Red Imported Fire Ant Insecticides In The Environment

Kean S. Goh, Dave Kim, Johanna Walters
Department of Pesticide Regulation
830 K Street
Sacramento, CA 95814

"This pesticide is extremely toxic to fish and aquatic invertebrates."

Outline

- Introduction
- Insecticides
- Environment
- Management Practices
- Summary

Introduction

- RIFA treatments
- Surface-water runoff potential
- Aquatic toxicity

RIFA Insecticides

- Bifenthrin (Talstar®)
- Diazinon
- Chlorpyrifos (Dursban®, Lorsban®)
- Fenoxycarb (Award®)
- Hydramethylnon (Amdro Pro®)
- Pyriproxyfen (Distance®)

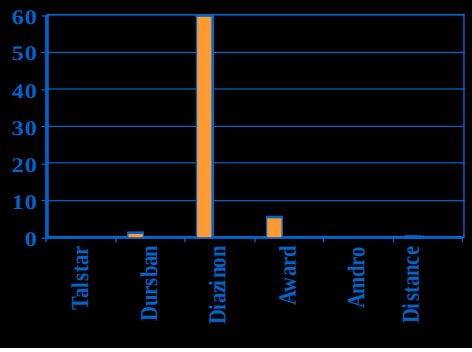
ENVIRONMENT

- AIR
- WATER
- SOIL
- LIFE

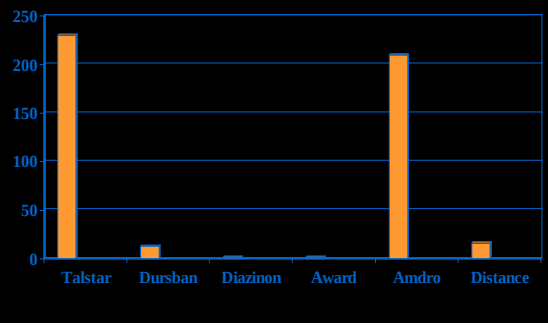
Insecticide Properties

- Vapor Pressure (mm Hg)
- Water Solubility (ppm, mg/L)
- Soil Adsorption Coefficient (Koc)
- Field Dissipation ($t_{1/2}$, days)

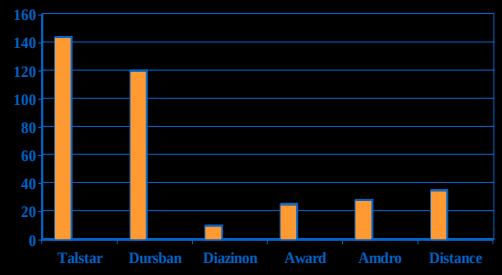
Water Solubility (ppm)



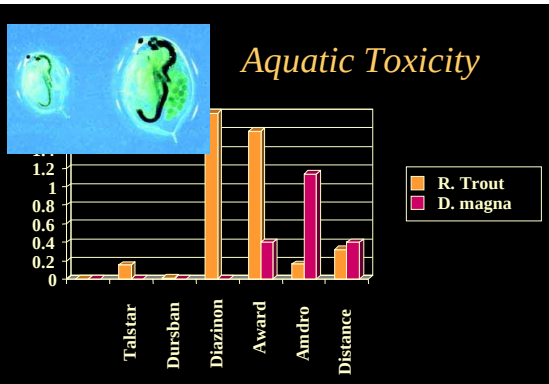
Soil Adsorption Coefficient



Field Dissipation Half-Life (Days)

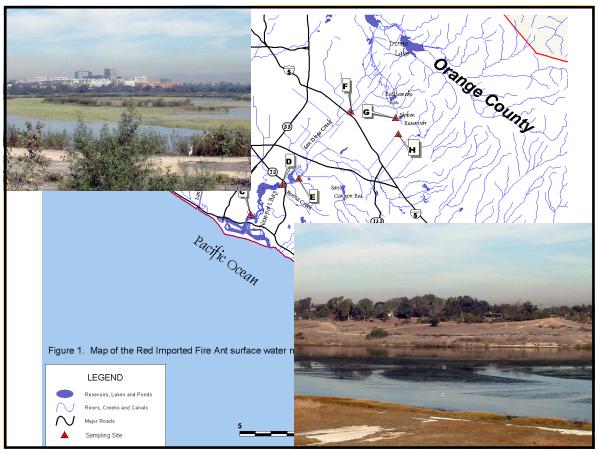


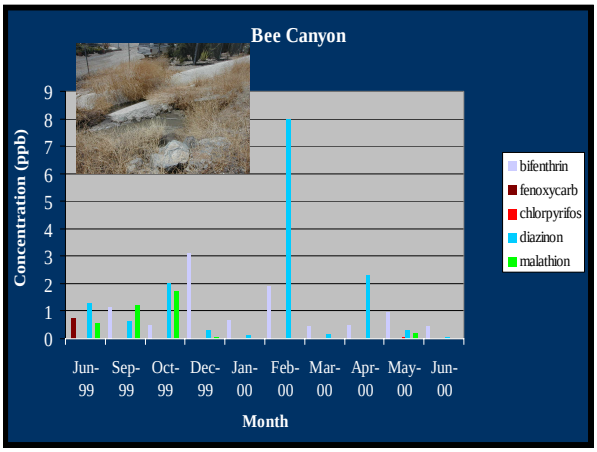
Aquatic Toxicity

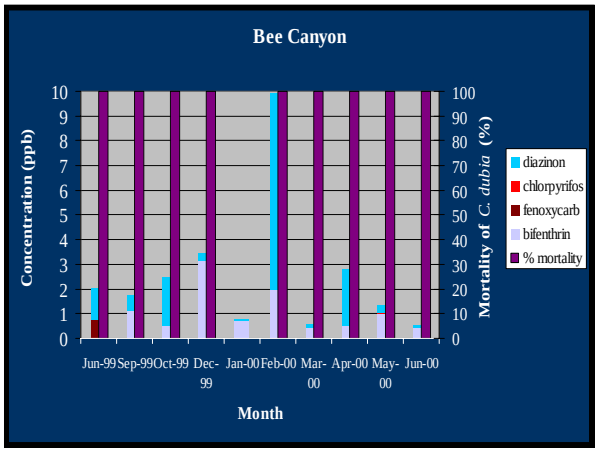


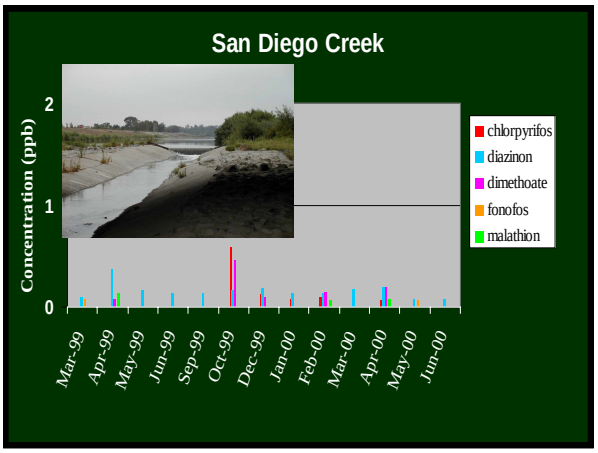
Offsite Movements

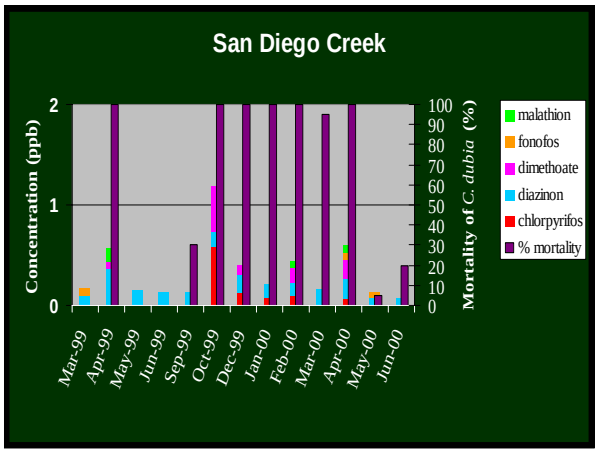
- Spray drift
  - primary, secondary
- Runoff
  - dissolved in water
  - adsorbed to soil particles and organic materials

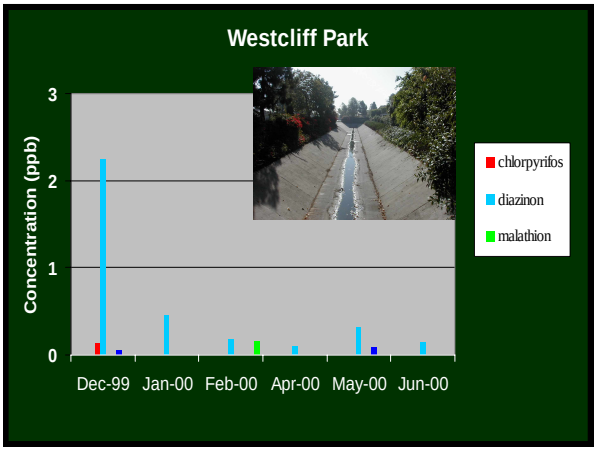


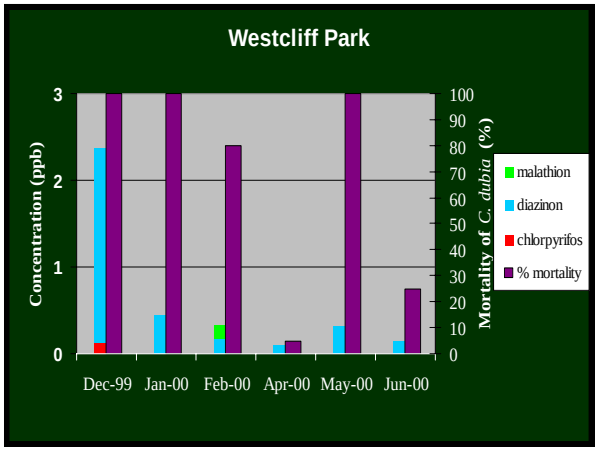


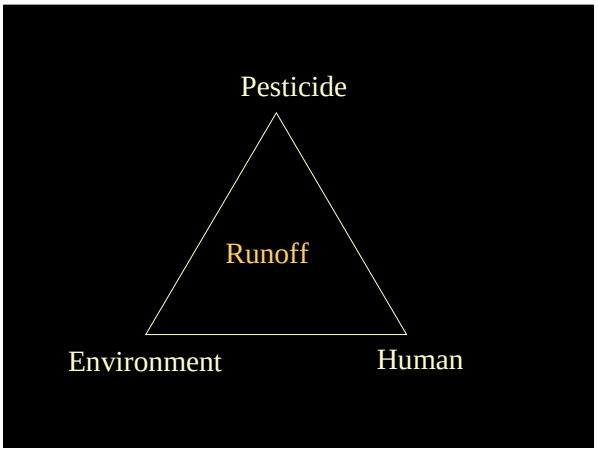












Environment Factors

- Climatic
- Soil
- Living organisms
- Degradation

Human Factors

- Pesticide application
- Erosion/runoff control
- Irrigation management
- Mitigation

Label Environmental Hazards

This pesticide is extremely toxic to fish and aquatic invertebrates.

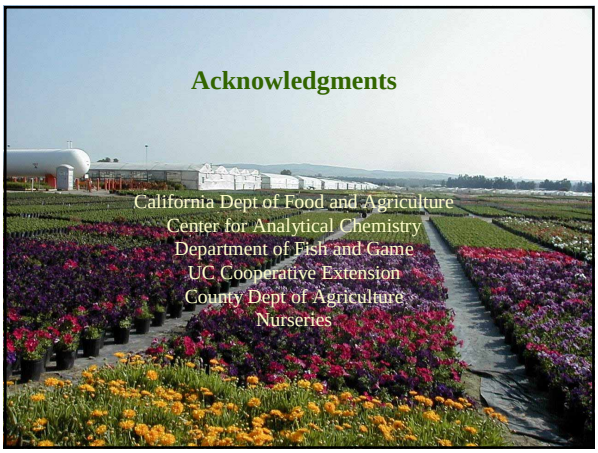
Do not apply directly to water.

Drift and run-off from treated areas may be hazardous to aquatic organisms in neighboring areas.

Do not contaminate water when disposing of equipment washwaters.

Pesticide Label Recommendation

"Do not apply if rain is expected within 12 hours"

Summary

- Insecticide
- Environment
- Human