



Chair Holvey and members of the Committee,

RE: Testimony from Oregon Seed Council on HB 2619 which bans the use of chlorpyrifos in Oregon.

Insect control in Oregon's grass seed and clover seed crops is a critically important part of the overall production system. The impact to the crop and Oregon's ag industry would be extremely significant without the ability to effectively manage our insect pressures. Seed production could quickly lose 30-40% in yield due to the lack of effective insect pest control. This is a very conservative estimate of the impact, and the loss could be greater and possibly up to 100% in some cases.

Oregon is the global leader in grass seed production with approximately 650 million pounds produced each year. A 30% loss of perennial grasses alone would be 140 million pounds of seed. In dollars, this would equate to a loss of approximately \$100 million to Oregon's economy and agriculture industry and families.

Grass and clover seed growers in Oregon do not have many registered insecticide options available to implement into their integrated pest management plans. Chlorpyrifos is a critical need for proper and effective IPM. You cannot just simply count the numerous trade names and labels for products and think there are several options for growers. The actual reality is that these crops only have four mode-of-action classes of insecticides available for use. Of those mere four options, one of those does not demonstrate consistent results, and another is limited on its spectrum of insect control nor is it cost effective. This leaves only two optional classes of insecticides. If the state of Oregon eliminates chlorpyrifos, then the growers are left with only one single option.

Proper IPM strategy should include the use of multiple mode-of-action classes. Without chlorpyrifos these growers will be limited to one, pyrethroids, which poses challenges and will create bigger issues. Science has shown that the development of pesticide resistance is accelerated and more prevalent in production systems that do not or cannot utilize multiple modes of action. Furthermore, pyrethroids will not address all the insect control needs facing seed production.

A prime example of resistance is the current situation with the clover seed weevil in our clover seed crop. Due to the lack of insecticide options for clover seed weevil, the Oregon Department of Agriculture issued a Special Local Needs 24C registration for both chlorpyrifos and bifenthrin, a pyrethroid. Growers have used bifenthrin as much as possible because it is less harmful to pollinator populations. However, due to the predominant use of this one mode of action our clover growers are now dealing with a population of seed weevils that is showing strong sign of being resistant to bifenthrin. The only other options currently registered under an SLN 24C is chlorpyrifos. Clover seed weevils left out of control will reduce seed yields by at least 50%. Under current seed production statistics, this would equate to a \$15 million-dollar loss to Oregon's clover growers.

In addition to clover seed, chlorpyrifos is also labeled on perennial grasses grown for seed also through a Special Local Needs 24C registration from the Oregon Department of Agriculture. Chlorpyrifos addresses many of the specific insect control needs. Again, without chlorpyrifos the grass seed growers are left with only pyrethroids, which reduces the ability to adequately control some specific pests affecting grass seed production. Examples of specific pests addressed by chlorpyrifos that would not be adequately controlled by the remaining pyrethroids include aphids and garden symphylans.

Pyrethroids are not strong on controlling high aphid population, whereas chlorpyrifos will control these populations. Effective aphid control is not only important to eliminate the piercing-sucking insect from desiccating the crop, but also to prevent the spread of the devastating barley yellow dwarf virus that is vectored by the aphids. BYDV has a significant impact on seed yield and the life of the stand. In all cases, the grass crop must be terminated and replanted to eliminate the virus. Thus, clearly causing significant economic losses.

The garden symphylan is a soil insect that can have a significant impact on stand establishment immediately after seeding. If left unchecked, the symphylans will cause incomplete stand establishment and leave sizeable areas without crop. It has been demonstrated that when chlorpyrifos is used to control other insect pest affecting grass seedling sprout that it also reduces the impact of the symphylans on the newly planted crop. No other registered material has demonstrated this ability.

There are two registered options for control of orchardgrass billbug, both through SLN 24C registration. These options are chlorpyrifos and bifenthrin, and while both are effective there is some observational notes being made that bifenthrin may not be providing as good of control as it once did. There is strong reason to believe that bifenthrin resistance may be developing in this billbug population. Chlorpyrifos is the only other option, and without it both bifenthrin resistance and the loss of billbug control will become a reality.

It is also worth noting that chlorpyrifos is labeled for use only on "perennial grasses grown for seed." Therefore, there is approximately one-third of the total grass seed acres that cannot use chlorpyrifos. This specific labeling helps our industry maintain effective insect control by implementing good rotational use of the available crop protection products. It is important that the perennial grass seed crops continue to utilize chlorpyrifos so that appropriate IPM strategies can be employed across the industry and prevent resistance development.

In summary, chlorpyrifos plays a critical role in the integrated pest management strategies implemented by grass and clover seed producers. The reality is that growers only have two modes-of-action classes available with chlorpyrifos being one of them. If chlorpyrifos is eliminated then there will be a tremendous stress put on the remaining class of pyrethroids, which has already shown signs of resistance development in our production systems. Oregon growers are already limited in their available options and eliminating chlorpyrifos would be a critical loss and would lead to even bigger challenges. Oregon's grass and clover seed industries would suffer significant losses if chlorpyrifos was eliminated as an option for IPM and crop protection.