General Comments.

Alfalfa Grown for Seed: Idaho, Oregon, Utah, and Washington, together with California, Wyoming, Nevada, and Montana produce between 80 and 90% of the alfalfa seed in the United States. For this crop, dimethoate is even more important than it is in alfalfa grown for hay. There are two use patterns for dimethoate in alfalfa seed in our region. In the Columbia Basin, dimethoate is most often used as a late-season cleanup spray at the end of the pollinating season, typically in the middle of August. At this time there are few flowers and thus few bees in the fields. Applications are made by air at dusk when the few remaining bees are safely out of the fields. In the Columbia Basin dimethoate is only occasionally used prebloom in a tank mix with Warrior when there are outbreaks of pea aphids or a heavy infestation of lygus. (Typically Warrior alone is used prebloom and when used this way it is not recommended for a second application due to concerns about insect resistance management.) Nearly all the Columbia Basin alfalfa seed acreage requires the late-season treatment with dimethoate for lygus control.

Dimethoate is much less expensive to use than other products. The information below, supplied by WSU's John Kugler, indicates that dimethoate is a quarter to a third as expensive as other products for this use:

Cygon (dimethoate) at 1 pt/A = $5.00/A
Lannate (methomyl) at 2 pt/A = $13.50/A
Furadan (carbofuran) at 2 pt/A = $21/A
Warrior (lambda-cyhalothrin) at 3.84 oz/A = $13.47/A

In the Treasure Valley growing region and in Utah, there is a different use pattern for dimethoate. Here dimethoate is used to control lygus as well as secondary pests such as pea aphids and spotted alfalfa aphid. Dimethoate is used in a tank mix, typically applied with either Capture (bifenthrin) or Warrior as a prebloom treatment. Typically this application is made in late May or early June and application is made only once. Applications are made both by air as well as with ground equipment. In Utah, 80% of the applications are made by air. In the Treasure Valley, 70% of dimethoate applications are made by ground and 30% by air with 85% of the acreage being treated each year with dimethoate. In the Treasure Valley, 85 to 90% of the alfalfa seed acreage is furrow irrigated. Here workers do not need foliage-contacting access to operate irrigation equipment; however, access is required for one critical operation. Access to treated fields is necessary within 7 to 10 days of a dimethoate application to bring pollinators into the fields. This is a critical use for the Treasure Valley in order to provide both timely lygus control and to protect pollinators. This use of dimethoate is the basis for the in-season IPM program. EPA has previously been sent a copy of the document *Activity Tables for Alfalfa Seed in Treasure Valley of Southwest Idaho and Eastern Oregon* describing alfalfa seed production in this region in detail. A copy is attached to this letter for your information.

In summary, retaining aerial application is important to alfalfa seed growers in our region for two reasons: late season lygus control in the Columbia Basin and pollinator release timing in the Treasure Valley and in Utah. Ground application is not an option for late season lygus control in the Columbia Basin. At the time of this application the crop is tall and entering fields with ground equipment will damage the seed-bearing foliage. Besides damaging the foliage, the height of the crop makes accurate application of a spray by ground equipment impractical unless growers are utilizing (expensive) GPS guidance systems.

In the Treasure Valley and in Utah, growers begin incubating bees a month before projected 10 to 20% bloom in the alfalfa seed fields. If there is hot weather at the end of May, fields will need to be irrigated. When fields are wet and ground is soft and muddy, growers are unable to enter fields with ground equipment in order to make dimethoate applications. Aerial application is a necessity in this case because dimethoate must go on the alfalfa ahead of the release of the pollinators.

As with alfalfa, the proposed 15-day REI will present problems:

- On non-furrow irrigated acreage, access to treated fields is required for routine irrigation operations.

- For prebloom applications, access to treated fields is required 7 to 10 days following an application to bring pollinators into the fields.

<u>We are asking that dimethoate use on alfalfa seed be retained, that aerial application be retained for this crop, and that EPA shorten the proposed REI for alfalfa seed or consider a variable REI as has been suggested in General Comments.</u>

Asparagus: In a phone conversation on January 29, Dr. Alan Schreiber of the Washington Asparagus Commission commented that dimethoate was the second most important insecticide (second to disulfoton) in asparagus production. He has stated his intent to submit comments on the necessity of retaining dimethoate use on asparagus.

Bean, Dry: In dry bean production there are two different use patterns for dimethoate. In Idaho dimethoate is used for thrips control and is applied to 5% of the dry bean acreage. A single application of dimethoate is made at a rate of 0.5 # ai/A during the early season. In Washington, where dimethoate is used for lygus control, approximately 85% of the dry bean acreage needs to be treated at least once with 45% of the acreage requiring a second treatment. The initial dimethoate application is made at the first sign of bloom near July 1. If a second application is required, it is made two weeks later. Applications are made at 1 pt/A. Alternative contact sprays are labeled for use on dry beans but dimethoate is the product of choice because it is systemic and because it is less expensive. Another alternative is Temik (aldicarb); however, this is applied at planting and requires special (expensive) equipment.

Aerial application of dimethoate is important for dry bean production because most applications are made after row closure when growers are unable to access fields with ground equipment. In

some cases growers may be able to use ground equipment on the first application if it is early enough that the rows haven't closed.

Growers need to be able to access fields following a dimethoate application for irrigation. (All the acreage is irrigated and it is a mix of both furrow and sprinkler irrigation.) Access is also required for hand weeding. The proposed 16-day REI would make dimethoate unusable in dry bean production.

We are asking that dimethoate use on dry beans be retained, that aerial application be retained, and that either the proposed REI be shortened or that EPA consider a variable REI as discussed in General Comments.

Bean, Succulent: In Oregon dimethoate is not used in succulent bean production; however, in Washington it is estimated that 60% of the succulent bean acreage is treated with dimethoate at 1 pt/A. Here dimethoate is used to control lygus and aphids. Dimethoate is the chemical control of choice because it is effective and it costs less than alternatives. Dimethoate is applied, typically as a single application, between late July and early August and 100% of the applications are made by air. Application by ground equipment is not practical for two reasons: irrigation and row closure. At the time that dimethoate is applied, succulent beans are being heavily irrigated. (100% of the succulent bean acreage in Washington is furrow irrigated.) In order to access fields with ground equipment, and prevent getting stuck, irrigation would need to be turned off for 7 days. A lack of irrigation at this stage in crop development would seriously damage the crop. Row closure occurs at the same time as dimethoate applications are made. Accessing fields with ground equipment would also damage plants and lead to yield losses.

The proposed 12-day REI is also of concern. Succulent beans require hand weeding in the last 30 days of crop development. Fieldmen also were concerned that the 12-day REI might impact harvest. The harvest of lima beans begins around August 15th. While beans are mechanically harvested some contact with foliage can occur.

We are asking that dimethoate use on succulent beans be retained, that aerial application be retained, and that either the proposed REI be shortened or that EPA consider a variable REI as has been suggested in General Comments.

Bean Seed: In Idaho bean seed growers use dimethoate for both aphid and mite control. It is estimated that on the whole approximately 50% of the Idaho bean seed acreage is treated every year with dimethoate; however, in areas such as the Treasure Valley where problems with red spider mites are more severe, upwards of 90% of the acreage is treated with dimethoate. A majority of the dimethoate applications are made by air; however, some ground equipment is used especially in areas such as tribal lands where aerial application is not allowed. Aerial application is important in bean seed production because applications are made between the first of August and the first of September, after row closure, when ground equipment can't be used in fields. At this point going through the bean seed fields with ground equipment would cause damage to plants and would result in yield losses. In Idaho approximately half of the bean seed acreage is furrow irrigated and half is irrigated by sprinklers; in some areas such as the Treasure Valley, nearly all the acreage is furrow irrigated. Most bean seed applications consist of one

dimethoate application per season; however, some acreage is treated with two or even three dimethoate applications per year. When more than one dimethoate application is used the first is made in May or June and then the second is made in August. Alternate chemicals for mite control are Omite and Comite (propargite) or Asana (esfenvalerate). It has been found that propargite is not effective in bean seed and esfenvalerate can cause mite flare-ups. In addition, while somewhat effective in the Treasure Valley, esfenvalerate is not as effective in the Magic Valley growing region . The proposed 16-day REI will pose a problem as access to fields is required for irrigation purposes.

In Washington bean seed, the use pattern for dimethoate is different. Here dimethoate is being used to control beet leafhopper. This use is considered critical because beet leafhopper transmits curly top virus. According to Del Monte personnel, curly top virus has the capacity to decimate an entire crop. Most of the applications in Washington are made by air. As in Idaho, acreage is split evenly between furrow and sprinkler irrigation. All of the Washington bean seed crop is treated with two applications of dimethoate each year: at emergence (first week of June) and again 10 to 14 days later. (Plants emerge 7 to 14 days after planting.) Applications are made at a rate of 1 pt/A. Alternative chemicals have been tried but don't provide as good control for beet leafhoppers as dimethoate and aren't as economical.

A 16-day REI is unworkable for dimethoate use on bean seed. After planting, farmers need access to the fields to cultivate before irrigation is initiated (21 days after planting). A 16-day REI might preclude field access for the second dimethoate application (if made by ground), for cultivation, and for irrigation. Alternate products such as Temik (aldicarb) and Di-Syston (disulfoton) are available but are not practical to use. Some production companies like Del Monte do not approve the use of Temik in their seed production. Disulfoton is also not practical for leafhopper control. When disulfoton is used at planting, the product is placed away and below the area where seeds are planted. In order for uptake to occur, plants must produce roots that reach the product. In bean seed production this doesn't happen for 7 to 10 days from emergence. Plants need to be protected before this because leafhoppers feed on the succulent foliage of the young plants.

We are asking that the use of dimethoate be retained on bean seed, that aerial application be retained for this crop, and that EPA reconsider the proposed REI and either shorten it to 3 days or consider a variable REI as discussed in General Comments.

Broccoli Raab Seed: Dimethoate is being used on this crop; however, effective alternatives are available.

Brussels Sprouts Seed: Dimethoate is being used on this crop; however, effective alternatives are available.

Cabbage: Dimethoate use is not important in this crop in our region.

Cabbage Seed: Dimethoate use is not important in this crop in our region.

Cherry: There are two use patterns for dimethoate on cherries in our region: one for sweet cherries and a second for tart cherries.

- **Sweet Cherry:** Dimethoate use on cherries is critical in our region for cherry fruit fly control. Quarantine agreements with California and export market countries carry a zero tolerance for cherry fruit fly larvae in packed fruit. Inspections are rigorous and penalties severe.

  EPA has raised questions regarding the use of dimethoate on dormant cherry trees. In the Pacific Northwest region no dormant dimethoate applications are made to cherry trees.

  In Washington, the only application of dimethoate that is made in the orchard is to the trees post-harvest. This application is critical for cherry fruit fly control and is considered to be the most important spray of the year. The spray is important because dimethoate is the only product available that will kill the cherry fruit fly larvae inside the fruit. This application kills larvae in any unpicked fruit in the orchard and it returns the in-orchard cherry fruit fly populations to zero. Cherry growers can then enter the next growing season with very low populations of cherry fruit fly. The post-harvest dimethoate application is made at a rate of 2.0 to 2.5 pt/A. All applications are made with ground equipment so the loss of aerial application as an option is not of concern. It is estimated that 50% of the sweet cherry acreage receives this spray.

  In Oregon growers are using dimethoate pre-harvest on approximately 20% of the sweet cherry acreage for cherry fruit fly control. Crop experts have stated that if dimethoate is lost as a pre-harvest treatment for cherry fruit fly control, growers will switch to using malathion.

  We are concerned about the newly proposed dimethoate re-entry intervals (REIs) and the potential impact to orchard access. As proposed, the REIs will preclude the pre-harvest use of dimethoate for cherry fruit fly control. The proposed REIs also pose problems for post-harvest dimethoate use. Although there is no need to access the orchard following a post-harvest dimethoate application for harvest, propagation, pruning, or thinning, workers do need to return to the cherry orchard to change the irrigation every 10 to 14 days. Access is also required for controlling weeds, applying fertilizer, mowing orchard grass, and application of baits for rodent control. Because none of these activities involve actual contact with the treated trees, we are requesting that label wording not prohibit general access to the orchard for these necessary activities. If orchard workers are required to completely suit up to perform these tasks, the July and August heat will present a health concern (heat stroke).

  EPA had also asked about the impact to growers of requiring closed cabs for making dimethoate applications to cherry trees. Please realize that requiring closed cabs will present a significant monetary burden to growers as very few already own these types of tractors.

We are asking that EPA retain the use of dimethoate on sweet cherries, that either the proposed REI be reduced or a variable REI be put in place, and that closed cabs not be required for making dimethoate applications to cherries.

- **Tart Cherry:** Tart cherries are grown commercially in Oregon and Utah. In tart cherry production dimethoate is predominantly used pre-harvest for cherry fruit fly control. There is also some minor post-harvest dimethoate use in tart cherries and this use is identical to that described above for sweet cherries. Thirty percent of Utah's tart cherry acreage and 20% of Oregon's acreage receives a single dimethoate application. If a follow-up spray is required, growers use an alternate product. Growers use dimethoate because of its efficacy and long residual. (Tart cherries must be protected for approximately 6 weeks from the first fly emergence through harvest, longer than in sweet cherries.) The primary alternative to the pre-harvest use of dimethoate is Guthion (azinphos-methyl) which is currently being used on 40 to 50% of Utah's tart cherry acreage. When Guthion is used it must be applied twice a season.

  The proposed REIs for dimethoate on cherries would eliminate dimethoate as a pre-harvest option for use on tart cherries. Orchard access is required in tart cherries for irrigation, harvesting (done by mechanical shaking), and mowing. If the REIs are left as proposed, tart cherry growers will switch to using either Guthion or Imidan (phosmet). In either case the single pre-harvest dimethoate application will be replaced with two applications of the alternative.

  We are asking that EPA retain the use of dimethoate on tart cherries, that either the proposed REI be reduced or a variable REI be put in place, and that closed cabs not be required for making dimethoate applications to cherries. Additionally, if the exposure scenario for the proposed harvest REI assumes hand harvesting, it should be rerun for tart cherries assuming mechanical harvesting.

Chickpea: Dimethoate use is not important in this crop in our region.

Chinese Cabbage Seed: Dimethoate is being used on this crop; however, effective alternatives are available.

Christmas Tree Plantations: Dimethoate is not widely used in Pacific Northwest Christmas tree production.

Collard Seed: Dimethoate use is not important in this crop in our region.

Corn, Field: Dimethoate use is not important in this crop in our region.

Cottonwood/Poplar Grown for Pulp: Dimethoate use is crucial in cottonwood/poplar trees grown for pulp. In the Pacific Northwest all the dimethoate applied to trees grown for pulp is applied by chemigation, primarily through drip irrigation systems. None is applied as a contact spray. Because of this, dimethoate isn't harmful to beneficial insects and it is considered to be the core of the IPM program for stands of cottonwood/poplars grown in our region. Initially, there were few pest problems in these tree stands; however, now, as the number of acres has increased and the monoculture has matured, pest problems have increased. Growers are dealing with a new pest each year. Dimethoate is important because it is effective against several key pests. Dimethoate is used to control poplar leaf beetles and most of the aphids (4 to 6 different species). It also provides good control on some mites. (Dimethoate has been found to be especially good in spider mite control but also provides some control of eriophyid mites). Also dimethoate has been shown to have some reduction effect on cottony cushion scale.

On average 50% of the cottonwood/poplar acreage must be treated each year with a single application of dimethoate and 15% of the acreage gets a second application. First-year trees are treated at 1.5 pt/A and second-year trees receive 1 qt/A. For older stands applications of 0.5 gal/A are allowed in Washington and Oregon by SLNs WA-960017 and OR-960024. No trees are required to be treated three times a year. One quarter of the applications are made late in May or early in June with the rest made between early July and early August. There are currently three alternatives to dimethoate: lamba-cyhalothrin (which knocks down the beneficials), endosulfan, and chlorpyrifos.

Trees grown for pulp are mechanically harvested year round. Stumps from harvested trees are left in the ground and new trees are planted between the stumps. (Typically tree harvest is scheduled and trees to be harvested don't receive insect control treatment prior to harvest; however, harvest schedules can change for many reasons. As an example, a stand damaged by high winds will be harvested off schedule.)

The cottonwood/poplar stands are all in arid growing regions and growers are concerned about the proposed 97-day REI. Access to tree stands is required to monitor irrigation, to repair emitters, to measure growth, to monitor insects and diseases, and to harvest. Multiple entries are required in first-year stands for weed control. All these tasks are non-contact activities and shouldn't be affected by the proposed 97-day REI. Growers are concerned, however, because the proposed REI is so long in comparison to routine field activities for this crop. Because of this type of use results in no dislodgeable foliar residue, exposure pathways that lead EPA to propose a 97-day REI seem unrealistic.

<u>We are asking that EPA retain the use of dimethoate on cottonwood/poplars grown for pulp and that the agency review the proposed REI using the information provided here. If dimethoate is used as a contact spray in other areas, we suggest that the agency establish different REIs for the two types of use.</u>

Douglas-Fir Seed Farms & Seedlings for Forestry Use: We are not submitting comments on this use because it is our understanding that EPA is working directly with Weyerhaeuser Company regarding this use.

Grapes: Although grapes have been targeted to be removed from the dimethoate registration, we are asking EPA to consider retaining uses on wine grapes. Please see the remarks in General Comments.

Grass Seed: Dimethoate is not important in grass seed production in Washington or Idaho; however, it is widely used and is very important to grass seed production in Oregon. (Oregon, Washington, and Idaho together produce 95% of the grass seed grown in the United States.) Dimethoate is very important for grass seed production in Oregon because there currently are no labeled alternatives for winter grain mite control. As in other crops, dimethoate has also been found to be inexpensive to use as well as very effective.

In western Oregon, grass is grown for seed in the Willamette Valley and in Jackson county. East of the Cascade Mountains there are three grass-producing areas: central Oregon, the Columbia Basin, and the Grande Rhonde Valley. In the arid growing regions of eastern Oregon dimethoate is used for winter grain mite and Banks grass mite control. In central Oregon dimethoate is used on both rough bluegrass seed and in Kentucky bluegrass seed crops. Here approximately 85% of the Kentucky bluegrass seed is treated with dimethoate while 100% of the rough bluegrass seed is treated. In the Grande Rhonde Valley, on average, 15% of the grass seed (Kentucky bluegrass and fine fescue) is treated with dimethoate. Here researchers are also investigating the use of dimethoate to control billbug, a new pest to Grande Rhonde grass seed crops. As in Washington, winter grain mite is not a problem in the Columbia Basin grass seed growing region of Oregon and thus dimethoate is not used in this area. In eastern Oregon dimethoate is applied at 0.25 to 0.33 # ai/A as a single application. Applications are made in the late fall through early spring and most applications are made by ground equipment. The proposed 15-day REI would have a negative impact in cases where an application must be made in the early spring. Workers are also required to enter fields in the spring to rogue off-type plants.

In western Oregon, dimethoate is typically applied by ground at rates from 0.25 to 0.33 # ai/A from October through November for winter grain mite control. Approximately 10% of the grass seed acreage is treated. In this area dimethoate is also used to control plant bugs and thrips. These insects produce symptoms of "silver top," or unfilled seed heads, a result of feeding on the plant during preboot and boot stages of plant growth. Applications for plant bug and thrips control are made in May. These applications may be made by air or ground, depending upon the availability of ground application equipment (see note in General Comments) and on crop maturity. Depending on the stage of the crop, access to fields may be limited in order to protect seed heads from damage. If minimal mechanical injury will result from driving across the fields, ground equipment may be used. Dimethoate is applied at the same rates as for winter grain mite, 0.25 to 0.33 # ai/A, and approximately 15% of the acreage requires treatment. The proposed 4-day REI for dimethoate use on grass seed grown in non-arid regions is not problematic.

<u>We are asking that dimethoate use on grass seed crops grown in Oregon be retained and that aerial application be retained for this crop.</u>

Lentil/Lentil Seed: The production of lentils and lentil seed are the same with respect to the use of dimethoate and are addressed here together.

Washington and Idaho are first and second in US lentil production, together producing about 73% of the US lentils. Dimethoate is used in lentils to control both pea aphids and lygus. Lygus bugs are considered to be the most serious insect pest of lentils because feeding adults damage the seed, causing chalky spot syndrome, as well as damage the plants. Both types of damage are significant to the lentil crop: lentils exhibiting chalky spot damage command a lower market price and yield reductions of 30% have been attributed to direct lygus feeding. Aphids (pea aphid and cowpea aphid) are also a very serious pest of lentils. Aphids injure lentils mostly by direct feeding, but are also responsible for the transmission of viruses, including pea enation mosaic virus. Plants heavily fed upon by aphids are stunted and produce fewer and smaller pods and seeds. Smaller plants may die from aphid feeding and if not controlled, aphids can destroy from 25-50% of developing plants.

In Washington and Idaho dimethoate is applied once per year to 100% of the lentil acreage. A vast majority (85%) of the applications are made by air with ground equipment only used in sensitive areas. Dimethoate applications are made as the crop is going out of bloom in May or June. To prevent injury to pollinating bees, applications are usually made during the early morning hours when bees are not active. In Idaho dimethoate is applied at a rate of 0.43 # ai/A and in Washington at 0.5 # ai/A. It has been found that the lower application rate of 0.17 # ai/A is not sufficient for long-term aphid control. Other insecticides (esfenvalerate, malathion, disulfoton, carbaryl, methomyl, methyl parathion, and endosulfan) are registered and have been tried but none provide cost-effective control comparable to dimethoate.

Aerial application is critical to this crop. By the time dimethoate needs to be applied the crop has matured to the point that driving through fields with ground application equipment will damage the crop. Were ground application the only method available for dimethoate, it is estimated that yields would be reduced 5 to 10%. (Lentils plants are smaller than and not as brittle as dry peas so yield loss estimates are lower.)

All lentil production in our region is non-irrigated, dryland production. Because the primary need for field access is for scouting, the proposed 16-day REI will not pose problems in lentil production.

<u>We are asking that dimethoate use on lentils, as well as lentil seed, be retained and that aerial application be retained for these crops.</u>

Lettuce, Leaf: Dimethoate use is important in lettuce production in our area. Leaf lettuce is grown in non-arid areas in Washington and in an arid area in Alaska. In Washington, some growers have shifted to using Admire (imidacloprid) at planting for aphid control; however, this transition requires the purchase of and conversion to the use of special equipment. Because of the expense some of the smaller growers have not made the transition and are still using dimethoate for aphid control. Dimethoate is applied at transplant or when thinning, April 1 to 15, and then again 2 weeks later (0.5 pt/A). In this non-arid growing region there is no concern over the proposed 3-day REI.

In Alaska lettuce production, dimethoate is mainly used for the control of birch aphid. These aphids live in surrounding trees and are blown into fields during windy periods. Typically the need here is for one application used as a clean-up spray before harvest. Dimethoate is the

product of choice for this use because it provides good control and is inexpensive. The lettuce-growing region in Alaska is an area that receives 15" of precipitation a year. Moving to a 12-day REI will impact irrigation activities for these growers. Applications of dimethoate are made at 0.5 pt/A and are typically only made once a season. It is estimated that up to 50% of the lettuce grown in Alaska is treated with dimethoate.

We are asking that dimethoate use on leaf lettuce be retained, and that EPA consider rewording the early entry exemption for irrigation, shortening the proposed REI for leaf lettuce, or consider a variable REI as suggested in General Comments.

Ornamental/Shade Trees: Dimethoate is widely used as a subsurface injection for the control of aphids in deciduous shade trees. Other products such as Merit (imidacloprid) are available but are slow, taking 3 months to have an effect on aphids as opposed to 7 days for dimethoate. Dimethoate is not used as a spray to landscape plants. Professional applicators are very interested in retaining this use. Dimethoate is commonly used in the more arid regions of eastern Washington, Oregon, Idaho, and Utah. It is not widely used in this manner in the wetter areas of our region.

We are asking that the low-risk subsurface injection use of dimethoate on ornamental/shade trees be retained.

Pears: Dimethoate use is not important in this crop in our region.

Pea, Dry/Dry Pea Seed: The production of dry edible pea seed and dry edible peas are the same with respect to the use of dimethoate and are addressed here together.

Washington and Idaho are first and second in dry pea production in the United States, together producing about 75% of the US dry edible peas. Dimethoate is used for control of pea aphids and is considered an essential tool in dry pea production. Pea aphids feeding on dry peas have been known to destroy 25-50% of developing plants. Yield losses of up to 20% (350 pounds per acre) have also been attributed to pea aphid feeding. In addition, pea aphids vector viruses including pea enation mosaic virus, pea streak virus, and pea leafroll virus. Although major aphid outbreaks only occur every 5 to 7 years, growers must treat for pea aphid each year because of disease vectoring. The industry standard is to apply dimethoate by air in a tank mix with Imidan (phosmet) for simultaneous treatment of pea weevil, pea leaf weevil, and pea aphid. Other insecticides (esfenvalerate, malathion, disulfoton, carbaryl, methomyl, methyl parathion, zeta-cypermethrin, and endosulfan) are registered for use on dry peas and have been tried but none provide cost-effective control comparable to dimethoate. Dimethoate costs (chemical alone) are $1.50/A while chemicals such as esfenvalerate and zeta-cypermethrin cost between $6.00 and $7.00/A.

In Washington and Idaho dimethoate is applied to the crop in mid-bloom from late May to late June. A vast majority (85%) of the applications are made by air with ground equipment only used in sensitive areas. In both Idaho and Washington dimethoate is applied to 100% of the

crop, at one third to one half of the labeled usage rate to allow for a second application. On average 30% of the acreage requires a second application.

Aerial application is critical to this crop. By the time that dimethoate needs to be applied the dry pea crop has matured to the point that driving through fields will cause plant damage. Because pea plants are relatively brittle, they are very susceptible to damage from ground equipment. Were ground application the only method available to apply dimethoate, it is estimated that yields would be reduced from 10% to 15%.

All dry pea and dry pea seed production in our region is non-irrigated, dryland production. Because the primary need for field access is for scouting, the proposed 16-day REI will not pose problems in either dry pea or dry pea seed production.

We are asking that dimethoate use on dry pea, as well as dry pea seed, be retained and that aerial application be retained for these crops.

Pea, Succulent: Dimethoate use is essential to the production of succulent peas in our region. The loss of dimethoate is projected to have two significant impacts to succulent pea production in the Pacific Northwest. First, growers are concerned that losing dimethoate might negatively impact the quality of the crop that they are now able to produce. Second, loss of this chemical would have a substantial economic impact to succulent pea production in our region. Dimethoate is used to control green pea aphid and pea leaf weevil. Aphid control is essential because aphids vector diseases that in the case of succulent peas can reduce yield and potentially devastate an entire crop. Dimethoate is the chemical control of choice because it is effective and it is economical to use. Growers in marginal growing regions in Oregon report that even a difference in input costs of $10.00/A will make the difference between producing the peas at a profit or at a loss. It costs growers approximately $3.00/A in chemical costs alone for two applications of dimethoate. The cost for Capture, the alternative for aphid control in succulent peas, is $13.50/A. Applying either chemical by air costs $12.00/A while ground applications run $8.00/A. Thus, while there are alternatives to using dimethoate, they are more expensive and either not as effective or don't provide the residual control that growers need.

Dimethoate applications in the Pacific Northwest are made at first bloom, typically beginning in the region in late May and continuing throughout the region until July. Most dimethoate applications are made at the rate of 0.33 pt/A with perhaps 50% of the acreage needing only one application a year, 40% needing a second application, and another 10% (atypical) requiring a third application. (Note that multiple applications, not to exceed 0.5 # ai/A, are allowed by SLNs such as WA-970029, OR-970019, and ID-970012.) In Idaho, growers are making application at one third to one half of the labeled usage rate to allow for a second application if it is necessary. In some areas (e.g., Lewiston/Pullman areas of Washington) only 75% of the succulent pea acreage is treated with dimethoate. In other areas, such as the Willamette Valley and growing areas in Western Washington, 100% of the pea acreage is treated with dimethoate.

Aerial application of dimethoate is very important to the succulent pea industry. While there is some ground application of dimethoate, the vast majority of applications are made by air. At the time that aphids become a problem, pea plants are maturing and pods are forming. At this late growth stage, the plants will not recover if they are run over by ground equipment. It is

estimated that using ground equipment at this stage in crop development will lead to yield losses of as much as 20%. As stated in General Comments, aerial application is also important because there is so much acreage involved in pea production between the succulent peas and the dry peas growing in our region. Should there be an insect outbreak there will not be enough ground equipment available to treat all the acreage in a timely manner. If the crop is not treated in time the damage from a major aphid infestation would be severe.

In the non-arid growing regions in the Pacific Northwest, the proposed 3-day REI is not problematic for growers. In the arid growing regions, the proposed 12-day REI is problematic for two reasons: the need access to fields for irrigation and the fact that some applications of dimethoate are made within 12 days of harvest.

EPA previously asked if retaining a prebloom use, were that the only option, would be helpful. Growers have stated that prebloom use of dimethoate would not be useful. It is the opinion of fieldmen in the region that if dimethoate is used prebloom, a second application of another chemical would be required post-bloom.

We are asking that post-bloom dimethoate use on succulent peas be retained, that aerial application also be retained, and that EPA alter the REI as described in General Comments.

Pea Seed (succulent): In succulent pea seed crops dimethoate is used to control aphids, pea weevil, and pea leaf weevil. In our region, the vast majority of dimethoate applications to pea seed crops are made by air. Between 50 and 65% of all pea seed acreage is treated with dimethoate with application dates depending upon the pest: for pea leaf weevil application is made in mid-April; for pea weevil in mid-June; and for aphid from the first of May to the end of June. For late season outbreaks of aphids, growers will use a pyrethroid but if an outbreak occurs early in the season, they use dimethoate because of the residual. Dimethoate is applied just once a season at a rate of 0.75 to 1 pt/A. Continued use of dimethoate is important in pea seed production because it provides good control for multiple pests, and because it is cost effective. Were growers to lose the use of dimethoate they would likely have to replace the one application of dimethoate with two applications of alternate products. Growers in some areas are starting to use Asana (esfenvalerate); however, dimethoate is still the industry standard because of the cost and efficacy. The vast majority of the pea seed acreage is under sprinkler irrigation. Either a 12- or 16-day REI will preclude use of dimethoate on this crop because access to fields is needed following an application for irrigation purposes.

We are asking that dimethoate use on pea seed be retained, that aerial application of dimethoate on this crop be retained, and that EPA alter the REI as described in General Comments.

Potatoes: Dr. Alan Schreiber of the Agriculture Development Group has stated his intent to submit comments on the necessity of retaining dimethoate use on potatoes.

Spinach Seed: Washington produces 75% of the US spinach seed and 50% of the world's spinach seed. Dimethoate is an important tool in the production of this nonfood/nonfeed crop. This chemical is important in spinach seed production both because of the cost and the efficacy.

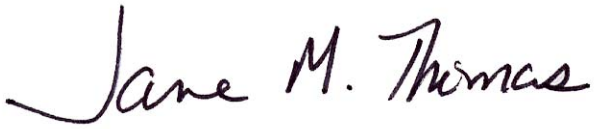
Dimethoate is used to control aphids, particularly the black aphid. Here wind-pollinated spinach seed is grown as an annual crop. Typically 100% of the spinach seed acreage requires a single application of dimethoate. Applications are made using ground equipment and the proposed loss of aerial application will not affect spinach seed production in our region. The proposed 3-day REI will also not hamper production.

We are asking that independent of the decision that is made with respect to retaining dimethoate use on spinach, that EPA retain the use of this chemical on spinach seed.

Wheat: Dimethoate use is not important in this crop in our region.

Thank you for the opportunity to provide comments on the changes that EPA proposes to make to dimethoate use as part of the reregistration process. Should you have further questions, please do not hesitate to call either myself or anyone on the attached contact list.

Sincerely,



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Richland, WA 99352
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e-mail: jmthomas@tricity.wsu.edu

Dimethoate Contact List

Crop/Usage Site	Last Name	First Name	Organization	State	Work Phone
aerial application	Eskelsen	Chris	B & R Crop Care	Washington	(509) 234-7791
aerial application	Passmore	Stephen	Passmore Aviation	Washington	(509) 549-3945
alfalfa	Kugler	John	Washington State University	Washington	(509) 754-2011
alfalfa	McEntyre	John	McGregor Co.	Washington	(509) 297-4296
alfalfa	Shewmaker	Glen	University of Idaho	Idaho	(208) 473-7363
alfalfa	Simko	Ben	Oregon State University	Oregon	(541) 881-1417
alfalfa	Westover	Steve	Steve Regan Co.	Utah	(801) 268-4500
alfalfa	Woodward	Tim	Washington State University	Washington	(509) 545-3511
alfalfa seed	Kugler	John	Washington State University	Washington	(509) 754-2011
alfalfa seed	Simko	Ben	Oregon State University	Oregon	(541) 881-1417
alfalfa seed	Westover	Steve	Steve Regan Co.	Utah	(801) 268-4500
alfalfa seed	Woodward	Tim	Washington State University	Washington	(509) 545-3511
asparagus	Schreiber	Alan	Washington Asparagus Commission	Washington	(509) 266-4348
asparagus	Stubbs	Gene	Chiquita Food Processing Plant	Washington	(509) 525-8390
bean seed	Akagi	K.	Treasure Valley Seed Co	Idaho	(208) 337-4626
bean seed	Batt	Roger	North Idaho/Eastern Oregon Seed Assn.	multiple	(208) 888-0988
bean seed	Bullwinkle	Barry	ADM/ASI	Idaho	(208) 423-5531
bean seed	Harris	Mike	Seminis Vegetable Seed	Washington	(509) 349-2327
bean seed	Kelsch	Mike	Del Monte	Idaho	(208) 522-1443
bean seed	Larsen	Lou	Columbia Bean	Washington	(509) 750-1944
bean seed	Lynch	Bruce	Del Monte	Washington	(509) 488-6442
bean seed	Metsker	Ron	Kelly Bean Co	Idaho	(208) 436-3611
bean, dry	Bullwinkle	Barry	ADM/ASI	Idaho	(208) 423-5531
bean, dry	Kopczynski	Ron	Cenex Supply & Marketing/Harvest States	Washington	(509) 787-3511
bean, dry	Larsen	Lou	Columbia Bean	Washington	(509) 750-1944
bean, dry	Metsker	Ron	Kelly Bean Co	Idaho	(208) 436-3611
bean, dry	Muller	Royal	Cenex Supply & Marketing/Harvest States	Washington	(509) 488-9681
bean, succulent	Kelsch	Mike	Del Monte	Idaho	(208) 522-1443
bean, succulent	Knudson	Chris	Twin City Foods	Washington	(509) 856-7811
bean, succulent	Kopczynski	Ron	Cenex Supply & Marketing/Harvest States	Washington	(509) 787-3511
bean, succulent	Nelson	Stan	Twin City Foods	Washington	(360) 629-2111
cabbage	Giauque	Paula	Grower	Alaska	(907) 745-4017
cherry	Alston	Diane	Utah State University	Utah	(435) 797-2516
cherry	Lyon	Tom	Wilbur-Ellis	Idaho	(208) 459-1631
cherry	Smith	Tim	Washington State University	Washington	(509) 667-6540
cherry	Walenta	Darrin	Oregon State University	Oregon	(541) 963-1010
cherry	Azarenko	Anita	Oregon State University	Oregon	(541) 737-5457
chickpea	Bragg	Dave	Washington State University	Washington	(509) 843-3701
chickpea	Ferrel	Greg	Blue Mountain Seed Co	Washington	(509) 529-6088
chickpea	Roy	Jack	Prime Land Co-Op	Idaho	(208) 924-5515
chickpea seed	Bragg	Dave	Washington State University	Washington	(509) 843-3701
Christmas tree plantation	Antonelli	Art	Washington State University	Washington	(253) 445-4545
Christmas tree plantation	Porter	Frankie	Wilbur-Ellis	Washington	(800) 275-6920
deciduous/shade tree	Walter	Ed	Washington Tree Service	Washington	(206) 362-9100
deciduous/shade tree	Wareheim	Dan	Senske	multiple	(509) 736-0754
grass seed	Boyle	Dean	Cenex Supply & Marketing/Harvest States	Oregon	(541) 475-2222
grass seed	Bragg	Dave	Washington State University	Washington	(509) 843-3701
grass seed	Butler	Marvin	Oregon State University	Oregon	(541) 475-7101
grass seed	Clovis	Linda	North Idaho Farmers Association	multiple	(208) 666-0612
grass seed	Fisher	Glen	Oregon State University	Oregon	(541) 737-5502
grass seed	Gingrich	Gale	Oregon State University	Oregon	(503) 373-3756

Dimethoate Contact List

Crop/Usage Site	Last Name	First Name	Organization	State	Work Phone
grass seed	Thill	Donn	University of Idaho	Idaho	(208) 885- 6214
grass seed	Walenta	Darrin	Oregon State University	Oregon	(541) 963-1010
lentil	Bragg	Dave	Washington State University	Washington	(509) 843-3701
lentil	Burns	John	Washington State University	Washington	(509) 335-5831
lentil	Guy	Steven	University of Idaho	Idaho	(208) 885-6744
lentil	Roy	Jack	Prime Land Co-Op	Idaho	(208) 924-5515
lentil seed	Bragg	Dave	Washington State University	Washington	(509) 843-3701
lettuce	Giauque	Paula	Grower	Alaska	(907) 745-4017
lettuce	Porter	Frankie	Wilbur-Ellis	Washington	(800) 275-6920
lettuce	Sasaki	Ron	Grower	Washington	(360) 893-5973
nursery	Mc Cauley	Gina	Washington State Nursery & Landscape Assn.	Washington	(206) 817-2372
pea seed	Bragg	Dave	Washington State University	Washington	(509) 843-3701
pea seed	Harris	Mike	Seminis Vegetable Seed	Washington	(509) 349-2327
pea seed	Kelsch	Mike	Del Monte	Idaho	(208) 522-1443
pea seed	Lynch	Bruce	Del Monte	Washington	(509) 488-6442
pea, dry	Bragg	Dave	Washington State University	Washington	(509) 843-3701
pea, dry	Burns	John	Washington State University	Washington	(509) 335-5831
pea, dry	Dudley	Rick	Twin City Foods	Idaho	(208) 743-5568
pea, dry	Guy	Steven	University of Idaho	Idaho	(208) 885-6744
pea, dry	Roy	Jack	Prime Land Co-Op	Idaho	(208) 924-5515
pea, succulent	Dudley	Rick	Twin City Foods	Idaho	(208) 743-5568
pea, succulent	Fickett	Bill	Simon Forzen Foods	multiple	(503) 860-5869
pea, succulent	Gill	Jim	Norpac Foods	Oregon	(503) 769-2101
pea, succulent	Heideman	Aaron	Hermiston Foods	Oregon	(541) 567-8448
pea, succulent	McReynolds	Bob	Oregon State University	Oregon	(503) 678-1264
pea, succulent	Nelson	Stan	Twin City Foods	Washington	(360) 629-2111
pea, succulent	Stubbs	Gene	Chiquita Food Processing Plant	Washington	(509) 525-8390
pear	Lyon	Tom	Wilbur-Ellis	Idaho	(208) 459-1631
pear	Smith	Tim	Washington State University	Washington	(509) 667-6540
potato	Schreiber	Alan	Agriculture Development Group	Washington	(509) 266-4348
spinach	Stubbs	Gene	Chiquita Food Processing Plant	Washington	(509) 525-8390
tree pulp production	Kottwitz	Allan	Boise Cascade	multiple	(509) 544-6537
tree pulp production	Perkins	Earl	H&R Ag.	multiple	(541) 569-6445
vegetable seed crops	Hulbert	Mike	Wilbur-Ellis	Washington	(360) 466-3138
vegetable seed crops	Lyons	Milo	Alf Christiansen	Washington	(360) 419-3021
vegetable seed crops	Miller	Gary	Alf Christiansen	Washington	(509) 350-0765
vegetable seed crops	Pelter	Gary	Washington State University	Washington	(509) 754-2011
vegetables	Drost	Dan	Utah State University	Utah	(435) 797-2258
wheat	Burns	John	Washington State University	Washington	(509) 335-5831
wheat	Corp	Mary	Oregon State University	Oregon	(541) 278-5403
wheat	Guy	Steven	University of Idaho	Idaho	(208) 885-6744
wine grape	Corliss	Kevin	Stimpon Lane	multiple	(509) 786-2104
wine grape	Scharlau	Vicky	Washington State Wine Grape Growers Assn.	Washington	(877) 889-2944
wine grape	Walsh	Doug	Washington State University	Washington	(509) 786-6927
n/a - Western Region IPM Center State Liaisons/Representatives	Daniels	Catherine	Washington State University	Washington	(509) 372-7495
	Deer	Howard	Utah State University	Utah	(435) 797-1602
	DeFrancesco	Joe	Oregon State University	Oregon	(541) 737-0718
	Hirnyck	Ronda	University of Idaho	Idaho	(208) 364-4046
	Jahns	Tom	University of Alaska Fairbanks	Alaska	(907) 262-5824
	Jenkins	Jeff	Oregon State University	Oregon	(541) 737-5993

USA DRY PEA & LENTIL COUNCIL

February 19, 2003

Reference: **Docket CN OPP-34143C, Dimethoate Use in Dry Peas, Lentils, and Chickpeas**

Public Information and Records Integrity Branch (PIRIB),
Information Resources and Services Division (7502C),
Office of Pesticide Programs (OPP), Environmental Protection Agency
1200 Pennsylvania Ave.
Washington, D.C. 20460

Dear Sir or Madam:

Dimethoate is critical to the production of dry peas and lentils in the US. No alternative is as effective at controlling insect pests like aphid and lygus bugs in lentils or aphid in dry peas. The USA Dry Pea and Lentil Council, representing dry pea, lentil and chickpea producers, processors, warehousemen, and exporters of the US Pulse Industry, is adamantly opposed to reducing the effectiveness of this critical chemical. Processors and growers alike have established Dimethoate crucial in the production of high quality peas, lentils, and chickpeas.

Insect Problems. The production areas of our members include the states of WA, ID, OR, MT, ND, and SD. Washington, Idaho, and Oregon face the most serious challenges from insect pests listing aphids and lygus bugs as the critical pests. The production zones of the Midwest have not yet reported significant insect problems from sucking pests like aphid, but the diseases associated with such pests have been reported in some bordering states and seem to be moving to the Canadian border.

Usage Patterns. Dimethoate is generally applied by air in late June to early July when the aphids reach an economically justified threshold. Very little of the acreage in the Midwest is treated at all. In the Pacific Northwest, about 80% of the dry pea acres (250-300,000 acres) and almost 75-80 % of the total lentil acres (145-175,000 acres) are treated once each year. In heavy aphid pressure, a second application would be applied to 10-20% of the peas (20-40,000 acres). In all cases, applications are completed at least 20 days prior to harvest. Since there is already a breakdown in control in heavy aphid pressure, the industry can not accept a reduction in the current labeled rate of 0.5 lb of ai in multiple applications under a 24c in WA and ID. (See attachment 1, Label summary)

Chickpeas are seldom plagued with insect problems. However, grasshoppers are sometimes a problem and there are few alternatives labeled for this crop. Dimethoate is an effective alternative.

Alternatives are not effective. Alternative chemistries have been shown to be effective tools, but the systemic nature of Dimethoate controls against aphid for a longer time, reducing the number of applications. The newer chemistry is double to triple the cost of Dimethoate. The producer must use multiple applications or must add Dimethoate to the

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mix to achieve effective control. This is neither economically or environmentally acceptable.

Application is not close to harvest. The harvest of dry peas, lentils and chickpeas is done after the crop has dried-almost 20 to 28 days after the insecticide is applied. In addition, the seed is separated from the pod and vine in the harvesting process. This reduces the chance of insecticide residue being present in great concentrations in the finished commodity.

REI Considerations. According to current labels, REI is 48 hours (see attachment 1, Label Summary). The Docket increases REI for dry peas and lentils to 5 days in humid climates and 16 days in arid climates. Attachment 2 is an activity matrix which is a part of the Pesticide Management Strategic Plan (Draft 2/18/03). As depicted in the chart, June and July are important times for doing crop surveys to evaluate for weed pest control and efficacy of insecticide control. The industry could not accept a 16 day REI during this critical period. A uniform standard of 5 days no matter what climate would be acceptable.

Conclusions. The USADPLC considers the use of Dimethoate critical to the productions of dry peas, lentils, and chickpeas. While it is not desirable to change any aspect of the current usage, the industry could accept an increased REI to five days. This would allow for the limited field inspection and weed control done in late June and early July.

Thank you for your consideration of our comments.

Best regards,

Tim McGreevy
Executive Director

Enclosure (2)

1. Label Summary, PNW
2. Activity Matrix, PMS Plan (Draft Version, 2/18/2003)

USADPLC
Dimethoate Label Summary
2/19/03

Manufacturer	Street Addres	City	Stat	Zip Code	EPA Reg Number	Product Trade Name	Concentrati	Crop	Rate-Pts		f Applica	PHI		REI	24c
									Minimum	Maximum		Succule	Dry	(Hours)	
Drexel	PO Box 13327	Memphis	TN	38113-0327	19713-232	**Dimethoate 2.67**	30.5%	Chickpeas	0.75	1.50			0		N
	PO Box 13327	Memphis	TN	38113-0327	19713-232			Lentils	0.50		1		0		Y
	PO Box 13327	Memphis	TN	38113-0327	19713-232			Peas	0.50		1	21	0		N
Drexel	PO Box 13327	Memphis	TN	38113-0327	19713-231	**Dimethoate 4EC**	43.5%	Chickpeas	0.50	1.00			0	48	N
	PO Box 13327	Memphis	TN	38113-0327	19713-231			Lentils	0.33	1.00	2		0	48	N
	PO Box 13327	Memphis	TN	38113-0327	19713-231			Peas	0.33	1.00	1		0	48	N
Gowan Chemical Co	PO Box 5569	Yuma	AZ	85366-0000	10163-00056-ZA-00000	**Dimethoate E267**	30.5%	Chickpeas	0.75	1.50			0	48	N
	PO Box 5569	Yuma	AZ	85366-0000	10163-00056-ZA-00000			Lentils	0.75	1.50	1		7	48	N
	PO Box 5569	Yuma	AZ	85366-0000	10163-00056-ZA-00000			Peas	0.50		1		0	48	Y
Helena Chemical Company		Collierville	TN	38017-0000	5905-493	**Dimethoate 4EC**	44.8%	Chickpeas	0.50	1.00			7	48	N
		Collierville	TN	38017-0000	5905-493			Lentils	0.50	1.00	2		14	48	N
		Collierville	TN	38017-0000	5905-493			Peas	0.33	1.00	1		7	48	N
Helena Chemical Company		Collierville	TN	38017-0000	51036-00110-ZA-05905	**Dimethoate 4E**	43.5%	Chickpeas	0.50	1.00			0	48	N
		Collierville	TN	38017-0000	51036-00110-ZA-05905			Lentils	0.33		1		0	48	N
		Collierville	TN	38017-0000	51036-00110-ZA-05905			Peas	0.33		1		0	48	N
Helena Chemical Company		Collierville	TN	38017-0000	05905-00497-AA-00000	**Dimethoate 5 LB**	57.0%	Chickpeas	6.4 oz/a	12.8 oz/a			7	48	N
		Collierville	TN	38017-0000	05905-00497-AA-00000			Lentils	6.4 oz/a	12.8 oz/a	as needed		14	48	N
		Collierville	TN	38017-0000	05905-00497-AA-00000			Peas	4.2 oz/a	12.8 oz/a	1		7	48	N
Micro Flo Company	PO Box 772095	Memphis	TN	38117-2099	51036-110	**Dimethoate 4E**	43.5%	Chickpeas	0.50	1.00			0	48	N
	PO Box 772095	Memphis	TN	38117-2099	51036-110			Lentils	0.33	1.00	2		14	48	Y
	PO Box 772095	Memphis	TN	38117-2099	51036-110			Peas	0.33	1.00	1	21	0	48	Y
Micro Flo Company	PO Box 772095	Memphis	TN	38117-2099	51036-198	**Dimethoate 267**	30.5%	Chickpeas	0.75	1.50				48	N
	PO Box 772095	Memphis	TN	38117-2099	51036-198			Lentils	1.00	1.50	2			48	N
	PO Box 772095	Memphis	TN	38117-2099	51036-198			Peas	0.50	1.50	1			48	N
UAP-Platte Chemical Co	419 18th Street	Greely	CO	80631-5852	34704-00489-AA-00000	**Dimethoate 2.67 EC**	30.5%	Chickpeas	0.75	1.50			0	48	N
	419 18th Street	Greely	CO	80631-5852	34704-00489-AA-00000			Lentils	0.75	1.50			14	48	N
	419 18th Street	Greely	CO	80631-5852	34704-00489-AA-00000			Peas	0.50				0	48	N
UAP-Platte Chemical Co	419 18th Street	Greely	CO	80631-5852	34704-00540- -00000	**Dimethoate 25W**	25.0%	Chickpeas	none					48	
	419 18th Street	Greely	CO	80631-5852	34704-00540- -00000			Lentils	none					48	
	419 18th Street	Greely	CO	80631-5852	34704-00540- -00000			Peas	none					48	
UAP-Platte Chemical Co	419 18th Street	Greely	CO	80631-5852	34704-00207-AA-00000	**Dimethoate 400**	43.5%	Chickpeas	0.50	1.00			0	48	N
	419 18th Street	Greely	CO	80631-5852	34704-00207-AA-00000			Lentils	0.50	1.00	2		14	48	N
	419 18th Street	Greely	CO	80631-5852	34704-00207-AA-00000			Peas	0.33	1.00	1		0	48	N
Wilbur Ellis Co	PO Box 16458	Fresno	CA	93755-0000	02935-00520-AA-00000	**Digon 400**	43.5%	Chickpeas	0.50	1.00			0	48	N
	PO Box 16458	Fresno	CA	93755-0000	02935-00520-AA-00000			Lentils	0.33	1.00	2		14	48	N
	PO Box 16458	Fresno	CA	93755-0000	02935-00520-AA-00000			Peas	0.33	1.00	1		0	48	Y
Riverside/Terra Corporation	PO Box 171376	Memphis	TN	38187-1376	9779-273	**Dimate 4E**		Lentils							Y
Terra Corporation	600 4th Street	Souix City	IA	51102-6000	9779-273			Peas							Y
Agriliance	PO Box 64089	St. Paul	MN	55164-0089	51036-00110- -09779	**Dimate 4 EC**	43.50%	Chickpeas	0.50	1.00			0	48	
	PO Box 64089	St. Paul	MN	55164-0089	51036-00110- -09779			Lentils	0.33	1.00	2		14	48	
	PO Box 64089	St. Paul	MN	55164-0089	51036-00110- -09779			Peas	0.33	1.00	1		0	48	
Agriliance	PO Box 64089	St. Paul	MN	55164-0089	09779-00273- -00000	**Dimate 4E**	44.74%	Chickpeas	0.50	1.00			0	48	
	PO Box 64089	St. Paul	MN	55164-0089	09779-00273- -00000			Lentils	0.33	1.00	2		14	48	
	PO Box 64089	St. Paul	MN	55164-0089	09779-00273- -00000			Peas	0.33		1		0	48	

Reg Numbe	24c Labelled Rate		Special Instructions	REI	Expiration
	Minimum	Maximum			
WA-960031	0.33	1.50	As Needed, 14 days		12/31/2004
WA-970026					
ID-99-0010, V	0.50	0.75	2 app., NTE .5 LB per acre		
WA-970030	0.33	1.00	As Needed	12 hrs	
WA-970030	0.50	0.67	NTE .5 lb AI		
WA 970027,	0.33	0.67	Mult Applications NTE .5 LB(1.0 pt), PHI 14		
ID 900001	0.33	1.00	14 day PHI,		
ID 970014	0.33	0.67	Mult Applications NTE .5 LB(1.0 pt), PHI 14		

Activity Tables for Lentils – Regions 1 and 3

Cultural Activities

Activity	J	F	M	A	M	J	J	A	S	O	N	D
Irrigating						3	3		3			
Rolling				1,3	1,3	1						
Planting				1,3	1,3	1						
Fertilizing				3	3				3			
Soil sampling				3					1,3	1,3		
Petiole testing (N/A)												
Swathing						1	1,3	1,3				
Mechanical Harvesting						1	1,3	1,3				
Inoculation				3	3							

Note: Information based on grower and pest control advisor experience.

Pest Management Activities and Crop Monitoring Profile

Activity	J	F	M	A	M	J	J	A	S	O	N	D
Scouting				1	1,3	1,3	1,3	1,3				
Rouging						3	3					
Mechanical cultivation			1	1,3	1,3	1				3	3	
Herbicide application		1	1	1,3	1,3	1,3						
Insecticide application					3	1,3	1,3	3				
Fungicide application					3	3	3					
Spot pesticide application				3	3	1,3	1,3	3	3			
Seed treatment		1,3	1,3	1,3								
Seed cleaning	1,3	1,3	1,3	1,3								
Fumigation (N/A)												
Harvest aid							1	1,3	3			

Note: Information based on grower and pest control advisor experience.

Activity Tables for Chickpeas – Regions 1and 3

Cultural Activities

Activity	J	F	M	A	M	J	J	A	S	O	N	D
Irrigating					1	1, 3 (Alberta)			1, 3 (Alberta)			
Rolling					1,3							
Planting			1	1	1,3	3						
Fertilizing				1,3	1,3	3			3	3		
Soil sampling			1	3	3				1,3	3		
Petiole testing (N/A)												
Swathing									1,3	1,3		
Mechanical Harvesting								1	1,3	3		
Inoculation				1,3	1,3	3						

Note: Information based on grower and pest control advisor experience.

Pest Management Activities and Crop Monitoring Profile

Activity	J	F	M	A	M	J	J	A	S	O	N	D
Scouting					1	1,3	1,3	1,3	3			
Rouging						1	1,3	3				
Mechanical cultivation			1	1,3	1,3	3			1			
Herbicide application		1	1	1,3	1,3	1,3	3		3	3		
Insecticide application					1	1,3						
Fungicide application				1	1	1,3	3	3				
Spot pesticide application					1,3	1,3						
Seed treatment		1	1,3	1,3	3							
Seed cleaning												
Fumigation									1	1	1	1
Harvest aid								1,3	1,3			

Note: Information based on grower and pest control advisor experience.

Activity Tables for Dry Peas – Regions 1, 2 and 3

Cultural Activities

Activity	J	F	M	A	M	J	J	A	S	O	N	D
Irrigating			1	1		3	3	3	1,3			
Rolling			1	1	1,2,3	2,3						
Planting			1	1,3	1,2,3	2,3						
Fertilizing				3	2,3	2,3						
Soil sampling			1	3	2				1	2,3		
Petiole testing (rare)						3						
Swathing								2,3	2,3			
Mechanical Harvesting							1,3	1,2,3	1,2,3			
Inoculation			1	1,3	1,2,3	2,3						

Note: Information based on grower and pest control advisor experience.

Pest Management Activities and Crop Monitoring Profile

Activity	J	F	M	A	M	J	J	A	S	O	N	D
Scouting			1	1	1,2,3	1,2,3	1,2,3	1,2,3				
Rouging						2,3	2,3					
Mechanical cultivation			1	1,2,3	1,2,3				1,2			
Herbicide application			1	1,3	1,2,3	2,3	2,3					
Insecticide application			1	1	1,3	1,2,3	1,2					
Fungicide application			1	1	1	1,2,3	2,3					
Spot pesticide application					2,3	1,2,3	1,2,3		2,3			
Seed treatment		1	1,2,3	1,2,3	2,3							
Seed cleaning	1,2,3	1,2,3	1,2,3	1,2,3					1	1	1	1
Fumigation (N/A)												
Harvest aid							1,2,3	1,2,3	2,3			

Note: Information based on grower and pest control advisor experience.

Activity Tables for Alfalfa Seed in Treasure Valley of Southwest Idaho and Eastern Oregon[1]

Cultural Activities Profile for Treasure Valley Alfalfa Seed

Activity	J	F	M	A	M	J	J	A	S	O	N	D
Set back[2]			-------	-------	-------							
Irrigation[3]				-------	-------	------	-------	-------	-------	---		
Fertilization[4]			-------					-------	-------	-------	----	
Cultivation[5]					-------	------			-------	-------	----	
Harvest[6]								-------	-------	----		
Planting[7]		---	-------	-------				-------	-------			

Crop Monitoring Profile for Treasure Valley Alfalfa Seed

Activity	J	F	M	A	M	J	J	A	S	O	N	D
Pest & beneficial insect monitoring			----	-------	------	-------	-------	-------				
Weed monitoring			-------	-------	-------				-------	-------		
Monitor soil moisture				-------	-------	-------	------	-------	-------	-------		

Pest Management Activities Alfalfa Seed

Activity	J	F	M	A	M	J	J	A	S	O	N	D
Insecticide app.				-------	-------	-------	-------	-------	---			
Miticide app.					---	-------	-------	----				
Herbicide app.		---	-------	-------	-------	---		---	-------	-------	----	

Pollinator Management Activities Profile

Activity	J	F	M	A	M	J	J	A	S	O	N	D
Overwinter bees[8]	-------	------	-------	-------	--				-------	-------	-------	-------
Incubate bees for release[8]					-------	------	---					
Move bee shelters to field[9]					-------	------	----					
Move bees into field[10]					-------	------	----					
Move bees to overwintering sites[11]								-------	-------	-------	----	

Seasonal Pest Occurrence for Alfalfa Seed in Treasure Valley of Southwest Idaho and Eastern Oregon[12]

Pest	J	F	M	A	M	J	J	A	S	O	N	D
INSECTS/MITES												
Lygus				-------	-------	-------	-------	-------	-------			
Pea aphid				-------	-------	-------	-------	-------				
Blue alfalfa aphid				-------	-------	-------	-------	-------				
Spotted alfalfa aphid				-------	-------	-------	-------	-------				
Alfalfa aphid				-------	-------	-------	-------	-------				
Alfalfa weevil			-------	-------	-------							
Spider mites					-------	-------	-------	----				
Armyworm/cutworms[13]		----	-------	-------	-------				-------			
Loopers[13]							-------	-------				
Grasshoppers[13]												

	J	F	M	A	M	J	J	A	S	O	N	D
WEEDS												
Dodder				--------	--------	--------	--------	--------	--------			
Common mallow			----	--------	--------							
Field bindweed			----	--------	--------				----	--------		
Nightshades			----	--------	--------							
Annual sowthistle			----	--------	--------							
Prickly lettuce			----	--------	--------							
Mustards			----	--------	--------							
Kochia			----	--------	--------							
Common lambsquarters			----	--------	--------							
Pigweed, redroot			----	--------	--------							
Canadian thistle			----	--------	--------				----	--------		
Sweet clover							--------	--------				
Grasses			----	--------	--------							
	J	**F**	**M**	**A**	**M**	**J**	**J**	**A**	**S**	**O**	**N**	**D**
VERTEBRATES												
Gophers		-------	--------	--------	--------	---				--------	--------	

[1] Dashes in cells indicate when activities, if conducted, may occur. Table information is based on grower and pest control advisor experience. See Idaho alfalfa seed crop profile for more detailed information.

[2] Set back is a cultural practice conducted using rotary mowers, swathers, roto-beaters, discs, etc. to set the crop back; i.e. delay bloom to coincide with pollinator release in June.

[3] 85% -90% of the acreage is furrow irrigated: siphon tubes are used to drain water from irrigation ditches bordering the field into furrows that run downhill the length of the field. Workers do not need to enter field.

[4] For the large majority of the acreage, fertilizations operations are contracted to custom applicators.

[5] Cultivations for weed control or set back are conducted in the spring prior to canopy closure or in the fall after harvest.

[6] Harvest is conducted by either directly combining, or by swathing followed by combining. No hand labor is involved.

[7] Planting is using tractors and attached cultivating/planting implements. Hand labor is not involved. 5-year rotations were once common, but the trend has been towards shorter, 2-3 year contracts, and hence more frequent planting.

[8] Not a field activity. Included for informational purposes only.

[9] Not a continuous activity. Shelters are moved into fields to receive pollinators and left until the end of the season.

[10] As for shelters, this is not a continuous activity. Bees are moved into shelters and left until removed in the fall.

[11] Conducted once per field to remove bees from fields in the fall. May occur pre-, or post-harvest.

[12] Indicates periods when pests occur in fields; population densities may reach treatable levels; and when field activities are likely. Does not indicated mere presence of pests in field, i.e. perennial weeds and some insect pests may be found in fields all year, but management activities only occur as indicated in table. Most weed management activities occur in the spring prior to canopy closure.

[13] These pests are not key pests and are not present at damaging levels in most fields each year, but are occasional pests that may be present in a few fields each year, or may be occur at damaging levels in most fields at infrequent intervals (e.g. every 3-5 years).