

FAQs about ProBlad Verde

A. ABOUT THE PRODUCT

1. Is ProBlad Verde approved by the Hawaii Department of Agriculture (HDOA) for use on coffee in Hawaii?

- a. Yes, this product was approved by the HDOA on April 13, 2022 under a 24(c) Special Local Needs (SLN) Supplemental Label and can be applied to coffee in Hawaii - https://s3-us-west-1.amazonaws.com/agrian-cg-fs1-production/pdfs/ProBlad_Verde_Section_24c.pdf
- b. Follow all SLN and product label instructions.

2. How does ProBlad Verde work?

- a. It works on contact and has translaminar properties, meaning that it is absorbed through the leaves. Within 12-24 hours of its application, ProBlad Verde disturbs the cell wall and membrane of the fungus, and enters into the fungus cell where it then causes major disruptions within the cell, eventually causing a chain of events that ultimately causes apoptosis or cell death.

3. Is ProBlad Verde a systemic product?

- a. No

4. What is meant in saying ProBlad Verde has translaminar properties?

- a. The product provides a protective layer in the leaf surface when sprayed— this layer will kill off spores when they land and attempt to germinate, and provides protection for a limited amount of time, usually a couple of weeks.

5. What is the difference between a translaminar and systemic fungicide?

- a. A translaminar fungicide is absorbed through the leaves and stays locally in the sprayed leaf, providing short-term protection against the spores and killing them as they land on the leaf. Translaminar fungicides typically DO NOT move from leaf to leaf, so good spray coverage of all leaves is essential for protection against Coffee Leaf Rust. Additional application(s) of fungicides would be necessary to protect newly emerged leaves.
- b. A systemic fungicide is absorbed by the plant and can move from the site of application to other parts of the plant. Movement in the plant varies by fungicide where a systemic fungicide can move to old and new tissues (amphymobile) or to new growth (acropetal or xylem mobile). ProBlad Verde is NOT a true systemic fungicide.

6. Is ProBlad Verde a nano product?

- a. No

7. Does ProBlad Verde help to control other diseases?

- a. The special local needs label for use of ProBlad Verde on coffee in Hawaii only states that this product helps to control Coffee Leaf Rust (*Hemileia vastatrix*).

8. Where can I learn more about ProBlad Verde?

- a. Sym-Agro's (manufacturing company) webpage for ProBlad Verde - <https://sym-agro.com/problad/>
 - i. Techsheet, product label and SDS, OMRI certificate, published research, and field data included.
- b. Contact information for Sym-Agro - current communications have been with Don Yadon - <https://sym-agro.com/contact/>
- c. Hawaii-based information - <https://www.hawaiicoffeeed.com/probladverde.html>
 - i. Special local needs (SLN) label, product label, tech sheet with SLN rate, compatibility with fungicides and *Beauveria bassiana*, and Hawaii field project presentation included.

B. PRODUCT USE

1. When is the best time to spray ProBlad Verde?

- a. ProBlad Verde is most effective when applied before or around the onset of disease development.
- b. Spray before the rainy season. Per the SLN label, ProBlad Verde needs 12 hours of drying time after it has been sprayed.
 - i. If it rains heavily within those 12 hours of dry time, another application will need to occur within 4 days.

2. Is ProBlad Verde phytotoxic?

- a. There is currently no data to suggest this. However, always follow the product label(s) and any other label of product(s) (adjuvant, sticker, etc.) you are tank mixing with.

3. Can ProBlad Verde be sprayed on a sunny day?

- a. Yes, and it is preferable to do so as the product needs 12 hours of drying time.
 - i. If it rains heavily within those 12 hours of dry time, another application will need to occur within 4 days.

4. How many times per year is it safe or recommended to use ProBlad Verde?

- a. Per the product and SLN label, ProBlad Verde can be sprayed no more than five (5) times per crop season.

5. How much ProBlad Verde do I mix into my spray tank?

- a. Per the SLN label, ProBlad Verde must be sprayed at a rate of 45.7 fl oz per acre.
- b. Sprayer calibration and knowing your crop acreage to be sprayed, water use per acre or total acreage, and tank size is helpful to calculating the amount of product to add per gallon of water or per tankful.
- c. Information on sprayer calibration and product calculations per gallon or tankful can be found at - <https://www.hawaiicoffeeed.com/sprayercalc.html> or contact your local UH-CTAHR Extension Agent for assistance - <https://cms.ctahr.hawaii.edu/ce/Find-Us>

- 6. Is there a minimum amount of water per acre that is needed to spray ProBlad Verde?**
 - a. Yes, you must use at least 50 gallons of water per acre when applying this product.
- 7. How soon will we see the Coffee Leaf Rust spot/lesion die and the spores dry up or vanish?**
 - a. ProBlad Verde should work within 12-24 hours of its application and with proper spray coverage.
- 8. How long does the effect of ProBlad Verde last?**
 - a. ProBlad Verde should provide continued protection against Coffee Leaf Rust for about 1-2 weeks with proper spray coverage.
- 9. How long does ProBlad Verde need to be in contact with Coffee Leaf Rust spores to see an effect on their viability?**
 - a. ProBlad Verde needs to be applied with good spray coverage and have 12 hours of drying time to be most effective.
- 10. Do I need to make two sequential applications of ProBlad Verde, 15 days apart, for best effectiveness?**
 - a. According to the manufacturer, yes.
 - b. Per the SLN label, DO NOT make more than two sequential (back-to-back) applications of ProBlad Verde before switching to another fungicide.
 - c. Following the second application of ProBlad Verde, it is important to rotate to a different pesticide and FRAC Group to prevent pesticide resistance.
- 11. What other products can ProBlad Verde be rotated with to prevent pesticide resistance?**
 - a. ProBlad Verde is in the FRAC Group BM01.
 - b. Rotate the use of ProBlad Verde with other HDOA and coffee-approved fungicides in a different mode of action such as Bacillus-based products (FRAC Group 44) like Double Nickel and Serenade, copper-based products (FRAC Group M1), OxiDate (FRAC Group unclassified), or Priaxor Xemium (FRAC Group 7,11).

C. TANK MIXING

- 1. What can be tank mixed with ProBlad Verde?**
 - a. Adjuvants such as sticker/spreaders can be added, as well as fertilizers and a number of other products. It is recommended to do a jar test first in order to determine their physical compatibility.
 - b. Follow all pesticide product label(s).
 - c. If you are unsure about tank mixing products, contact the manufacturer(s) of the pesticide products or your local UH-CTAHR Extension Agent for assistance - <https://cms.ctahr.hawaii.edu/ce/Find-Us>

2. What should NOT be tank mixed with ProBlad Verde?

- a. It is currently NOT recommended to mix ProBlad Verde with other substances that contain live fungi such as *Beauveria bassiana* (BotaniGard and Mycotrol), as they may be killed by ProBlad Verde. More research is needed to confirm this.
- b. Bacillus-based products (i.e. Serenade ASO, Double Nickel 55, Double Nickel LC) have not been observed to be affected when tank mixed with ProBlad Verde.

D. HDOA SUBSIDY PROGRAM

1. Is ProBlad Verde approved by the HDOA and is it included in their pesticide subsidy program list?

- a. Yes, it was approved by the HDOA and is included in the subsidy program.
- b. View or download the HDOA's pesticide subsidy list - <https://hdoa.hawaii.gov/pi/files/2016/09/HDOA-Approved-CBB-CLR-Product-List.4-14-22.pdf>
- c. Learn more about the HDOA's pesticide subsidy program and apply for this program - <https://hdoa.hawaii.gov/pi/main/cbbsubsidy/>