

ALCOHOLIC INSECTICIDES

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Alcohol may seem to be an unusual additive to a pesticide spray. It is relatively expensive. For large scale spraying the cost would be prohibitive. But, for spot treatment in special situations, it is extremely efficient.

Why use alcohol? Alcohol is a very efficient wetting agent (surfactant), providing penetration of an insect's waxy protective coating and carrying the pesticide into (or into contact with) the insect's body. This is especially true of mealy bugs.

The alcohols commonly available are methanol (wood alcohol), ethanol (rubbing alcohol, whiskey is too expensive) and isopropanol (another rubbing alcohol). All of these are efficient but ethanol is preferred. Make certain that the rubbing alcohol doesn't contain some additive such as oil.

The insecticides generally used are emulsifiable concentrates. Common chemicals such as malathion or Vapona become much more effective against mealy bugs when in an alcohol base. Mixtures such as Iso-tox provide a wider spectrum of control.

Rubbing alcohol is generally 70%. The spray should be about 50% alcohol. Mix 2 parts rubbing alcohol with 1 part water. If using 95% ethanol, dilute with an equal amount of water.

Why use an alcoholic insecticide? Many retail greenhouses or plant stores frequently are asked to "clean up" a plant for a customer. A window type sprayer works wonders. Mix the insecticide in alcohol and keep it in a dark bottle. Transfer to the sprayer. If kept in the sprayer, the valves may be damaged. Use isn't restricted to plants brought in by customers. Problems frequently occur in small areas. This readily available spray mixture may prompt one to take care of the problem immediately. No procrastination.

The concentration of pesticide is essentially the same as in water. If a formulation calls for a pint per hundred gallons (1:800), 1/4 teaspoon is used in a quart.

Phytotoxicity doesn't seem to be a problem. David White, while manager of the Life Science greenhouse at the university, tested malathion 50 EC (from 200 ppm to 1500 ppm) and Vapona 50 EC (40 ppm to 312 ppm) on hundreds of exotic plants (CT Greenhouse Newsletter, September, 1965 and March, 1966). To test phytotoxicity, Saintpaulias were treated. No damage was evident until enough spray was applied to wet the soil, an extreme situation.

Emulsifiable concentrates should be used. We have not tried wettable powders. DO NOT USE oil base preparations for use in fogging machines or for steam pipe volatilization. They are phytotoxic in alcohol.

Many pesticide uses in the greenhouse are not exactly legal. If a material is labelled for one crop and, during the application, a nontarget nonlabelled plant is treated, this is not legal. If a wettable pow-

der is used as a dust, the applicator is not using the material according to label directions. But alcohol is legal. It is used as a surfactant (wetting agent). Surfactants do not have to be labelled. At least one commercial product in small aerosol cans now contains alcohol.

CAUTION: Alcohol may carry these poisons to your body as efficiently as to the insects. Label the containers POISON. Avoid contact with skin. If accidental contact is made, wash immediately with soap and water.