

Assessing new spray technology in Horticulture and Pest Management

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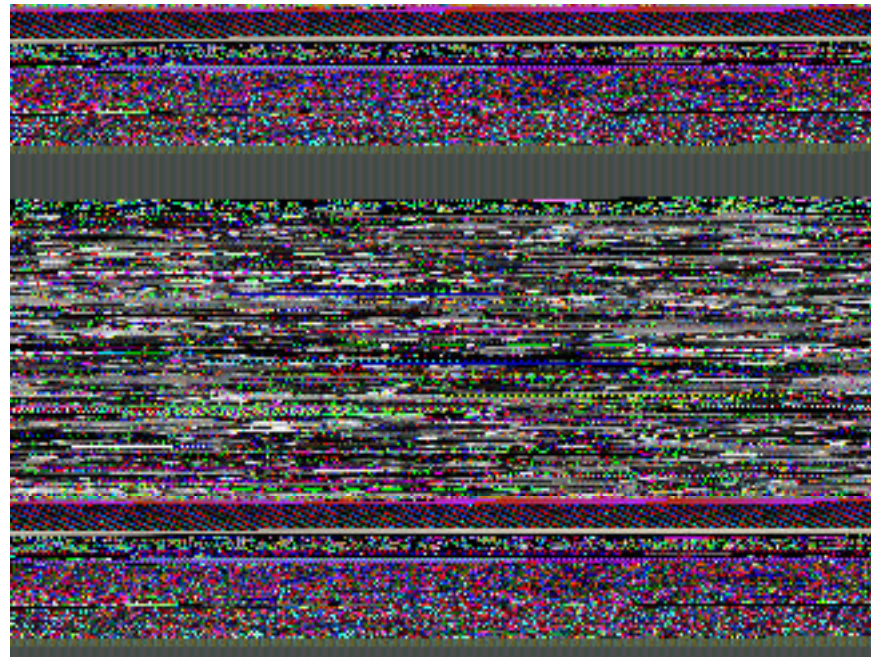
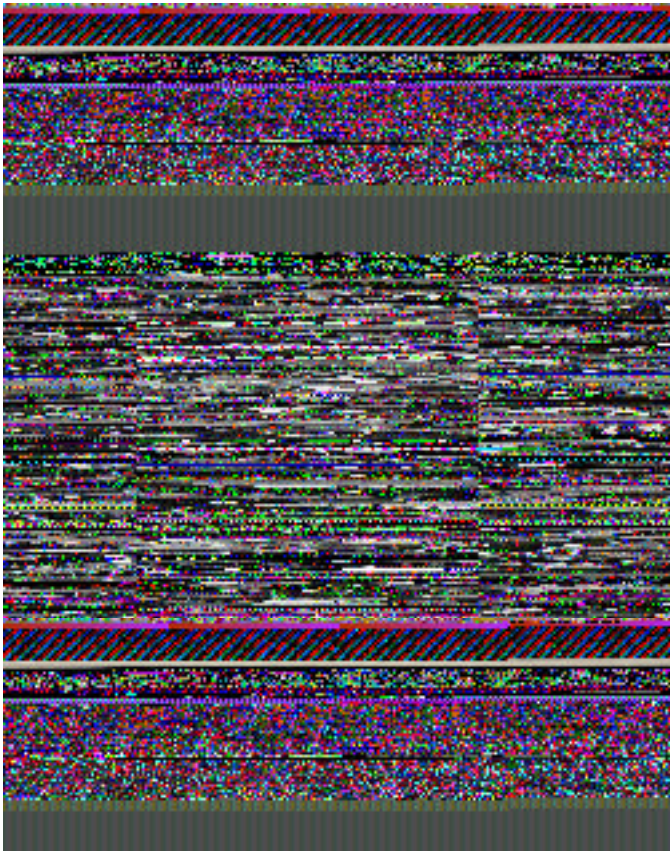
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<http://entomology.tfrec.wsu.edu/jfbhome/growerarticles/spraytech99.pdf>

New spray delivery technology: 1999 Experiences in Horticulture and Pest Management

MSU (Van Ee) experimental sprayer

- Tower design
- Controlled droplet size
- Low volume



New spray delivery technology: 1999 Experiences in Horticulture and Pest Management

San Jose scale test

- Replicated small plots
- Treatments: Oil, Oil+Lorsban
- Pre-treatment: live scale on twigs (date)
- Post-treatment: live scale on twigs (date)
- Application methods:
 - AIR BLAST (400 gpa)
 - Tower sprayer (40 gpa)

New spray delivery technology: 1999 Experiences in Horticulture and Pest Management

Leafroller Bioassay Study

- Replicated single trees (3)
- Treatments: Success, Dipel, Confirm
- Application methods:
 - AIR BLAST (300 gpa)
 - Curtec (30 gpa)
- Sprays applied with target cards in place
- Cards collected after application to determine distribution (**copper**) and droplet size
- Leaves collected at intervals following spray to determine residual activity

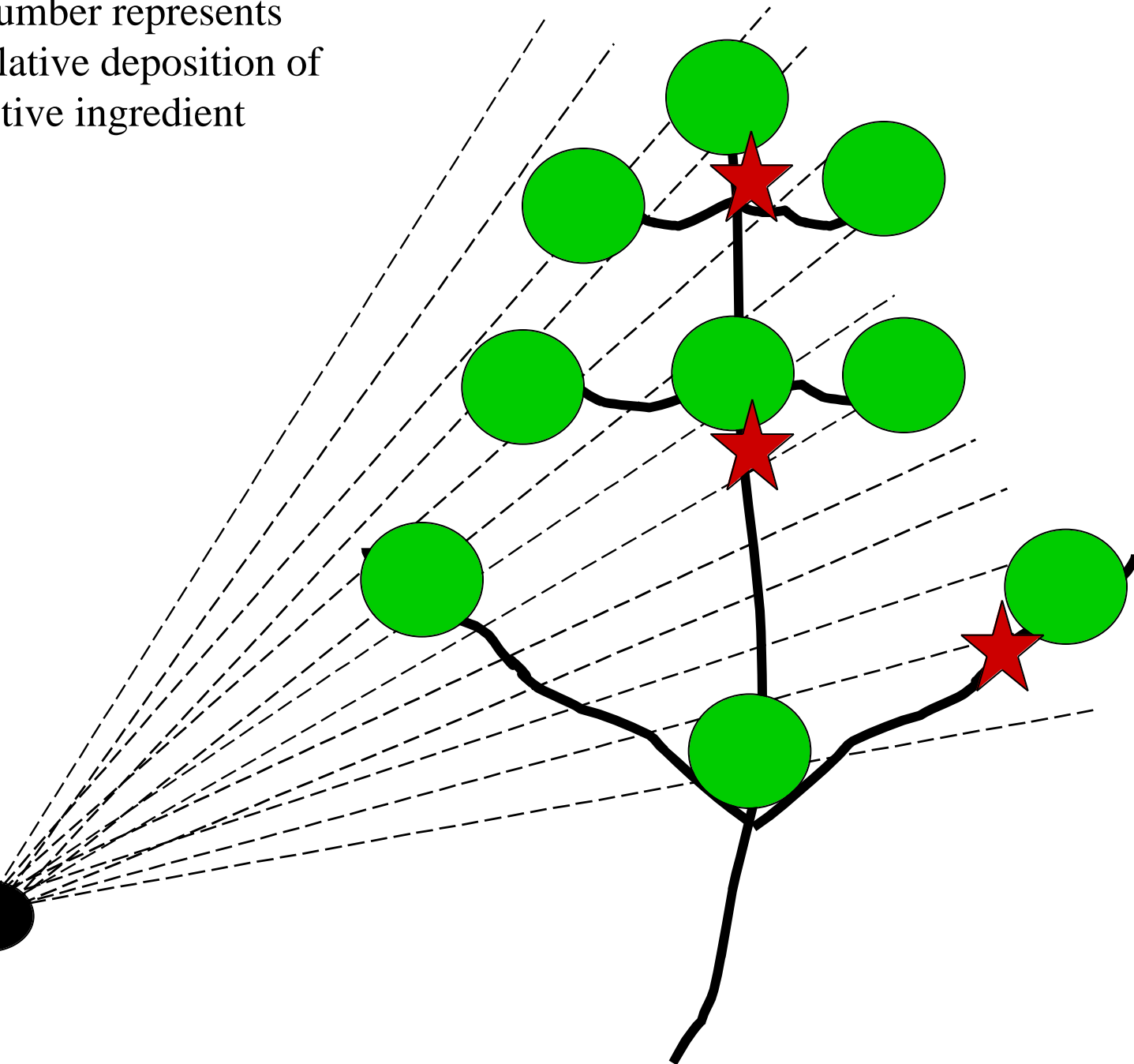


Number represents
relative deposition of
active ingredient



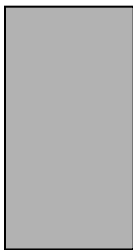
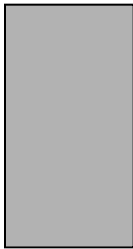
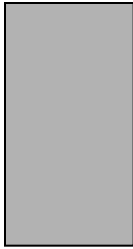
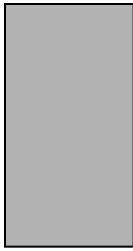
bioassay

Airblast

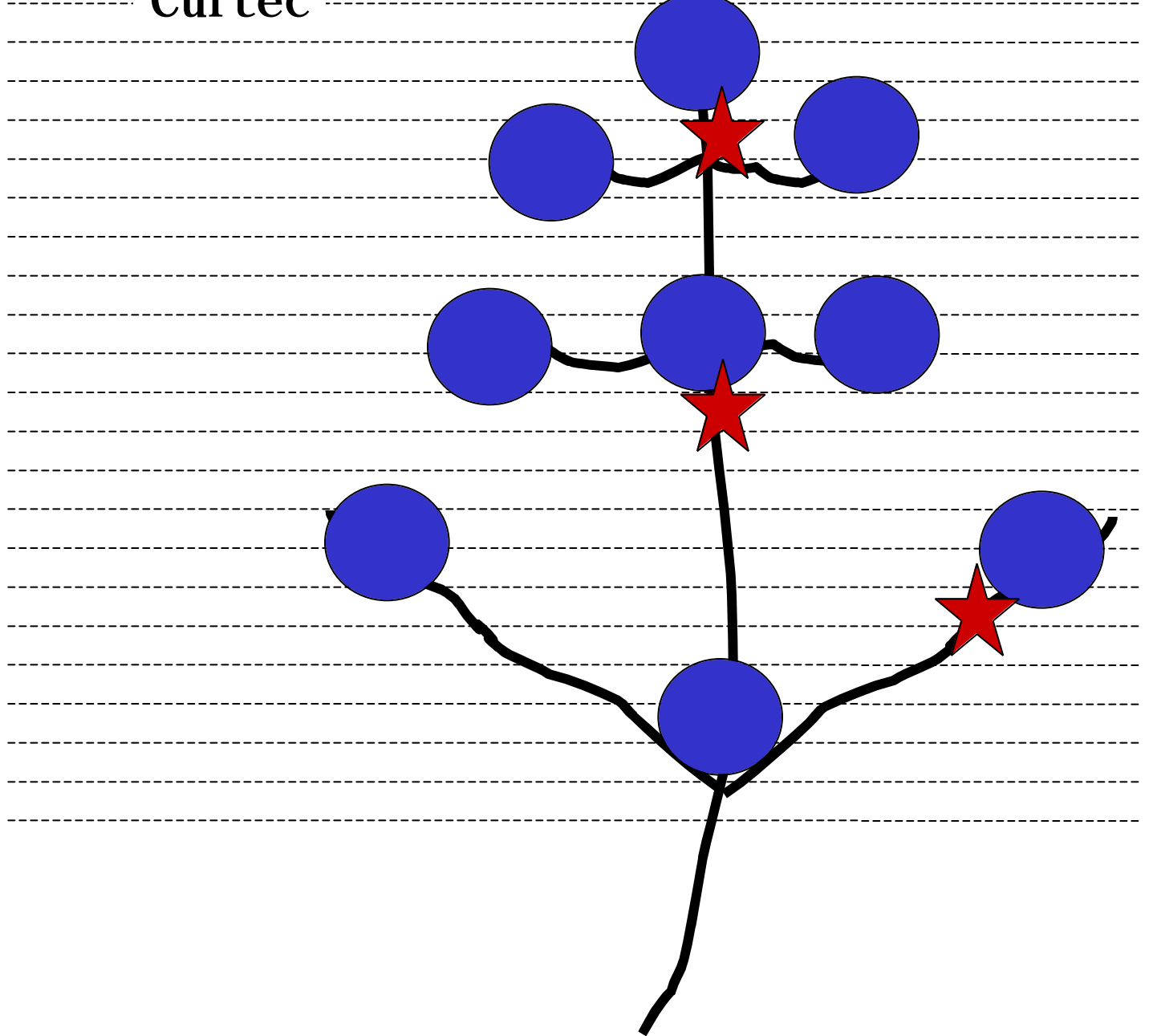




bioassay

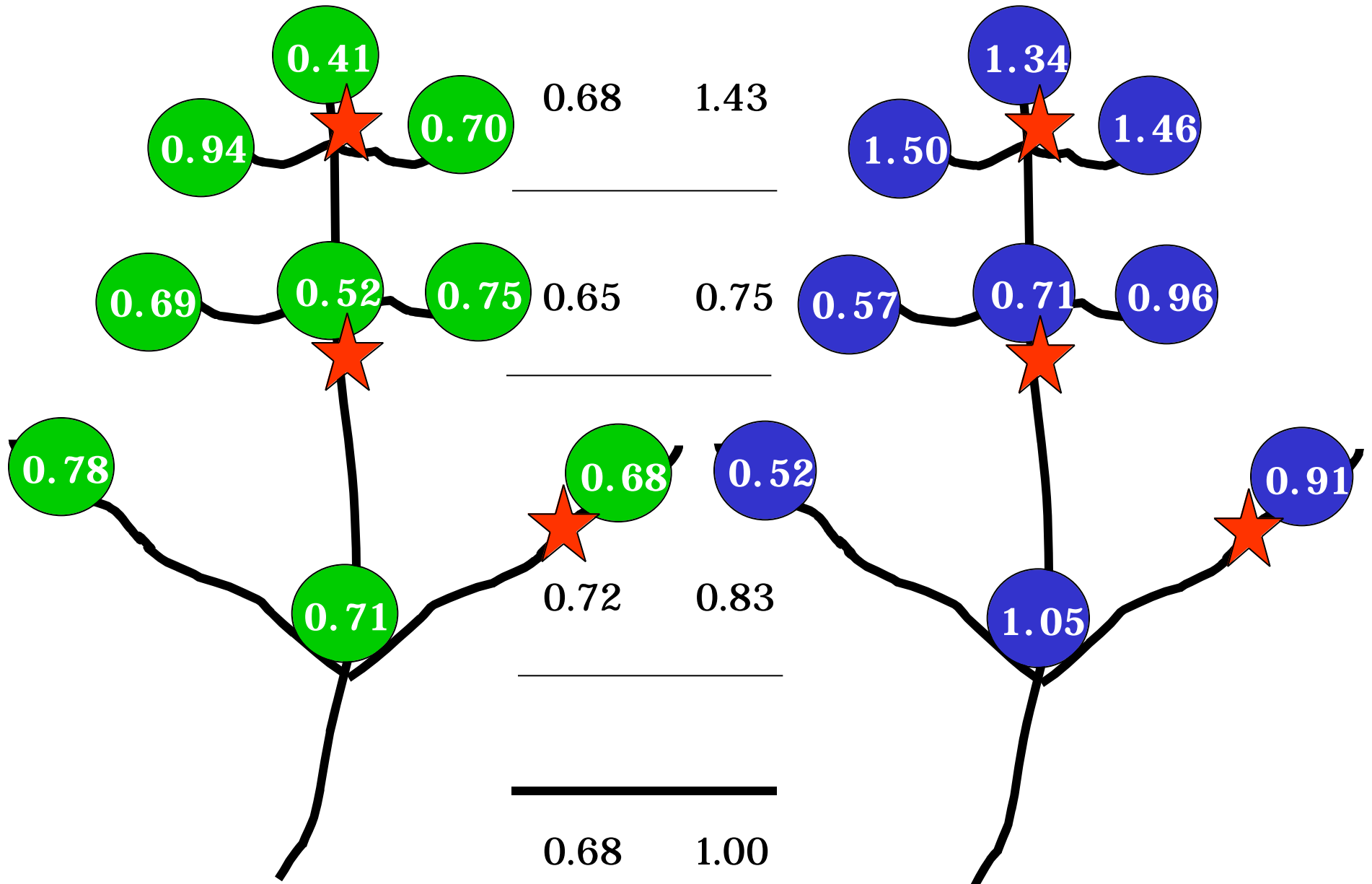


Curtec

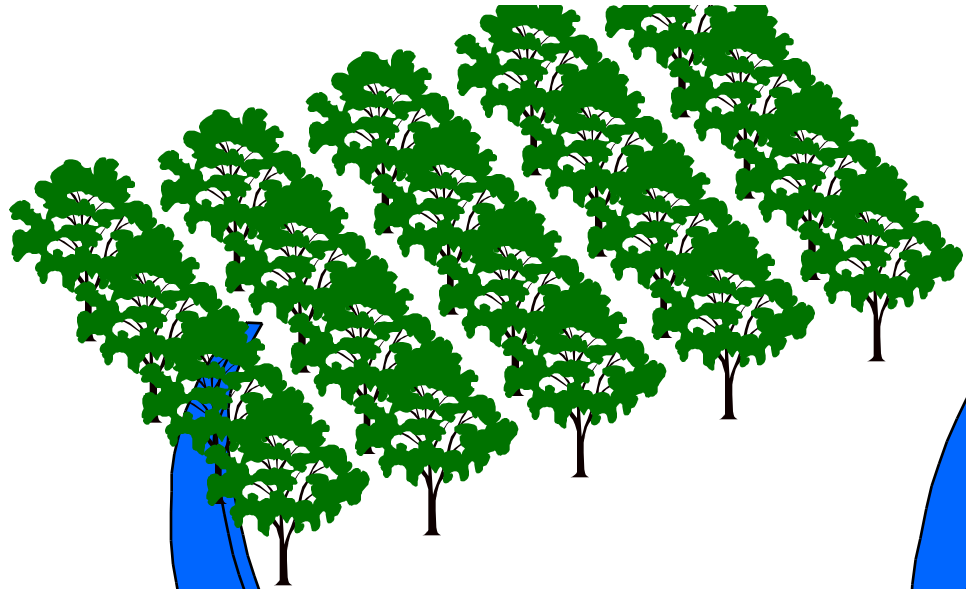


Airblast

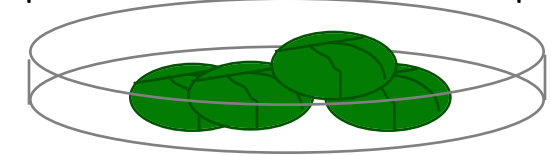
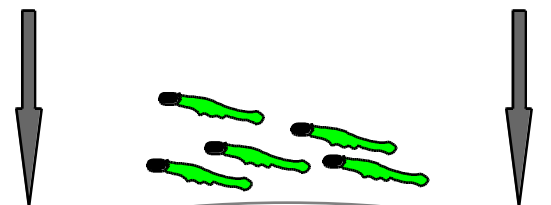
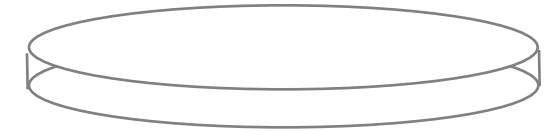
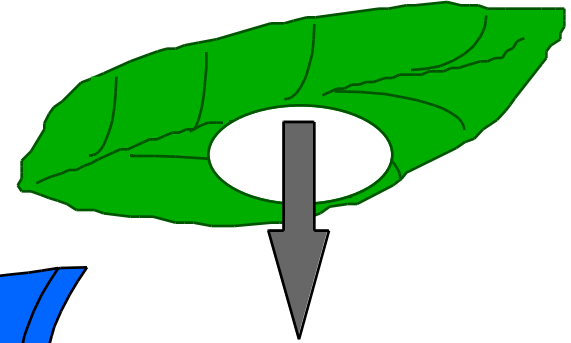
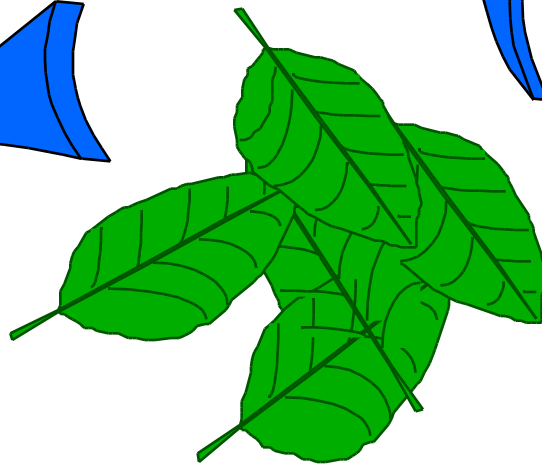
Curtec



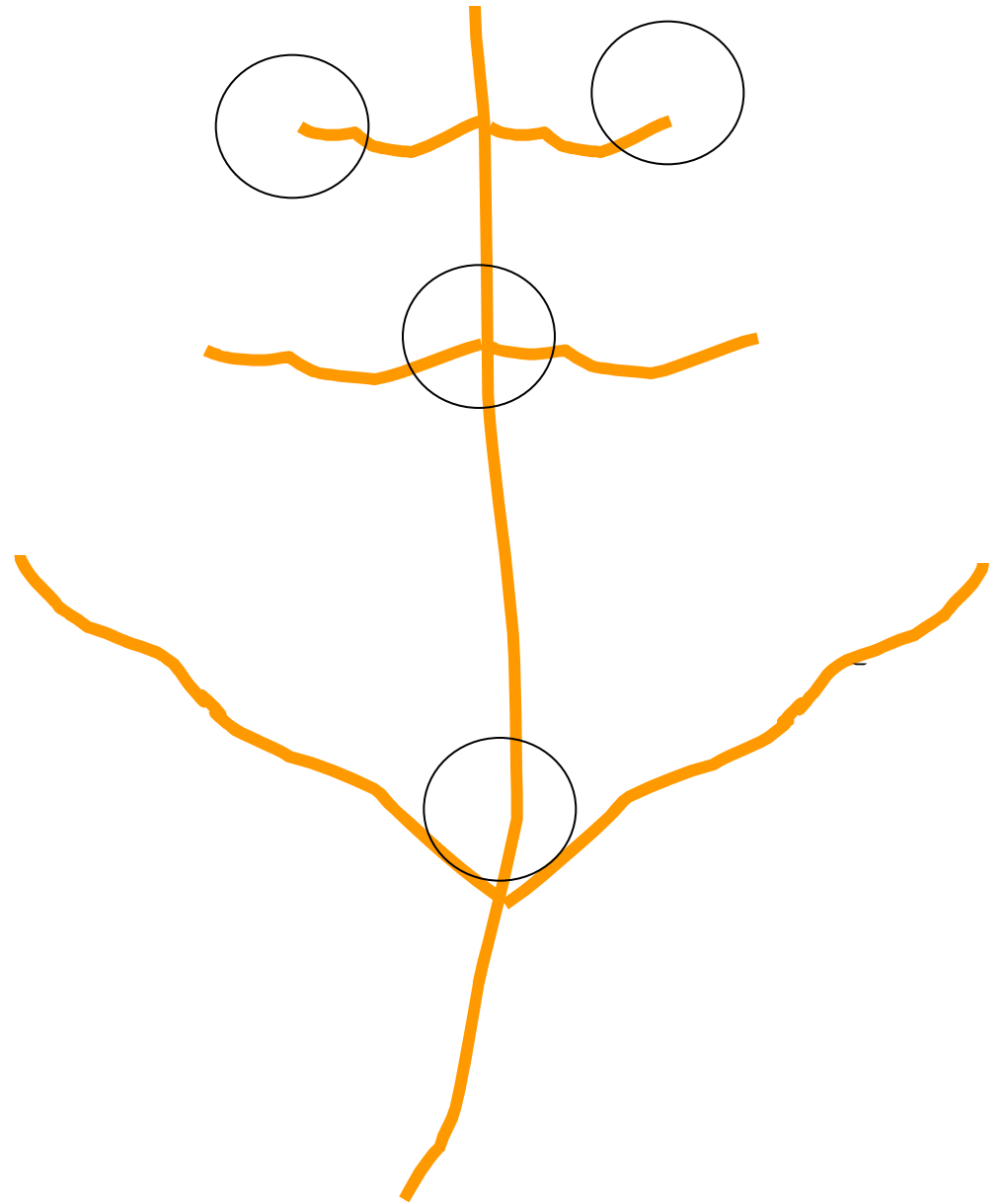
Field-aged residue bioassay

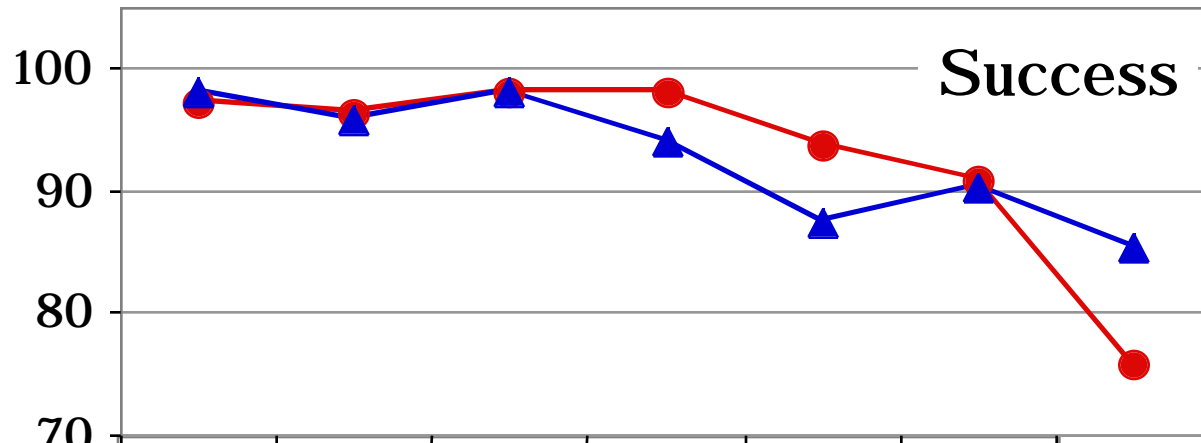


Leaves collected
from orchard at
intervals following
pesticide
application

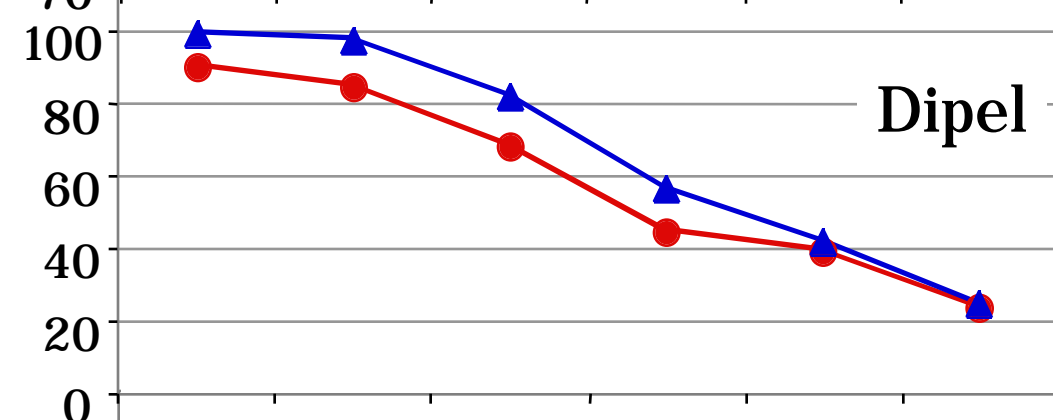


Place neonate larvae in
dish - after 7 days
mortality is recorded

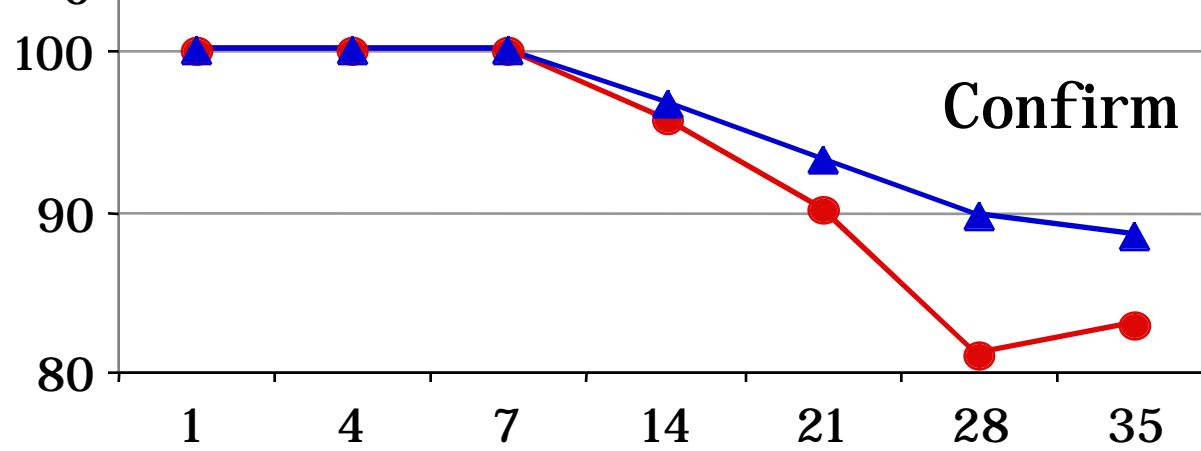







—●— CURTEC
—▲— REAR'S



Field-aged Bioassay
Samples from **high** in
the tree



New spray delivery technology: 1999 Experiences in Horticulture

-  Applied Apogee® on apple and pear using technology to direct product to the target
-  Applied Surround particle film in apple
-  Applied plant growth regulators to apple

New spray delivery technology: Horticulture and Pest Management

Objectives:



Build experimental tower sprayer with maximum flexibility to evaluate different delivery systems



Efficacy of insecticides, fungicides, horticultural sprays using different spray delivery technology



Examine the potential to reduce water as a carrier for pesticides in the dry conditions of the west



Evaluate the tower sprayer concept for selective delivery of pesticides to desired targets