

# Pesticides for Use in Papaya

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## Pesticides Registered for Papaya

The following tables list pesticides registered for use in papaya. If you have any questions regarding any of these or other pesticides, don't hesitate to contact me. New information primarily consists of new formulations of already registered products.

These lists should *not* substitute for the pesticide's label. The label is a legal document; therefore, before purchasing a pesticide, you should carefully read the label to determine if the product suits your needs and if it is legal for use in your crop (papaya). Not all products with the same active ingredient are registered for use in the same crops. If you have any additions or corrections to this list, please contact me (956-6008) as soon as possible.

## Status of Pesticide Projects in Papaya

### Reregistration

*Chlorothalonil (BRAVOR<sup>®</sup>)*. The field trial and residue analyses were completed. Final reports were submitted to IR-4 for review. Chlorothalonil residues exceeded the existing tolerance (15 ppm); therefore, an additional residue study is needed. When applying at the maximum use rate of 3 lb a.i. per acre, a minimum spray volume of 100 gallons per acre (preferably higher) should be used to avoid illegal residues, particularly if harvest occurs within a day of treatment.

*Malathion*. The field phase of the residue study was recently completed. The last shipment of samples were shipped to IR-4's Western Region Leader Laboratory, University of California at Davis, on 13 September 1993. An EC formulation was applied at 1.25 lb a.i. per acre in 100 gal of water. Some phytotoxicity on leaves was observed, though it did not appear to affect the fruits or tree growth.

### New Use Projects

*Permethrin (POUNCE<sup>®</sup>, AMBUSH<sup>®</sup>)*. This has been a difficult project because of the analytical methodology and report writing. Also, the

departure of the faculty member in charge of the residue laboratory, who has not yet been replaced, was a major factor in the cause of this project's delay. The POUNCE<sup>®</sup> label, although similar to the AMBUSH<sup>®</sup> label, did not specify a minimum gallonage per acre spray volume. Because we applied in less than 200 gallons per acre, we detected residues above the established tolerance (1 ppm). We will be advising IR-4 that FMC should modify their labeling to preclude the possibility of illegal residues. Furthermore, Hawaii's papaya growers, in general, would like to have a preharvest interval (PHI) shorter than 7 days (another limitation of the current label). Therefore, based on our findings, we will be able to propose an appropriate use pattern for papayas grown in Hawaii. A preliminary residue trial will begin in December 1993, and depending on the results, a GLP-compliant residue study could be initiated in mid-1994.

*Oryzalin (SURFLAN<sup>®</sup>)*. The tolerance was established in December 1992. DowElanco is looking into reinstating the use in papaya.

*Metalaxyl + copper (RIDOMIL<sup>®</sup> COPPER 70W)*. Communications between IR-4 and Ciba-Geigy have been established. Ciba-Geigy agreed to register this use if IR-4 conducts the residue study. We hope to initiate a residue study in 1994.

*Iprodione (ROVRAL<sup>®</sup>)*. Residue data that were submitted to IR-4 in 1991 appear sufficient to establish a tolerance. However, the acceptable daily intake (ADI) for iprodione has been exceeded; therefore, at the present time, no new uses will be allowed. IR-4 will keep us informed of any further actions.

**Note:** Mention of a trademark or proprietary product does not constitute a guarantee or warranty of the product by the University of Hawaii and does not imply its approval to the exclusion of other products that also may be suitable or that may inadvertently not have been listed. All materials should be used in accordance with label instructions.

### Insecticides and Fumigants Registered for Use in Papaya

<i>Common name</i>	<i>Trade name</i>	<i>Manufacturer</i>
<i>Bacillus thurengiensis</i>	DIPEL <sup>®</sup> 2X XENTARI <sup>®</sup> BIOBIT <sup>®</sup>	Abbott Abbott Du Pont
<i>Hexakis</i>	VENDEX <sup>®</sup> 50WP	Du Pont
<i>K-salts of fatty acids</i>	SAFER <sup>®</sup> INSECTICIDAL CONC.* ATTACK <sup>®</sup> SOAP CONCENTRATE	Safer Ringer
<i>Malathion</i>	PRENTOX <sup>®</sup> 5 LB MALATHION SPRAY HOPKINS MALATHION 57% E.L.-B	Prentiss HACO
<i>Metam-sodium (preplant)</i>	NEMASOL <sup>®</sup> SOIL FUMIGANT VAPAM <sup>®</sup>	Platte Zeneca
<i>Pyrethrins</i>	PYRENONE <sup>®</sup> CROP SPRAY PYRELLIN <sup>®</sup> E.C.	Fairfield CCT
<i>Sulfur</i>	WETTABLE SULFUR (HI-840008, expires 09/17/95) DREXEL SULFUR 90W (HI-920009, expires 09/17/97) THIOLUX <sup>®</sup> DF MICRONIZED SULFUR (HI-930007, expires 06/14/98)	FMC  Drexel  Sandoz

\* Product license not to be renewed according to HDOA's records.

### Herbicides Registered for Use in Papaya

<i>Common name</i>	<i>Trade name</i>	<i>Manufacturer</i>
<i>Diuron</i>	KARMEX <sup>®</sup> DF DIREX <sup>®</sup> 4L DIURON <sup>®</sup> 80 WDG DIURON <sup>®</sup> 80 WDG	Du Pont Griffin Platte Aceto
<i>Glyphosate</i>	ROUNDUP <sup>®</sup> MIRAGE <sup>®</sup> RATTLER <sup>®</sup> PROTOCOL <sup>®</sup> HONCHOR <sup>®</sup> RULER <sup>®</sup>	Monsanto Platte Setre Monsanto Monsanto Wilbur-Ellis
<i>Oxyfluorfen</i>	GOAL <sup>®</sup> 1.6E	Rohm & Haas
<i>Paraquat</i>	GRAMOXONE <sup>®</sup> EXTRA	Zeneca

# Fungicides Registered for Use in Papaya

Common name	Trade name	Manufacturer
<i>Benomyl</i>	BENLATER <sup>®</sup> 50 DF (Supplemental label)	Du Pont
<i>Chlorothalonil</i>	BRAVOR <sup>®</sup> 500 BRAVOR <sup>®</sup> 720 BRAVOR <sup>®</sup> 90 DG TERRANIL <sup>®</sup> 6L TERRANIL <sup>®</sup> 90 DF ECHO <sup>®</sup> 720 ECHO <sup>®</sup> 90 DF	ISK Biotech ISK Biotech ISK Biotech Riverside/Terra Riverside/Terra Sostram Sostram
<i>Copper sulfate</i>	BASICOP <sup>®</sup> COPPER SULFATE CHAMP <sup>®</sup> FLOWABLE MICROFLO BLUE SHIELD <sup>®</sup> DF BLUE SHIELD <sup>®</sup> WP TRI-BASIC COPPER SULFATE (HI-790021, expires 06/21/94)	Griffin Agtrol Micro-Flo Micro-Flo Tennessee
<i>Mancozeb/Maneb</i>	DITHANER <sup>®</sup> F-45 DITHANER <sup>®</sup> M-45 DITHANER <sup>®</sup> DF MANZATER <sup>®</sup> 200 FL MANZATER <sup>®</sup> 200 WP MANZATER <sup>®</sup> 200 DF MANEX <sup>®</sup> II MANEX <sup>®</sup> II DF CLEAN CROP <sup>®</sup> MANCOZEB 4L CLEAN CROP <sup>®</sup> MANCOZEB 80 WP MANEB PLUS ZINC F4 PENNCOZEB <sup>®</sup> PENNCOZEB <sup>®</sup> DF MANEB 75DF MANEB 80	Rohm & Haas Rohm & Haas Rohm & Haas Du Pont Du Pont Du Pont Griffin Griffin Platte Platte Atochem Atochem Atochem Atochem Atochem
<i>Thiabendazole</i>	MERTECT <sup>®</sup> 340-F (HI-830009, expired 09/21/93)* DECCO SALT NO. 19	Merck  Atochem

\* Existing stocks should be used by 12/31/93.