

# Strategies for Rodent Management

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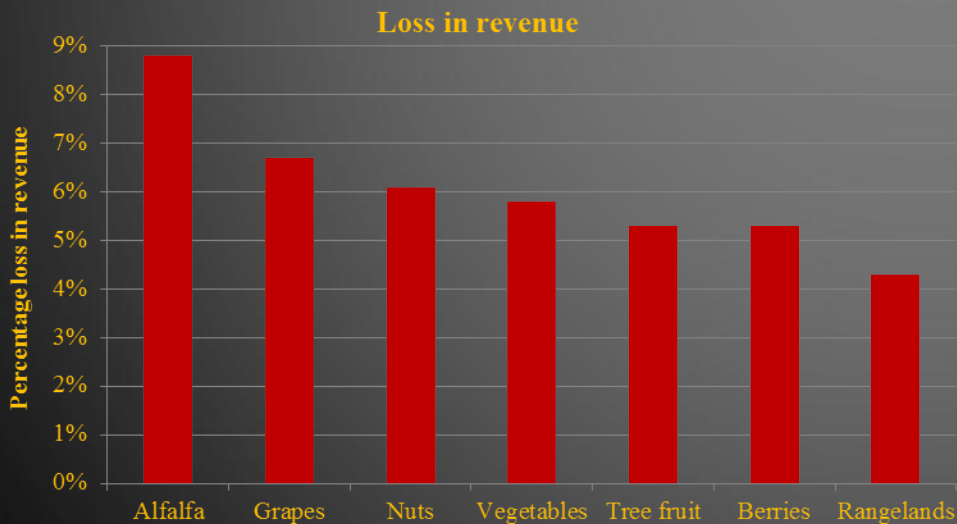
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# Species Identification (Pocket Gophers)

- Burrowing rodent about 6-8 in long; rarely seen above ground.
- Gopher mounds are plugged and often fan-shaped.





# Species Identification (Meadow Voles)

- Have dark grayish brown fur and are 4-6 inches in length.
- Populations tend to cycle, exhibiting irruptive growth patterns.
- Ave alfalfa loss of 11%.





# Current Control Strategies

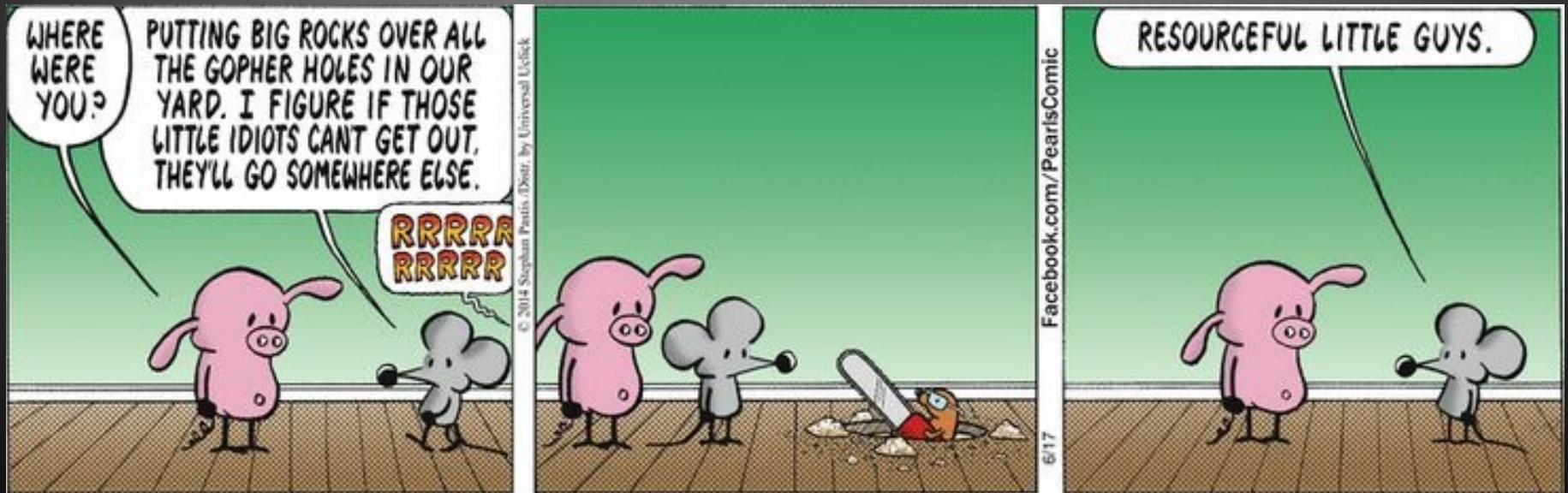
- Currently, we focus on an integrated approach that utilizes a number of strategies and tools to control vertebrate pests.





# What Control Options are Available?

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



# Control Options—Biocontrol

- Natural predators have been used to control vertebrate pests.





# Control Options—Biocontrol

- Natural predators have been used to control vertebrate pests.
- Owl boxes are inconclusive for gophers and voles.



# Control Options—Habitat Modification

- Involves altering habitat to reduce the desirability for pests.
- **Examples:**
  - destroy old burrows





# Control Options—Habitat Modification

- Involves altering habitat to reduce the desirability for pests.
- **Examples:**
  - destroy old burrows
  - flood irrigation



# Control Options—Repellents

Protec-T registered for use  
against pocket gophers in SDI

- ~41% reduction in gophers
- perhaps effective in reducing damage

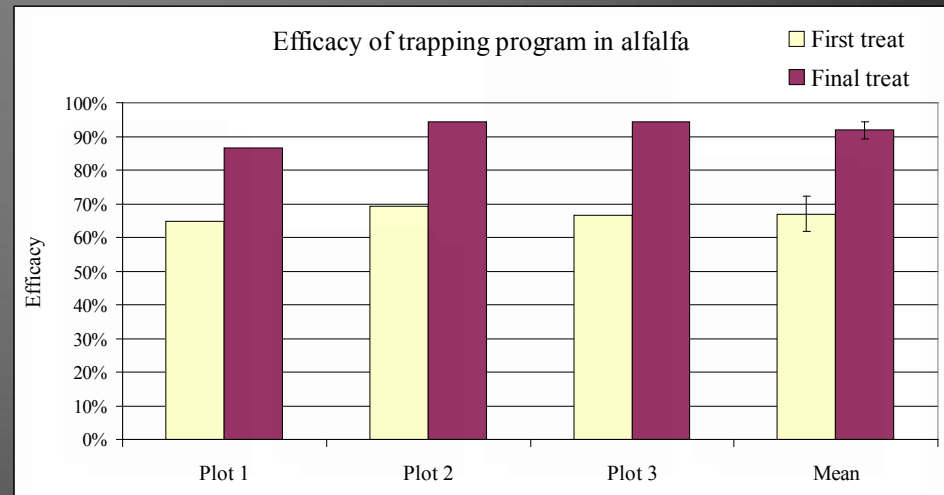
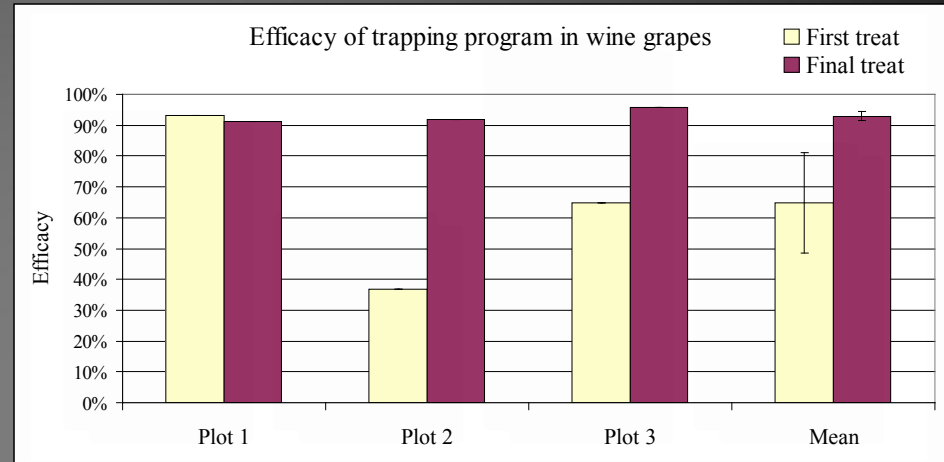




# Control Options—Trapping

## Pocket gophers

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



# Control Options—Baiting

- Involves use of poison baits to control vertebrate pests.
- There are restricted use and non-restricted use baits but typically most are now restricted use unless using in your yard or garden.

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

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# Control Options—Baiting

## Pocket gophers

- Strychnine works best.
- Use probe to find tunnel.
- Dispense bait in tunnel.



# Control Options—Baiting

## Zinc phosphide for voles:

- is an acute toxin.
- potential bait shyness.
- can be used for spot treatments and broadcast baiting.
- not to be used in or around buildings.





# Control Options—Fumigation

- Involves use of poison gas in burrows to control vertebrate pests.
- Works best when soil moisture is high (late winter early spring for gophers).
- Fumigants should not be used around buildings.



# Control Options—Fumigation

## Gas cartridges

- Not effective for gophers.

## Aluminum phosphide

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





# Control Options—Fumigation





# Control Options—Fumigation

Species	Device	Authors	# of fields	Efficacy
Pocket gopher	PERC	Orloff	3	56%
Pocket gopher	PERC	Baldwin & Orloff	3	62%
Pocket gopher	PERC	Baldwin & Orloff	2	68%
Belding's GS	PERC	Orloff	2	76%
California GS	PERC	Baldwin	2	66%
California GS	PERC	Baldwin	2	100%
California GS	Cheetah	Baldwin	3	-7%

# Control Options—Fumigation

## Carbon dioxide

- The Eliminator by IGI, LLC recently approved for use.



# Vertebrate Pest Control Handbook

<http://vpcrac.org/about/vertebrate-pest-handbook/>

The screenshot displays the homepage of the Vertebrate Pest Control Handbook online. The website has a blue header with navigation tabs for Home, Research, Submissions, Calendar, About, and Contact. Below the header, the main content area is titled "The Vertebrate Pest Control Handbook online" and lists various sections and links. A right-hand sidebar contains additional navigation options.

**Home** Search

**The Vertebrate Pest Control Handbook online**

**Current CDFA Rodenticide Labels:**

- CDFA Anticoagulant Labels - Chlorophacinone
  - [Rodent Bait Chlorophacinone Treated Artichoke Bracts \(0.01%\)](#)
  - [Rodent Bait Chlorophacinone Treated Grain \(0.01%\)](#)
  - [Rodent Bait Chlorophacinone Treated Grain \(0.005%\)](#)
- CDFA Anticoagulant Labels - Diphacinone
  - [Rodent Bait Diphacinone Treated Grain \(0.01%\)](#)
  - [Rodent Bait Diphacinone Treated Grain \(0.005%\)](#)
  - [Rodent Bait Diphacinone Bait Block \(0.005%\)](#)
- CDFA Zinc Phosphide Labels
  - [Rodent Bait Zinc Phosphide Treated Grain \(2.0%\)](#)

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[Chapter 2 Toxicants and Fumigants](#)  
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Questions?

