

WALNUT BLIGHT MANAGEMENT WITH MANZATE® PRO-STICK™ & KASUMIN®

Walnut blight can cause havoc throughout California, especially in the northern reaches of California's walnut-growing region. Late spring rains and multiple routes of infection, coupled with pockets of copper resistance, can make disease management challenging. In years with conditions favorable to walnut blight, disease incidence can be widespread and lead to significant economic losses.

MANZATE PRO-STICK and copper have been the most effective combination for controlling walnut blight, but with a heavy reliance on this combination, pockets of copper tolerance/resistance have appeared in certain geographies. Research has shown that selection for higher copper resistance levels may be ongoing. But until now, there have been few alternatives to copper.

Now there is KASUMIN, a bactericide with a novel mode of action (FRAC 24). Recently registered for walnut blight management, it is an ideal tank-mix partner for MANZATE PRO-STICK. Research conducted by the University of California has illustrated that MANZATE PRO-STICK + KASUMIN have provided consistent control equal to or greater than MANZATE PRO-STICK + copper applications over multiple seasons in areas with copper tolerance.

FORMULATION INFORMATION*

PRODUCT	MANZATE PRO-STICK	KASUMIN
Active Ingredient	<i>Mancozeb</i>	<i>Kasugamycin</i>
FRAC Group	<i>M3</i>	<i>24</i>
Formulation	<i>75% WDG</i>	<i>2% SC</i>
Signal Word	<i>CAUTION</i>	<i>CAUTION</i>
REI	<i>24 hours</i>	<i>12 hours</i>

FEATURES & BENEFITS

- Two modes of action with proven efficacy over multiple years of university testing.
- Control equal to or greater than MANZATE PRO-STICK + copper in susceptible copper areas.
- Tank mix provides both contact and locally systemic activity (on green and succulent tissues) for consistent blight control.
- Excellent resistance management option. MANZATE PRO-STICK as a multi-site fungicide has zero documented cases of resistance. Add KASUMIN, the only FRAC 24 product.
- Provides excellent control of copper-resistant walnut blight strains.

*See label and 2(ee) recommendations for full listing of application instructions and precautions.

WALNUT BLIGHT MANAGEMENT

Management of walnut blight depends on the proper applications to the buds, flowers and developing nuts. Full coverage sprays are recommended and are important to resistance management.

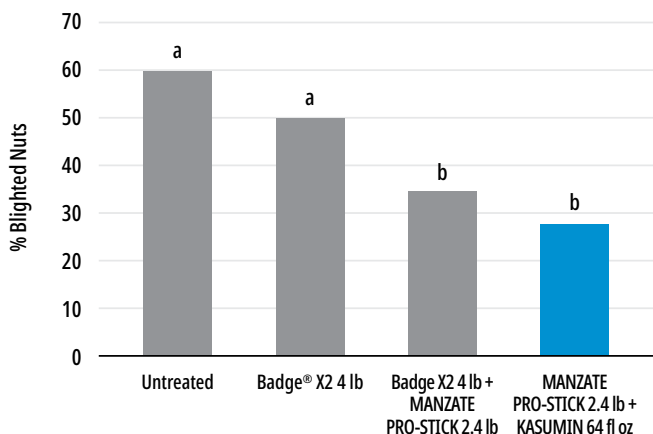
CROP USE RECOMMENDATIONS

PRODUCT	MANZATE PRO-STICK	KASUMIN
Rate	2.4 lbs/A	64 fl oz/A
PHI	75 days	100 days
Application volume	Minimum 100 gallons/A by ground	
Re-treatment Interval	Minimum 7 days between treatments	
Application timing	<ul style="list-style-type: none"> • Begin applications pre-bloom prior to or when catkins are partially expanded. • Make additional applications during bloom and early nutlet, or as needed if frequent rainfall occurs. • Maximum application of KASUMIN is four applications. • Do not make more than 10 applications of MANZATE PRO-STICK per season. 	

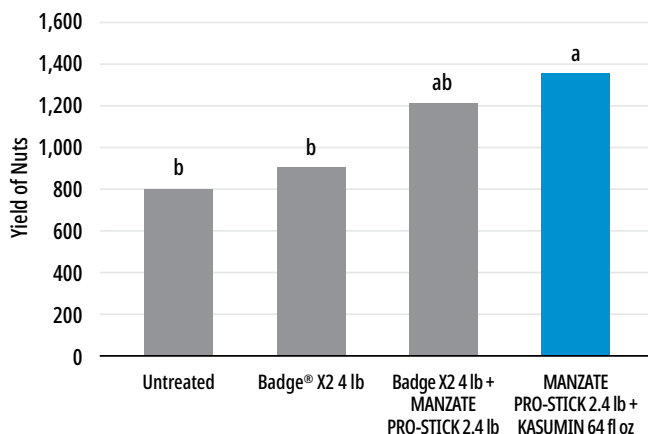
VINA WALNUTS: MANZATE PRO-STICK & KASUMIN EFFICACY ON WALNUT BLIGHT

The data below show early university trial results to understand the season-long efficacy of KASUMIN.

Application Information: Follow good resistance management strategies when applying KASUMIN and apply KASUMIN 2L in tank mixtures with other effective products that have a different mode of action (non-Group 24 bactericide). Alternate to a different mode of action after making two consecutive applications of KASUMIN.



Dr. J.F. Adaskaveg. UCR, Fresno Co., CA — Walnut blight (*Xanthomonas campestris*).
5 weekly treatments between 4/5 & 5/16/12 @ 100 gpa by tractor air-blast sprayer.
Disease evaluation — June 2012



Dr. J.F. Adaskaveg. UCR, Fresno Co., CA — Walnut blight (*Xanthomonas campestris*).
5 weekly treatments between 4/5 & 5/16/12 @ 100 gpa by tractor air-blast sprayer.
Disease evaluation — June 2012

For more information, talk to your consultant, local UPL representative or retailer, or visit www.upl-ltd.com/us.