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Environmental Protection Agency
1200 Pennsylvania Ave. NW
Washington DC 20460-0001

Re: EPA-HQ-OPP-2011-0666-0023, Registration Review Draft Risk Assessments for Spinetoram, Spinosad, and copper products.

The following comments are submitted regarding the registration review draft risk assessments for spinetoram and spinosad. These comments are being submitted on behalf of the Western IPM Center, and provide input from Pacific Northwest commodities on the usage of these products.

Many important Pacific Northwest crops currently rely on spinosad and spinetoram for controlling key pests. These crops include apple, pear, cherry, berry crops, and stone fruits. While spinetoram is more widely used, spinosad is considered an extremely critical product for organic production with these crops. However, MRLs for spinosad are not favorable in many export markets, which makes spinetoram the preferred product in conventional production.

In apples, spinetoram (and spinosad, in a small percentage of organic production) is widely used and considered important for controlling many insect pests, including leafroller, green fruit worm, thrips, codling moth, and leafminer. It is generally used 1-2 times per season. A pre-bloom application is used to control leafroller, green fruit worm, and thrips, while a post-bloom application controls leafminer and codling moth, and also provides additional control for leafroller. Spinetoram is considered an effective replacement to organophosphate control of codling moth. Although alternative products are available for controlling many of these insect pests, they are not considered as effective, and many have similar or higher toxicity impacts to pollinators. Resistance issues with leafminer make spinetoram an important rotation tool in apples.

In pears, spinetoram is commonly used, with an average of 1-2 applications per season, dependent on pear psylla pressure after petal fall, a major pest for pear growers in the Pacific Northwest. It is used pre-bloom to control pear psylla, oblique-banded leafroller, and thrips (pear or western flower thrips). There are very few products that target all of these pests, and given that pear psylla has a high potential for developing resistance, spinetoram is important for rotation. Alternatives are limited with the phase out of endosulfan, and resistance issues having precluded the use of other products. These products are avoided during

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bloom, and occasionally a post bloom petal fall application might be applied for additional control of leafroller, pear psylla, and codling moth. These products are considered most effective for codling moth control in pears, and although alternatives are available, they are often more expensive, many are neonicotinoids, and rotation products are needed.

In sweet cherry production, spinetoram (and spinosad for organic production) is considered a critical product for controlling spotted-wing drosophila (SWD), and is generally used 1-2 times per season in rotation with malathion and pyrethroids. The nature of this pest-with multiple generations per season and increasing populations as the season progresses-and the damage caused by it requires constant coverage in a season long program, and the need to reduce the potential for resistance. Having multiple modes of action is important.

Spinetoram is also used to control cherry fruit fly, and a post-bloom application for this pest also provides control for leafminer. Before the use of spinosad to control leafminer, major late-summer defoliation events were impacting fruit size and quality in subsequent years. This product is considered critical in the prevention of this type of damage from leafminer. For thrip control in sweet cherries, a bloom time application might be used, applied with mitigations to protect pollinators.

Many Pacific Northwest berry industries rely on these products, including blueberry, caneberry, and strawberry. These products are considered the only effective insecticides that have some residual effects in the field for controlling SWD. For organic production, generallly 6 applications are used post-bloom, in rotation with other products, such as pyrethrum, and biopesticides such as Grandevo. These other products are important for rotation, but are not considered replacement products because they have shorter residual activity. In conventional production, an average of 1 application is used to control SWD. Other classes of insects are also controlled by these applications in berries, including lepidopterans, leafrollers, winter moths, and thrips.

These products are also used in stone fruit production as a vital material for controlling thrips. This is often a bloom-time application, and substitutes previous use of organophosphates, and carbamates.

All of the crops included here would generally rely on managed pollination services. In these cases, bloom time risks to pollinators are minimized in cooperation with beekeepers.

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These products are valued for having low human toxicity, and although they can have acute effects on natural enemies that provide biological control, these impacts are minor compared with those caused by pyrethriods and malathion. In some programs such as pear psylla control, these products are avoided if and when possible to avoid disruption to biological control. However, biological control for pear psylla has proven only somewhat successful, with reduced pesticide use in some orchards still resulting in large psylla numbers. Management of SWD has also disrupted IPM programs in many industries. Growers hope for more effective management materials for these pests in order to return to softer programs.

Finally, the copper products included in this review are considered very critical for many of these same industries, providing effective control for fire blight and scab in pears; scab, anthracnose, and other diseases in apples, and leaf curl in peaches. It is also used to achieve russeting in bosc pear production.

Respectfully,

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Katie Murray is a research assistant in the Integrated Plant Protection Center (IPPC) and is the Western IPM Center's EPA Comment Coordinator for the Pacific Northwest. Katie has expertise in agricultural stakeholder engagement and assessment methods related to understanding pesticide usage, as well as the use of, and pesticide compatibility with, IPM.

The IPPC is the hub for Oregon's statewide IPM program, and the main IPM resource in Oregon for farmers, researchers, and extension agents. The expertise represented in the IPPC is highly interdisciplinary and includes toxicology, entomology, horticulture, adult education, public health, and anthropology, all with an IPM focus. Within the IPPC, we have a collective expertise in understanding the use of pesticides within IPM programs with a goal of protecting the economic, environmental and human health interests of our stakeholders.

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To compile comments, input is actively solicited from stakeholders throughout the Pacific Northwest in an effort to convey use patterns, benefits, potential impacts, and the availability and efficacy of alternatives. These comments are an independent assessment and do not imply endorsement by Oregon State University or the Western IPM Center.