

Frequently Asked Questions regarding the use of the fungicide, Priaxor® Xemium

Information from Zoom outreach webinars held on Apr. 2021, Dec. 2022, and Feb. 2023 and updates from BASF on Nov. 2023:

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The pesticide label is the law. In this case, Priaxor Xemium has two labels - the product label and the supplemental label. Both labels must be followed when using this product on coffee grown in Hawaii. Here is the Priaxor Xemium [Product Label](#) and [Coffee Supplemental Label](#).

General CLR Questions

1. **Where can I bring samples to, to determine if I have a CLR issue?**
 - a. Please send photos via email to andreak@hawaii.edu or bring samples to Andrea's Kona office.

General Priaxor Xemium Questions

2. **How does Priaxor Xemium actually work?**
 - a. Priaxor has contact, translaminar, and xylem systemic properties.
 - b. Priaxor forms a protective barrier on the leaf surface and along with translaminar properties will stop infection from germinating spores and subsequent colonization on the underside of the leaf surface. Good coverage is going to be critical. It does not cure existing disease.
 - c. Priaxor has about 14 to 21-day residual activity.
3. **Is Priaxor Xemium a restricted use pesticide?**
 - a. No, the product is licensed as a general use pesticide and does not require a certified applicator.
4. **Have other countries used Priaxor Xemium?**
 - a. Yes, Costa Rica, Brazil, India, and Puerto Rico.
5. **Where is this going to be available and what is the approximate cost of Priaxor Xemium?**
 - f. Nutrien Ag and Simplot are the known distributors. BEI and other licensed dealers may also sell the product. Current cost is approximately \$550.00 per gallon (as of Nov. 2023).

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6. Should I prune before I spray with Priaxor?

- a. Yes, prune before applying Priaxor.
- b. Pruning helps with the management of CLR. Pruning also helps to achieve good spray coverage, which is necessary for maximum effectiveness of Priaxor.
- c. By pruning, you remove CLR-infected leaves and plant materials from the tree, increase airflow and sunlight, and reduce canopy humidity, and remove excess branches to help make other cultural practices such as spraying more effective.

Equipment Questions

7. Are mister blower applications allowed?

- a. Mister blowers are not allowed as of the new Supplemental label. However, motorized backpack sprayers are allowed.

Tank Mixing Questions

8. Can I mix fertilizers with Priaxor?

- a. No. According to the Section 18 label, only adjuvants can be tank mixed with Priaxor.

9. Can I mix Priaxor Xemium with other chemicals?

- a. Do not mix Priaxor Xemium with emulsifiable concentrate (EV) formulation or solvent-based formulation products. Do not mix with Crop oil concentrate (COC), methylated seed oil (MSO), or MSO/OS blended adjuvant products.

10. Do you recommend a particular type of adjuvant to mix with Priaxor?

- a. According to the label, nonionic surfactants and organosilicone (OS) at their lowest label rate up to 0.125%, can be tank mixed with Priaxor.
- b. Do not use a sticker adjuvant as you want the active ingredients to be absorbed into the leaf and not adhered to the waxy layer on the surface of the leaf.

11. Should I use a sticker surfactant?

- a. No, use a surfactant that will help Priaxor Xemium spread on the leaf rather than stick to the leaves.
- b. Do not also use a penetrating surfactant.

12. What is the effect of Priaxor on *Beauveria bassiana* products?

- a. Do not mix Priaxor Xemium with *Beauveria bassiana* products.

13. Is there any evidence or efficacy with using nano bubble technology when using nano treated water as a carrier for the active ingredients?

- a. There is no research that BASF is aware of; however, if ozone is being used to create the bubbles, it is suggested to avoid using this technology to avoid any effects from what severe oxidation might do in a tank.
- b. Nano treated water is not prohibited by the label.

Spraying Questions

14. Why is there just a single label rate for the use of Priaxor on Hawaii coffee?

- a. The Section 18 label was created with just a single rate of Priaxor Xemium and is based on previous research on coffee in non-US countries.

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- b. Applicators must follow this label rate of 7.14 fluid ounces per acre regardless of tree size, age, variety, density.
- 15. Can I use a rate lower than 7.14 fluid ounces per acre for my young trees I planted recently?**
- a. No. You must follow the specified label rate of 7.14 fluid ounces per acre regardless of tree size, age, variety, density.
 - b. However, the amount of water needed to spray per acre will be different for smaller or younger trees versus larger more foliage-dense trees.
 - c. Calibrate your sprayer before applying Priaxor to determine how much water is needed to get good coverage with the spray application.
 - d. According to the label, you must mix Priaxor with at least 20 gallons of water per acre.
- 16. If I mix 7.14 fluid ounces of Priaxor in 50 gallons of water per acre for my mature coffee trees, why can't I use that same concentration (0.1428 fluid ounces per gallon of water) for my younger trees?**
- a. You must follow the directions for use on the Priaxor labels.
 - b. Larger trees typically require more water to be mixed with Priaxor to get good, total coverage of the coffee trees. Smaller trees typically require less water because there is less leaf and branch surface area to spray.
 - c. If you were to use the same concentration on smaller trees as you have on larger trees, you would be applying Priaxor at a per acre rate that is less than what is required by the label and that would be considered illegal use of the pesticide. In addition, you may not achieve good control of CLR, you may receive losses (leaves, tree health, yield, etc), may have to spray with additional fungicides to regain control of CLR, and have increased costs.
- 17. It seems that smaller trees get a higher dose or concentration of Priaxor than larger trees. Why is this and does this difference affect the control of CLR on my trees?**
- a. You are correct. Because of the water rate per acre, smaller trees would seem to receive a greater amount of pesticide than larger trees; however, per acre you are applying 7.14 fluid ounces of Priaxor.
 - b. While applying a lower concentration of Priaxor to larger trees may not be ideal, you must still follow the label directions and apply 7.14 fluid ounces of Priaxor per acre regardless of tree size.
- 18. If I have coffee sporadically planted throughout my property, how do I determine how much Priaxor to apply? For example, I have about 750 trees on about an acre of land in total, though 50 trees are grown here, 200 trees are grown there, etc.**
- a. You must only apply Priaxor at a rate of 7.14 fluid ounces per acre.
 - b. Calibrate your sprayer so you can determine the amount of water needed to spray and get good coverage on your acre of coffee trees.
 - c. If, for example, you need 30 gallons of water to spray all 750 trees on the acre, you would add 0.14 fluid ounces or 4.2 milliliters of Priaxor per gallon of water. In a 3 gallon backpack tank, you would fill the tank ½ to ¾ full with water, measure and add 0.42 fluid ounces or 12.6 milliliters of Priaxor to the water, and then fill the remainder of the tank to the 3-gallon capacity. Optional: Adding a surfactant can help achieve better spray coverage. You would repeat this process of tank mixing and spraying a total of 10 times until all trees are sprayed and all product in the 10th tankful is applied to the coffee trees.

- d. If, for example, you need 60 gallons of water to spray all 750 trees on the acre, you would add 0.12 fluid ounces or 3.5 milliliters of Priaxor per gallon of water. In a 3 gallon backpack tank, you would fill the tank ½ to ¾ full with water, measure and add 0.36 fluid ounces or 10.5 milliliters of Priaxor to the water, and then fill the remainder of the tank to the 3-gallon capacity. You would repeat this process of tank mixing and spraying a total of 20 times until all trees are sprayed and all product in the 20th tankful is applied to the coffee trees.
- e. If you need assistance with sprayer calibration and/or calculating pesticide rates or gallon or tankful of water, contact your [local Extension Office](#) or Agent.

19. What is the ideal timing of the use of Priaxor?

- a. See the [product label](#), [Section 18 label](#), and [Mike Ravalin’s presentation](#) for information about Priaxor and its proper use.
- b. Priaxor should be applied as a preventative control measure and applied twice when CLR pressure is high.
- c. Apply Priaxor to treat the new flush (leaves and branches) of growth post-pruning. Treat with an alternate chemistry (FRAC) 21 days later. Then, retreat with Priaxor 7-14 days later depending on the selection of the non-FRAC group 7 product.
- d. The second application of Priaxor must be made at least 30 days after the first application.
- e. Any application of Priaxor must be applied at least 45 days prior to harvest.

20. Can you spray Priaxor Xemium on or near waterways?

- a. No, the original section 3 label does not allow application to water or to areas where surface water is present.

21. Is there a minimum or maximum amount of time required in between the currently registered coffee leaf rust products applications and Priaxor Xemium?

- a. Please read the label of all products. Specific products have requirements that must be followed and not all products are not the same.

22. What is the time frame between spraying and picking coffee cherries?

- a. Pre-harvest interval is 45 days from application. Please read the section 3 label for other restrictions.

23. What if I can’t abide by the 45-day pre-harvest interval?

- a. You should not use Priaxor Xemium if you intend to harvest within 45 days.

24. Will Priaxor eliminate the currently approved products?

- a. No, please work with your extension agent to ensure proper rotation of chemicals.

25. I have multiple properties but are not tied together by one TMK, can I apply to my farm?

- a. Yes, as long as all the TMKs are under the same field then you may apply without the 25-foot buffer restriction. You may use one container for multiple TMKs.

26. What if my neighbor is a coffee farmer and we both agree that we want to treat our fields up to the edge of our properties, can we do that by agreement?

- a. No, the label requires a 25-foot buffer between fields, even though you may have an agreement with your neighbor and would like to treat those 25 feet. You would have to look for alternative products to treat that area.

27. My farm is completely infected by CLR but I am stump pruning a third of my farm. Even with block stumping is it worth spraying Priaxor on my farm?

- a. Ideally, a heavily infected farm should be heavily pruned or stumped to removed CLR-infected plant materials and to reduce the CLR incidence as low as possible.
- b. Currently (Feb. 2023), Priaxor is the most effective fungicide for CLR control in Hawaii. Unless stumping the entire farm, Priaxor is going to be the best option for managing CLR on the unstumped 2/3 of the farm and will help to protect the new growth in the stumped section.
- c. Time the Priaxor applications to spray new growth arising from the laterals and verticals of the unstumped sections and then spray the stumped section after desuckering to protect the new verticals from CLR. All three sections should receive a total of two applications of Priaxor.
- d. Rotate Priaxor with other non-Group 7 and non-Group 11 fungicides for pesticide resistance management.

28. Will the Department or CTAHR or CES provide a schedule for growers?

- a. No, there are too many variables for one agency or organization to provide a schedule for ALL growers. Ensure you follow the label requirements.

29. During the Feb. 7,2023 presentation, in the spray examples provided, why are the gallons used and amounts of Priaxor put into the tank different?

- a. The amount of water needed to spray an acre of coffee will differ from farm to farm depending on the number of trees per acre, canopy density, tree height, with the particular applicator, etc. Before spraying, you should calibrate your sprayer so you can estimate the gallons of water needed to spray an acre of coffee or total acreage.
- b. Water is just the carrier for the product and active ingredients, and you want to have good coverage on all the leaves. No matter how many gallons of water it takes to spray an acre of coffee, you can still only apply 7.14 fluid ounces of Priaxor per acre.

30. How do you determine how much water per acre you will need?

- a. You would first need to calibrate your sprayer. If you know how many trees you have in an acre of coffee, you can spray 10 trees, determine how much water was used to spray those 10 trees, and then extrapolate that gallonage to the entire acre.
- b. There is also a sprayer calibration publication and Excel workbook that can be used to direct and assist growers in sprayer calibration, calculating the amount of water per acre or total acreage, and then calculating the amount of pesticide product per gallon of water or per tankful.
- c. The publication and workbook can be found at <https://www.hawaiicoffeeed.com/sprayercalc.html>.

Other Questions

31. How long is the supplemental label good for?

- a. The Supplemental label is good for 2 years. At that time the label should change to a Section 3 label.

32. Is the (HI) Department (of Ag) taking a stance on recently published information regarding the use of fertilizers to combat CLR?

- a. Healthier plants do tend to resist CLR better, but more Hawaii specific data is necessary.

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33. Has there been a verification of change in taste or cupping quality?

- a. There has been no information provided to the Department regarding taste.

34. Any noted efficacy or control using Regalia biofungicide?

- a. Coffee is not listed on the Regalia label and so this product should not be used on coffee in Hawaii. The same goes for products like Tilt.
- b. It is illegal to use products like Regalia and Tilt on coffee in Hawaii.
- c. The US Environmental Protection Agency (EPA) approves of pesticide products to be registered on crops such as coffee. If approved for use in the US, these products will have an EPA number associated with the product label.