



BioWorks®

DIVISION OF BIOFIRST GROUP

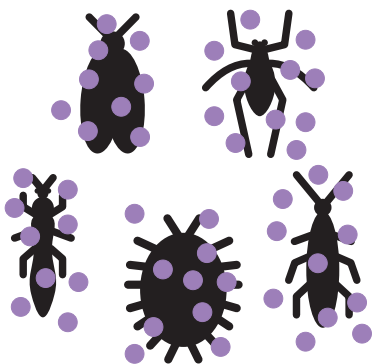


ABOVE AND BEYOND IS WHERE WE BEGIN

PRINCIPLE™ WP: ROOT APHID HEMP TRIAL DATA



PRINCIPLE WP is a biological insecticide that controls many of the most destructive crop pests including thrips, whiteflies and aphids. Based on the active ingredient *Beauveria bassiana*, PRINCIPLE WP is built on twenty years of successful implementation into grower systems. Combined with BioWorks' expertise, PRINCIPLE WP provides growers with strong efficacy without the risks of insecticide resistance.



B. BASSIANA SPORES IN PRINCIPLE WP ADHERE TO THE HOST, GERMINATE AND PRODUCE ENZYMES THAT ATTACK AND DISSOLVE THE INSECT'S CUTICLE, ALLOWING THE MYCELIA TO PENETRATE AND KILL THE HOST.

FEATURES AND BENEFITS

- + Easy-to-use WP formulation built on 20 years of experience
- + Complex mode of action provides control without the risk of resistance
- + Provides insect control comparable to conventional insecticide programs
- + Excellent compatibility with conventional pesticides and other biological products
- + OMRI-approved
- + Exempt from residue tolerance

ACTIVE INGREDIENT

- + *Beauveria bassiana* strain BW149

PRODUCT INFORMATION

- + Available Size: 1 lb
- + Registered for use in the USA
- + EPA Reg. No. 68539-22

REI & PHI

- + 4-hour REI, 0-day PHI

SHELF LIFE

- + Below 32 °F (0 °C): Not Needed
- + Refrigerated 40 °F (4 °C): Not Needed
- + 70-75 °F (21-24 °C): 12 months
- + Above 75 °F (24 °C): Do not store outdoors; store cool and dry

APPLICATION NOTES

- + Dip incoming rooted cuttings at 0.25-0.5 oz/gallon of water. See our Dip Guide for more information: https://bioworksinc.com/wp-content/uploads/Dips_CleanupUp_US.pdf
- + Apply PRINCIPLE WP as a drench to the media at 2 lbs/100 gallons at first sign of root aphids
- + After initial application(s), apply follow-up drench applications at 0.5-1 lb/100 gallons
- + Depending on pest pressure, reapply every 5-10 days to maintain low populations
- + Use enough water to saturate the soil profile but not past the point of leaching
- + Tank-mix PRINCIPLE WP with Molt-X at 8 fl oz / 100 gal to achieve synergistic efficacy



PRINCIPLE WP: ROOT APHID HEMP TRIAL DATA

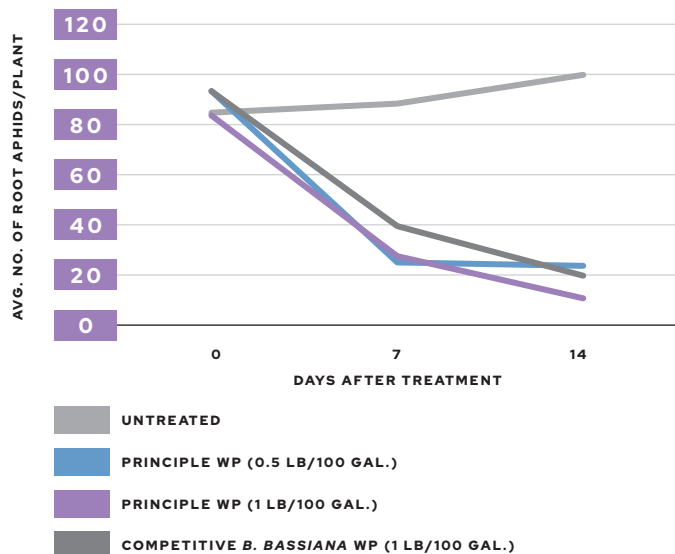
APPLICATION NOTES (CONTINUED)

- + Winged adults will emerge from the soil when aphid populations are high or around 1-2 weeks after the start of flowering; treat winged adults by applying foliar applications of SuffOil-X® at 1 gal / 100 gal or EpiShield® at 9 fl oz / 100 gal. Repeat as needed
- + Suspend applications of PRINCIPLE WP three weeks prior to harvest and conduct clean up foliar sprays of PERpose® Plus at 1:100, 2 times prior to harvest
- + Refer to our Cannabis Guide for additional product recommendations: https://bioworksinc.com/wp-content/uploads/CropGuide_Cannabis-5.1.25.pdf

HEMP TRIAL DATA

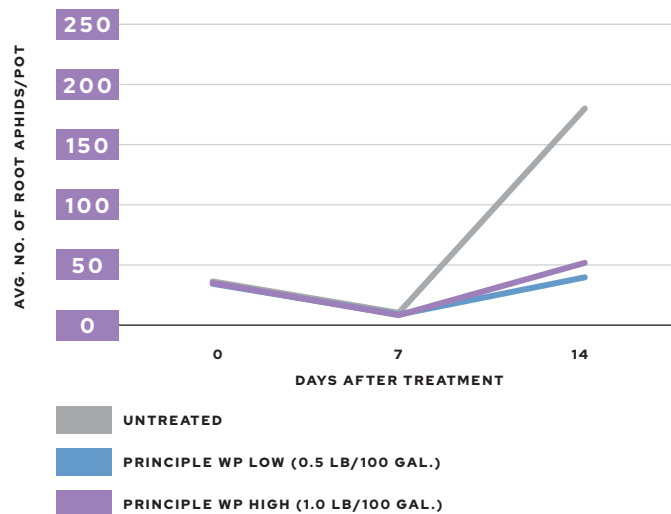
TRIAL CONDUCTED BY DR. JAMES COUPLAND FROM FARMFOREST RESEARCH IN ONTARIO, CANADA.

TRIAL CONDUCTED BY DR. LUIS CAÑAS FROM THE OHIO STATE UNIVERSITY.



Results:

- + By 7 days after treatment, all PRINCIPLE WP treatments reduced root aphids by more than 70%
- + By 14 days after treatment, medium and high rates had effectively eliminated more than 90% of root aphids
- + PRINCIPLE WP was as effective against root aphids as a competing *B. bassiana* WP product
- + For full trial summary, visit <https://bioworksinc.com/wp-content/uploads/PRINCIPLE-WP-Trial-Root-Aphids-on-Hemp.pdf>



Results:

- + By 14 days after treatment, both rates of PRINCIPLE WP significantly reduced rice root aphids by as much as 80%.



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