# KASUMIN® BACTERICIDE GRANTED SECTION 18 APPROVAL FOR BACTERIAL BLAST IN ALMONDS

The Environmental Protection Agency (EPA) has granted a Section 18 emergency exemption for the use of KASUMIN® Bactericide to control bacterial blast (*Pseudomonas syringae* pv. *syringae*) in almonds for the 2021 growing season. The approval applies to treatment on a maximum of 100,000 acres of almonds in the state of California and is limited to **Butte, Colusa, Fresno, Glenn, Madera, Merced, San Joaquin, Stanislaus, Sutter, Tehama, Yolo and Yuba counties.**

## ABOUT BACTERIAL BLAST

- Troublesome epiphytic bacterial species.
- Frost events (below 32˚F) and wet conditions during almond bloom provide favorable conditions for bacterial blast infection and development.
- Leaf scars and buds can be infected with the bacteria, as well as pruning wounds.
- Blast symptoms result in bud death by spring. Symptoms can also be observed on developing fruit and leaves as necrotic spots.
- Canker symptoms from the pathogen appear as lesions on trunks and scaffold branches, as well as dieback of shoot tips.
- Symptoms can appear worse in the lower portions of the canopy, as well as in low-lying areas of orchards where frost events are most severe.
- Infections can result in significant economic yield loss through dropped fruit and shoot dieback.

## ABOUT KASUMIN® BACTERICIDE

- The only bactericide in FRAC group 24
- Unique site of action
- High level of preventative activity on target bacteria
- Systemic in foliage and succulent tissue
- No known cross-resistance to copper or other bactericides
- No phytotoxicity from KASUMIN® applications on almonds have been observed
- KASUMIN® has not been found to pose a risk to bees when applied according to the label
- Rainfast after 1 hour

## SECTION 18 EMERGENCY EXEMPTION HIGHLIGHTS

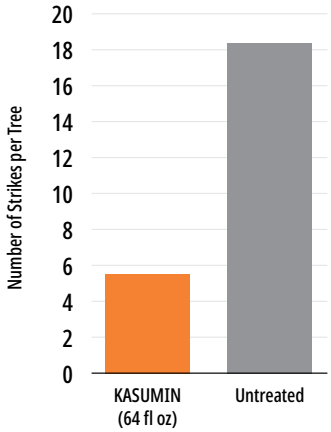
- Crop: Almonds
- Target Pest: Bacterial blast (*Pseudomonas syringae* pv. *syringae*)
- Maximum treatment area: 100,000 acres in 2021
- Use rate: 64 fl oz/acre
- Maximum applications: 2 times per year
- Apply when conditions favor disease outbreak, from bud break to petal fall
- Do not apply after petal fall
- Ground application only
- REI: 12 hours
- PHI: 100 days

UPL

Kasumin® bactericide

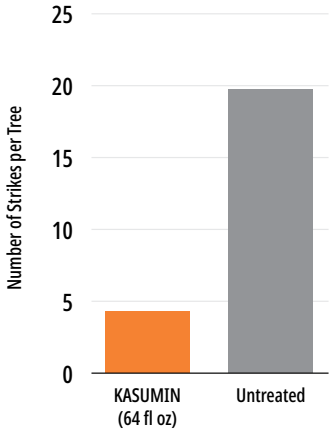
# EFFICACY DATA 2019-2019

BACTERICIDE TREATMENTS AGAINST BACTERIAL BLAST OF CV. 'FRITZ' ALMOND
COLUSA COUNTY, CA, 2018
J.E. Adaskaveg with UC Riverside

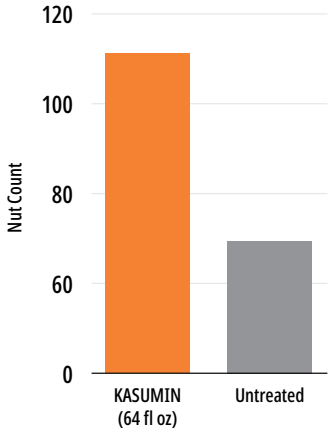



- Treatments applied using air-blast sprayer at a rate of 100 gal/A.
- Applied Feb. 14, 2018, prior to forecasted frost event.
- Number of blast strikes (spurs with dead flowers) was counted on Mar. 1, 2018.
- No phytotoxicity was observed in any of the treatments.

BACTERICIDE TREATMENTS AGAINST BACTERIAL BLAST OF CV. 'INDEPENDENCE' ALMOND
COLUSA COUNTY, CA, 2019
J.E. Adaskaveg with UC Riverside




- Treatments applied using air-blast sprayer at a rate of 100 gal/A.
- Applied Feb. 20, 2019 (pink bud to 30% bloom), prior to forecasted frost event.
- Number of blast strikes (spurs with dead flowers) was counted on Mar. 7, 2019, based on 100 random flowers on each tree.
- No phytotoxicity was observed in any of the treatments.




NUT COUNT
KASUMIN: 111.5 Untreated: 69.0

Please obtain the proper permits from the county agricultural commissioner prior to use.

For more information about KASUMIN, talk to your local UPL representative or PCA.