

PYRETHROIDS:

Good morning. Please see below for questions on potential pyrethroid mitigation measures. Do you think these are questions that you can answer? If so, how long do you think it will take to respond? In addition to the questions, we included the label language which I think PRD sent to you already. Thankyou.

US EPA Questions on Potential Pyrethroid Mitigation

EPA is considering mitigation options to reduce the movement of pyrethroids from agricultural fields to water bodies, and would appreciate information from USDA on some options we are considering. Some proposed label language follows the questions.

Questions for USDA

The proposed VFS could be reduced to 15 feet if:

- The area of application is considered prime farmland (as defined in 7 CFR § 657.5).
- Conservation tillage is being implemented on the area of application.
 - Conservation tillage is defined as any system that leaves at least 30% of the soil surface covered by residue after planting. Conservation tillage practices can include mulch-till, no-till, or strip-till.
- Terrace farming (such as defined here: https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1263187.pdf) is being used on the area of application.
- Water and sediment control basins are present, as defined here: https://www.nrcs.usda.gov/wps/PA_NRCSCConsumption/download?cid=nrcs143_026238&ext=pdf.

Q: Are these appropriate and effective practices that reduce the movement of soil into waterbodies? Are these practices well-defined so that growers will know what is being required without further definition? Are there other, similarly effective practices that EPA should consider adding to the list to maintain a 15 foot VFS instead of a 25 foot VFS? Are field borders, as defined here https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1241318.pdf, equivalent to a VFS?

Q: Is prime farmland generally considered to be at little risk from soil erosion?

Q: EPA is also considering maintaining the current 10 foot wide VFS for Western irrigated agriculture (WA, OR, CA, ID, NV, UT, AZ, MT, WY, CO, NM). Is irrigated agriculture in these states at little risk for soil erosion?

Yes, in Arizona and desert areas of CA, this statement is generally true, because most of the irrigated lands there are dead level or with very minimal slope maintained by periodic laser leveling. Thus, movement of soil off field is greatly minimized. There are of course far fewer situations where fields are adjacent to active waterways under these desert conditions.

Draft Description of Proposed Label Language

The following mitigation applies to all Agricultural pyrethroids (except pyrethrins).

VEGETATIVE FILTER STRIPS

Construct and maintain a vegetative filter strip, according to the width specified below, of grass or other permanent vegetation between the field edge and down gradient aquatic habitat (such as, but not limited to, lakes; reservoirs; rivers; permanent streams; marshes or natural ponds; estuaries; and commercial fish farm ponds).

Only apply products containing (name of pyrethroid) onto fields where a maintained vegetative filter strip of at **least 25 feet** exists between the field edge and where a down gradient aquatic habitat exists. This minimum required width of 25 feet may be reduced under the following conditions:

- For Western irrigated agriculture a maintained vegetative filter strip of at least 10 feet wide is required. Western irrigated agriculture is defined as irrigated farmland in the following states: WA, OR, CA, ID, NV, UT, AZ, MT, WY, CO, NM.
- In all other areas, a vegetative filter strip with a minimum width of 25 feet is required, unless the following conditions are met. The 25 feet vegetative filter strip requirement may be reduced from 25 feet to 15 feet if at least one of the following applies:
 - The area of application is considered prime farmland (as defined in 7 CFR § 657.5).
 - Conservation tillage is being implemented on the area of application. Conservation tillage is defined as any system that leaves at least 30% of the soil surface covered by residue after planting. Conservation tillage practices can include mulch-till, no-till, or strip-till.
 - Terrace farming is being used on the area of application.
 - Water and sediment control basins are present.

TRIAZINES:

Hello. Please see below for questions on several uses of the triazines. We separated the questions by use site. Please let us know if these are questions you think you can answer and how long you think it will take to respond.

In addition to these questions, we are wondering if you would be able to answer questions related to the use of atrazine impregnated fertilizer in agriculture or if you recommend someone else to speak with this use pattern.

Nursery and Ornamental Production

The triazine human health draft risk assessments published July 2018 [[RA website link](#)] and potential risks of concern were identified for occupational handlers for scenarios where **simazine is applied in nursery production systems with a backpack sprayer**. The Agency has several questions to better understand the use and importance of simazine in these systems.

Not sure – might be used in some instances.

There is a lot of use by landscapers (not in ornamental production). It is used to control Globe chamomile weed. Simazine is the only thing that controls it. This weed was introduced 8 years ago.

Simazine is inexpensive and offers broad spectrum control.

Simazine Questions Related to Nursery (Outdoor) Ornamental Production:

- For which state/region are you providing information?
- Which weeds are typically targeted by simazine in nursery production?

Not sure

- What application rate is typically used to target these pests?

Not sure

- What are the alternatives to simazine for these pests?
- What are the advantages and disadvantages of simazine relative to the alternatives?
- Is simazine applied by mechanically pressurized handguns in nursery ornamental production?
 - If so, how many acres can one individual treat during a single day with a mechanically pressurized handgun?
 - What is the typical application rate?

Only a couple of nurseries use it. Not sure about methods.

Sweet Corn

The triazine human health draft risk assessments published July 2018 [[RA website link](#)] and potential risks of concern were identified for occupational handlers for scenarios where triazines are applied to sweet corn. The Agency has several questions to better understand the use and importance of simazine in these systems.

Atrazine Questions Related to Sweet Corn Applications:

1. For which state/region are you providing information?
2. Is atrazine applied by mechanically pressurized handgun in sweet corn? **No**
 - a. If applied this way, how many acres can one individual treat during a single day with a mechanically pressurized handgun?
 - b. If applied this way, what formulations are used with mechanically pressurized handgun application (DF/WDG/WSP/liquids)? Is there a reason that one formulation used/not used relative to another (e.g., not compatible with application equipment, cost, phytotoxicity concerns)?
 - c. What is the typical application rate? Does it differ by formulation?

AZ Use data for atrazine is significant for all types of corn, generally between 7000 and 11000 acres each year. However, only 4 of those applications are identified as sweet corn applications.

PCA: We don't have much acres (he watched 20 acres), but we do use atrazine. We do not use this application method.

University of Arizona Weed Specialist, Bill McCloskey: We do use atrazine. These application methods are not used, as far as he knows, for either of these AIs.

PCAs contacted say they don't use this application method on sweet corn. Don't have much sweet corn acres anyway.

Simazine Questions Related to Sweet Corn Applications:

1. For which state/region are you providing information?
2. Is simazine applied by mechanically pressurized handgun in sweet corn?
 - a. If applied this way, how many acres can one individual treat during a single day with a mechanically pressurized handgun?
 - b. What is the typical application rate?

No simazine use in AZ sweet corn.

UTAH: Regarding sweet corn, there is just some small farm production in Utah, nothing major. Not sure about simazine use.

Orchard/Vineyard

The triazine human health draft risk assessments published July 2018 [[RA website link](#)] and potential risks of concern were identified for occupational handlers for scenarios where **simazine** was applied using different application methods, specifically mechanically **pressurized handguns and backpack sprayers**. These scenarios include: grapefruit, oranges, lemons, apples, pears, tart cherries, avocados, filberts, **grapes, olives**, peaches, plums, **sweet cherries, pecans**, walnuts, almonds, nectarines, and macadamia nuts. (no pistachios?)

University of Arizona Weed Specialist, Bill McCloskey: With the possible exceptions of grapes, these methods are not used. Our soils are too coarse to support these methods.

4 pecan applications in the pesticide use database. No other reported use in these crops.

PCA who works with grapes in Arizona: We don't have enough organic matter in the soil to use it in grapes, or in tree crops. Nobody touches it. There is some use in ornamentals.

Marion Murray in Utah Cooperative Extension:

For which crop(s) and region(s)/state are you reporting information? - Utah

How typical are backpack sprayer applications of simazine to orchard/vineyards? - None

How typical are applications of simazine with mechanically pressurized handguns to orchard/vineyards? - None

Simazine Questions Related to Orchard/Vineyard Applications:

1. For which crop(s) and region(s)/state are you reporting information?
2. How typical are backpack sprayer applications of simazine to orchard/vineyards?
 - a. If applied this way, how many acres can one individual treat during a single day with a backpack?

- b. If applied this way, what is the typical application rate when applying with a backpack?
3. How typical are applications of simazine with mechanically pressurized handguns to orchard/vineyards?
 - a. If applied this way, how many acres can one individual treat during a single day?
 - b. If applied this way, what is the typical application rate?

Specific Tree Crops (guava and conifers)

We don't have these crops in AZ.

The triazine human health draft risk assessments published July 2018 [[RA website link](#)] and potential risks of concern were identified for occupational handlers for scenarios where atrazine was applied with different application methods (aerial, mechanically pressurized handguns, and backpack sprayers) to guava and conifers.

Atrazine Questions Related to Specific Tree Crops Applications:

1. For which crop(s) and region(s) are you reporting information?
2. Which weeds are typically targeted by atrazine in tree crops?
 - a. What application rate is typically used to target these pests?
 - b. What are the alternatives to atrazine for these pests?
 - c. What are the advantages and disadvantages of atrazine relative to the alternatives?
3. How typical are backpack sprayer applications to conifers?
 - a. If applied this way, how many acres can one individual treat during a single day?
 - b. If applied this way, what is the typical application rate?
4. How typical are applications with mechanically pressurized handguns to guava?
 - a. If applied this way, how many acres can one individual treat during a single day?
 - b. If applied this way, what is the typical application rate?
5. How typical are aerial applications to guava?
 - a. If applied aerially, how many acres can one individual treat during a single day?
 - b. If applied aerially, are formulations of water soluble packets used for aerial applications?
 - c. If applied aerially, what is the typical application rate?

Berries

NO crops

The triazine human health draft risk assessments published July 2018 [[RA website link](#)] and potential risks of concern were identified for occupational handlers for scenarios where simazine was applied with mechanically pressurized handguns to: blueberries, blackberries, loganberries, raspberries, lowbush blueberries, strawberries and cranberries.

Simazine Questions Related to Berry Applications:

1. For which crop(s) and region(s) are you reporting information?

2. How typical are applications of simazine with mechanically pressurized handguns to berries?
 - a. If applied with a mechanically pressurized handgun, how many acres are treated in a day?
 - b. If applied with a mechanically pressurized handgun, what is the typical application rate?

Fallow and Conservation Reserve Program (CRP)

The triazine human health draft risk assessments published July 2018 [[RA website link](#)] and potential risks of concern were identified for occupational handlers for scenarios where atrazine is applied with different application methods (aerial, or groundboom) to: fallow and conservation reserve program (CRP) areas.

University of Arizona Weed Specialist, Bill McCloskey: No, we don't use it this way. Arizona pesticide use data shows 2 atrazine applications to fallow land, both by ground, one in 2012 and one in 2013.

Response from Colorado crop consultant:

For my division there may be some aerial treatments of atrazine on fallow that occur in the more rural areas of NE Colorado, but with the cost of aerial application compared to ground rig I doubt there is all that much, I don't have anyone applying this aerially on fallow along the Front Range. When applied is usually applied (ground or air) with glyphosate and a growth regulator, sometimes with an HPPD for the residuals for vol wheat, winter annuals and early spring annuals like kochia. Consequently not much WP, some flowable, most often liquid so as to minimize the tie up of the glyphosate. For fallow fall applications would likely be limiting to 1 # active and 5 gpa water by air, 10-15 gpa by ground

Ground rig sprayers far more common (virtually all of fields I'd be using this on would be dryland wheat/fallow or wheat/other cropping/fallow. Usually big fields so can get a lot done if the weather remains favorable. There's some BIG BIG fields out there, so less turning,..... I wouldn't know just how much could be done in a day with 10 gpa by ground if all were favorable, but bet it could be 800-1000 acres.day

Fallow treatment using Atrazine is a critical part of the wheat/fallow and other dryland systems to save water, save soil erosion,, allow for fall, winter and early spring control of winter small grains and weeds. When not done often we end up with Wheat Streak mosaic virus and other green bridge viruses, excessive tillage or other chemical applications to control winter and spring weeds like rye and kochia, This reduces the soil moisture, exposes the soil to more erosion both wind and water. Atrazine or other PS2 herbicides needed for synergy for HPPD herbicides. A critical part of our weed control spectrum.

Atrazine Questions Related to Fallow and CRP Applications:

1. For which region(s) are you reporting information? And are you reporting for fallow or CRP use sites?
2. How typical are aerial applications to fallow and CRP land?
 - a. If applied aerially, how many acres are treated in a day?

- b. If applied aerially, what formulations are used aerially (DF/WDG/WSP/liquid)? Is there a reason that one formulation used/not used relative to another (e.g., not compatible with application equipment, cost, phytotoxicity concerns)?
 - c. If applied aerially, what is the typical application rate?
 - 3. How typical are groundboom applications to fallow and CRP land?
 - a. If applied with a groundboom, how many acres are treated in a day?
 - b. If applied with a groundboom, what formulations are used with groundboom applications (DF/WDG)? Is there a reason that one formulation used/not used relative to another (e.g., not compatible with application equipment, cost, phytotoxicity concerns)?
 - c. If applied with a groundboom, what is the typical application rate?