



YM-FAB

TECHNOLOGY IMPROVES FUTURE POST HARVEST TREATMENT FOR MANGO

FRESH WATER, FILTRATION & MINIMAL CHEMICAL USE IS THE FUTURE WAY TO PROVIDE HEALTHY SAFE PRODUCE FOR GROWERS TO SELL & CONSUMERS TO ENJOY.

Focus has shifted dramatically as concerns with Food Safety and Quality Control become important to growers and consumers.

Recent research shows advantages of using registered disinfectant actives to provide control of pathogens found in the post-harvest section of produce packing and transport.

Ym-Fab Nylate™ performs well against a range of human, fungal and bacterial pathogens and does not leave a residue. Fungicide treatments can be added afterwards if required. There are minimal by-products formed in recirculated wash water and can be safely maintained by the addition of fresh water, alternatively run to waste systems can be used where water is not an issue.

Wobelea Pty Ltd will explore disinfectants and systems currently available for the post-harvest treatment of Mangoes. Improved chemical formulations are being researched and developed by Wobelea Pty Ltd for use in pre and post-harvest treatment in Mangoes.

New technologies emerging are the formation of a gel bromine solution (WOB Br) and a formulation of known food additives as (WOB NP1) by Wobelea Pty Ltd. These technologies require further testing in laboratory and field conditions, to ensure they will benefit crops with short withholding periods to harvest and crops sold to local and export markets where no residues are allowed.

COMPARISON CHART OF DISINFECTANTS

Recommended guidelines (Sargent et al., 2008) and Sarah Bliss

ACTIVE	INFORMATION	TESTING	OP. HAZARD
CHLORINE AS SODIUM HYPOCHLORITE CALCIUM HYPOCHLORITE	Kills a broad range of pathogens in relatively short contact time. ¹ Effective at 50 – 150 ppm at a pH range 7 – 7.5	Always test for amount of Free chlorine available. Via ² ORP control, DPD, or Test Strips. Photometer Test kits available.	Medium to high Due to high levels of chlorine -
CHLORINE DIOXIDE	More specific at killing than chlorine. ¹ Effective at 1-5 ppm at a pH range 6-10 ppm	There are no simple methods to monitor ClO ² . Photometer test kits available	High due to ClO ² gasses when water agitated.
OZONE O ³	Strong oxidizer. ¹ Effective at 0.2 – 2 ppm + and pH levels 6- 8. Can build up resistance to some fungi	Photometer testing available. Refer to supplier for best method of testing.	Ozonated water requires efficient filtering to remove organic matter. Toxic to workers can gas off.
PEROXYACETIC ACID (PAA) – HYDROGEN PEROXIDE & ACETIC ACID	Good stability in water containing organic matter. ³ PAA effective at 1-7ppm in pH range 3.5 -7. Not as effective against fungal spores as chlorine	Test Strips for Hydrogen Peroxide. Refer to supplier for best method of testing.	Concentrated product 40% PAA is highly toxic to humans.

¹ Dependent on contact time. ² Oxidation Reduction Potential. ³ Dependent on strength of PAA

PATHOGEN KILL RATE

CHLORINE (Activ 8 *) v YM-FAB NYLATE™
Based on Botrytis Cinerea at optimum pH levels in vitro.

COMPOUND	ACTIVE	PPM	CONTACT TIME
CHLORINE – CALCIUM HYPOCHLORITE YM-FAB ACTIV 8 * (Cl)	65% active	150	120 seconds = 100% CONTROL
YM-FAB NYLATE™ (BCDMH)	BCDMH 56% active	25	120 seconds = 100% CONTROL

¹ The above active was based on formulation in 1999. 56% active expressed as Bromine.
Total BCDMH assay is 98.1%



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FOR THE HEALTH OF YOUR HARVEST