Managing pocket gopher and vole populations

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Species Identification (Pocket Gophers)

- Burrowing rodent about 6-8 in long; rarely seen above ground.

- Gopher mounds are plugged and often fan-shaped.

Species Identification (Pocket Gophers)

- They feed on roots weakening and/or killing plants.
- Mounds can serve as weed seed beds.
- Burrow systems result in loss of irrigation water and erosion.

Species Identification (Meadow Voles)

- Have dark grayish brown fur and are 4-6 inches in length.
- Populations tend to cycle, exhibiting irruptive growth patterns.

Species Identification (Meadow Voles)

- Dig shallow burrows and leave well-worn trails.
- Primary damage caused by girdling of stems and gnawing of irrigation tubing.

Current Control Strategies

- Currently, we focus on an integrated approach that utilizes a number of strategies and tools to control vertebrate pests.

What Control Options are Available?

	Habitat modification	Baiting	Burrow fumigation	Trapping	Exclusion	Repellent	Frightening	Shooting
Pocket gopher	X	X	X	X	X	?		
Meadow vole	X	X	?	?	X	?		

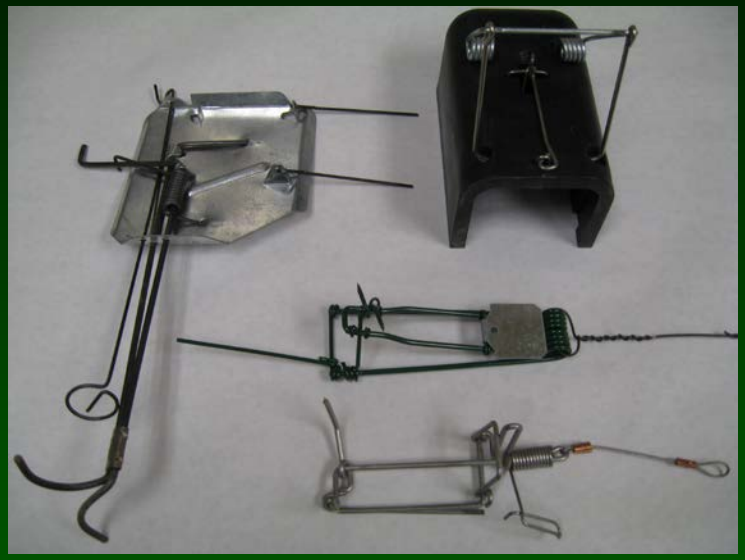
Control Options—Exclusion

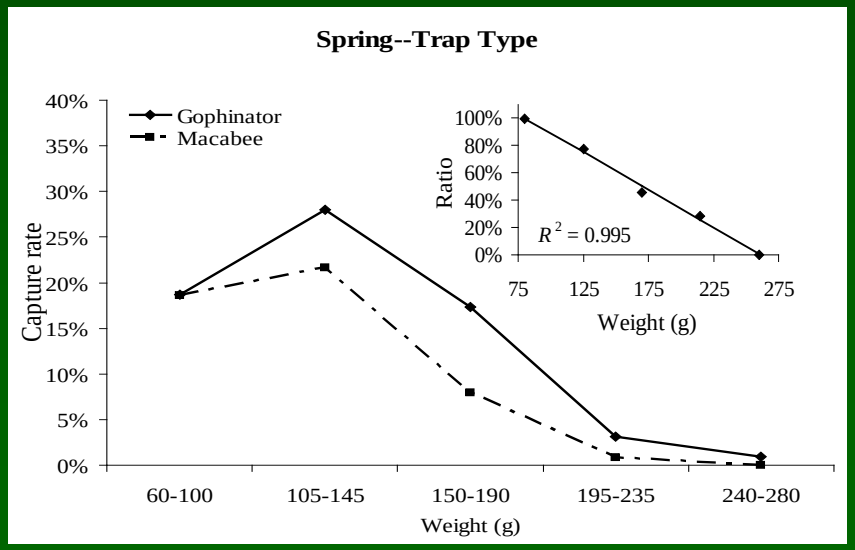
- May be a control option to consider for voles.
- Plastic mesh-style fencing has been effective at slowing movement of voles into artichoke fields.
- Fencing should be buried at least 6 inches below ground and extend 6-10 inches above ground.
- Aluminum flashing may provide more long-term functionality.
- Must consider equipment movement into and out of fields.

Trapping—Options

Pocket gophers

- Gophinator trap was more effective.
- Covered sets yielded slightly higher capture rates in spring-summer, but not autumn.
- Efficacy was offset by setting time.
- We did not observe a difference in the number of captures across attractants.

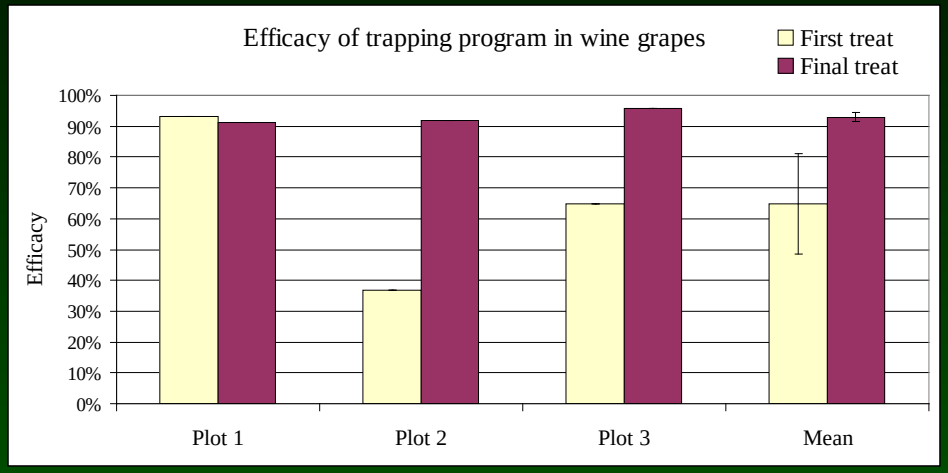


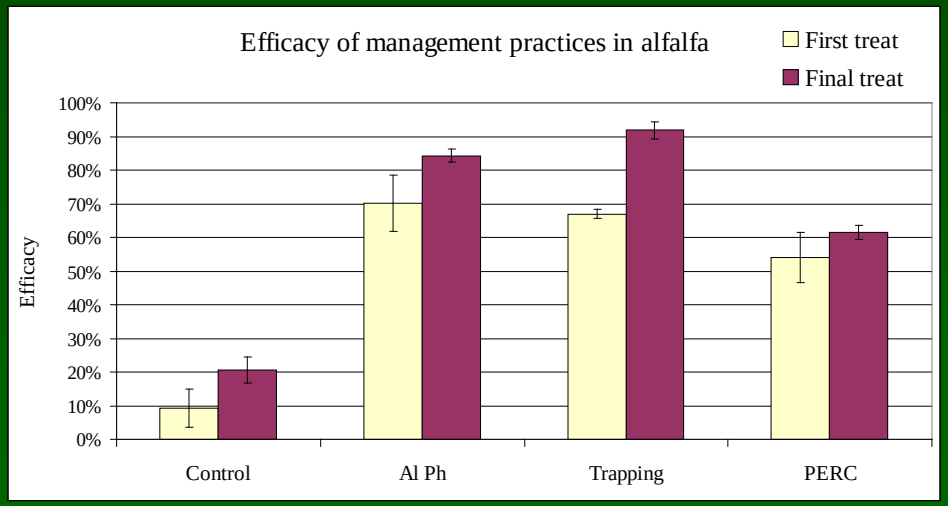


Control Options—Efficacy

Pocket gophers

- Exhibited high efficacy in wine grapes after two treatments.
- Exhibited good efficacy in alfalfa after one treatment.





Control Options—Baiting

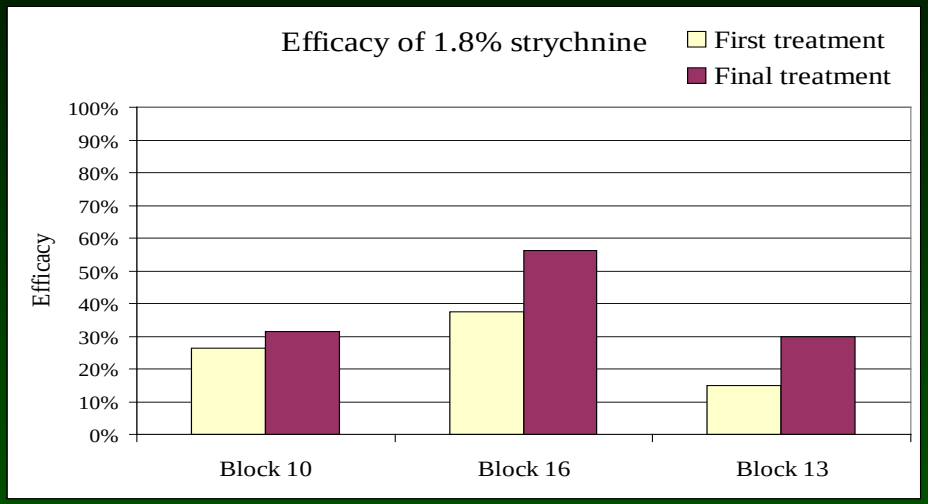
- Involves use of poison baits to control vertebrate pests.
- There are acute and multiple-feed toxicants.

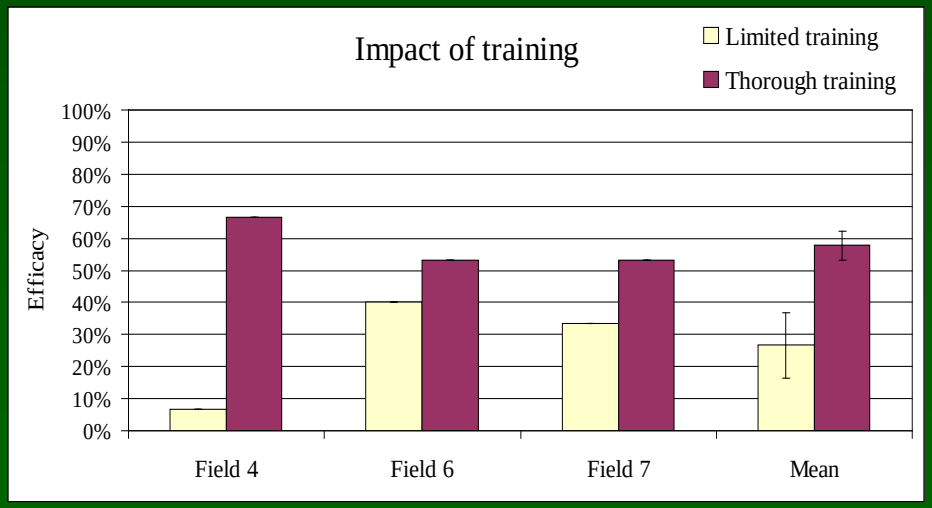
	Anticoagulants	Zinc phosphide	Strychnine
Pocket gophers	X	X	X
Voles	X	X	

Control Options—Baiting

Pocket gopher

- efficacy for pocket gopher baits varies across studies.
- study with 1.8% strychnine indicated low efficacy.
- potential reasons could include poor applicator training.





Control Options—Fumigation

Gas cartridges

- Effective for ground squirrels (62–86% control).
- Not effective for gophers.

Aluminum phosphide

- Highly effective for gophers (90-100%).
- Is a restricted use pesticide.

Control Options—Fumigation

Carbon monoxide producing machines

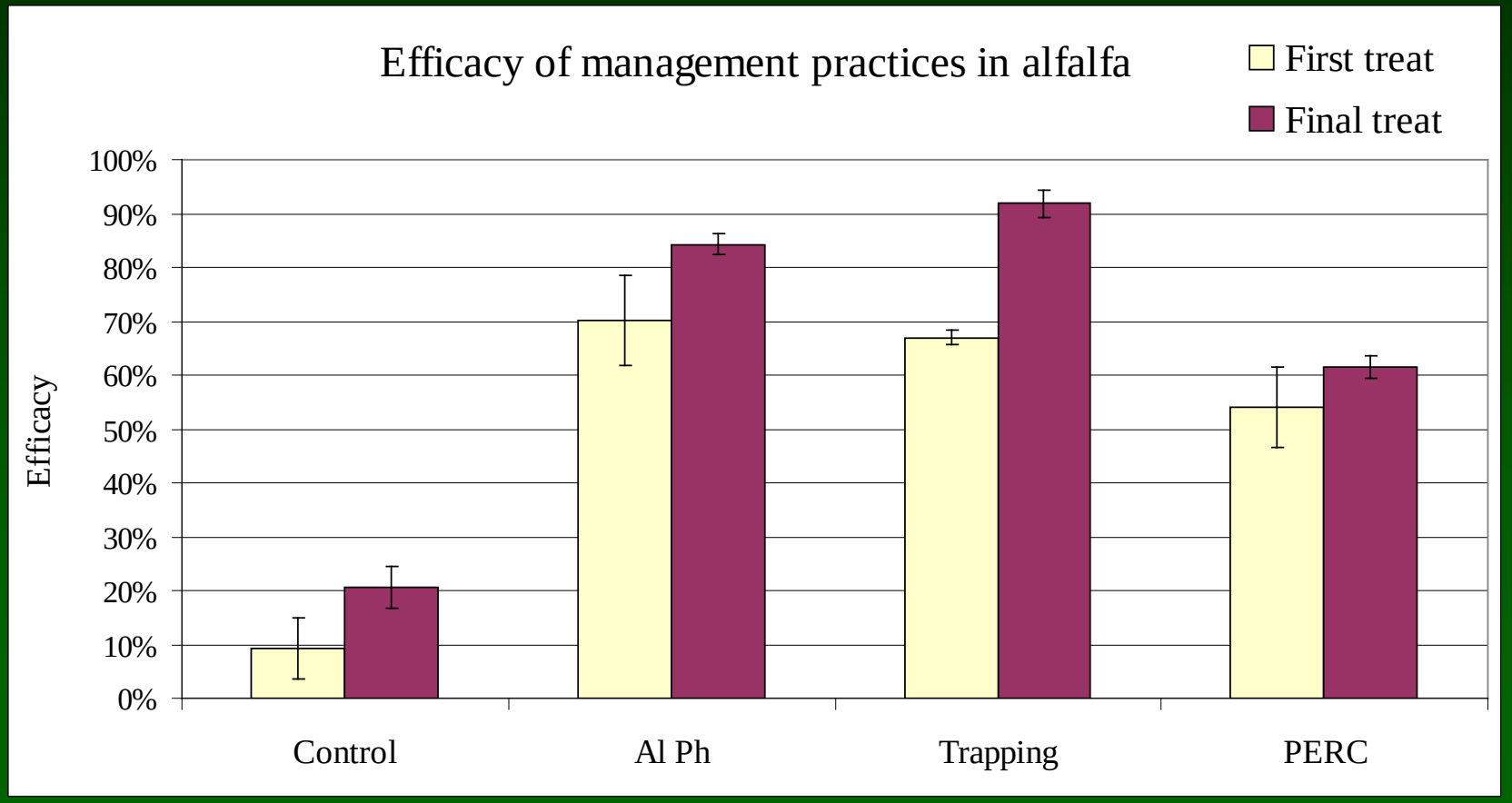
Control Options—Fumigation

- Steve Orloff and I have already begun to collect efficacy data.
- PERC appears to be moderately effective.

Species	Device	Authors	# of fields	Efficacy
Pocket gopher	PERC	Orloff	3	56%
Pocket gopher	PERC	Baldwin & Orloff	3	62%

Control Options—Comparisons

- Trapping and aluminum phosphide were most effective for gophers.




Questions?