

3. The Pest Control Operator should:
- Stress trapping or other capture techniques for indoor infestations (rats may die in walls or other inaccessible places and cause bad odors when poison bait is used).
  - He/she should not make false claims for rodenticides, i.e., “This poison makes the rats dry up and they won’t smell”

or “will cause the rats to go outside in search of water”, etc.

4. Tropical rat mites may become bother some when rodents are removed or controlled. Rat parasite control, if needed, should be undertaken before or concurrently with rodent control.

#### PROPERTY OWNERS RESPONSIBILITY

The owner of the property on which the presence of rodents or evidence of rodent activity is found is responsible for the abatement of the nuisance and for the prevention of its recurrence. Through a home and yard evaluation, we inform the property owner of the presence of rodents and assist them in working out a satisfactory correction. In extreme cases, where the owner does not accept their responsibility to the public, the nuisance may be abated and a lien may be filed against the property as provided by the California State Health and Safety Code.



**Have a block meeting soon**

***Remember, you have rats if your neighbor has rats!***

You can host a block party in your neighborhood. An effective way to get rid of rats in your block is to work together with your neighbors. Organize and call the people in your block together. As a group, you can make a commitment to make your neighborhood a place where rats cannot survive.

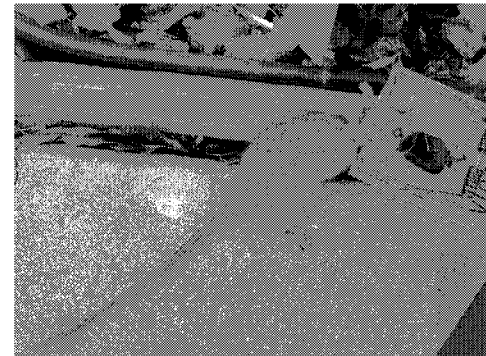
Once you are organized to get rid of roof rats in your block, you will find the same organization can be useful for other block projects. Cooperation works.

The Vector Control District of Santa Clara County may arrange a speaker for your block party or supply visual aids, fliers, brochures, or other helpful materials.



9992 Rev. 7/08

# WHAT YOU CAN DO TO PREVENT AND CONTROL



# RATS

**Santa Clara County Vector Control District**

**1580 Berger Drive, San Jose, CA 95112**

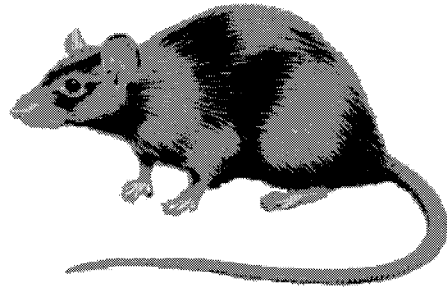
**408-918-4770/800-675-1155**

**[www.sccvector.org](http://www.sccvector.org)**

# GENERAL INFORMATION

## ROOF RAT

*Alias:*  
*Black Rat*  
*Tree Rat*



The roof rat (*Rattus rattus*) is the major problem species in Santa Clara County. This rat is slender and agile, and the tail is longer than the head and body combined. Roof rats will enter buildings if given the opportunity, and often use utility lines and fences as runways. Roof rats prefer to feed on fruits, nuts, ivy, and pet food commonly found in residential areas.

## NORWAY RAT

*Alias:*  
*Sewer Rat*  
*Brown Rat*  
*Wharf Rat*



The Norway rat (*Rattus norvegicus*), is less common in Santa Clara County than the roof rat. It is generally found in agricultural areas, creeks, and sewers and occasionally in developed neighborhoods. The Norway rat is larger and more aggressive than the roof rat. The eyes and ears are smaller than the roof rat and the tail is shorter than the combined head and body length. This species usually lives in underground burrows, and feeds on garbage, meat scraps, cereal grains and vegetables.

## HOW TO SET SNAP TRAPS

To set a snap trap, apply recommended bait to the trigger. Pull back the bail with your thumbs. Hold the bail in place with one thumb while attaching bar to the trigger tab. Carefully place the trap as previously recommended. Better results are usually obtained if two traps are set side by side. It is also a good idea to prebait. Prebait by baiting, but not setting, the traps. The rodent then becomes unafraid of the baited traps. This requires only two or three days after which the traps can be set.

## HOW TRAPS ARE MAINTAINED

The working parts of the trap should be oiled occasionally using mineral oil, never petroleum based oils such as 3-in-1 or WD-40. These oils may act as a repellent to rodents. Never store traps near insecticides or other chemicals or handle domestic animals or pets before setting traps out. These can cause traps to take on a repellent odor.

## CHEMICAL CONTROL (RAT BAITS)

Most rodenticides presently available for rat control are chronic anticoagulant formulations, which require several consecutive feedings to reach lethal levels or newer acute anticoagulants, which are usually lethal after a single feeding. All placed rodenticides must be checked often and replenished immediately when the supply is low. When the job is finished, uneaten rodenticides should be removed and disposed of according to the label.

Homeowners may purchase rodenticides at nurseries, feed stores, and hardware stores. All rodenticides should be handled carefully. Always follow all label precautions and recommendations.

A Santa Clara County Vector Control District Technician can advise homeowners on appropriate baiting and/or trapping procedures, and will provide other information on the control and prevention of rodent problems.

Should the homeowner wish to seek the services of a licensed pest control operator, the yellow pages of the phonebook may be consulted under the heading "Pest Control".

## GUIDELINES FOR HOMEOWNERS WHEN SPEAKING TO PROFESSIONAL RODENT CONTROL

1. The *pest control operator* should make a thorough inspection of your premises and provide a written report or diagram in which he/she:
  - Identifies species of rodent(s) causing the infestation.
  - Locates or describes entrances and rat-proofing needs.
  - Lists harborage and food sources present.
2. *He/she* should give attention to rodent proofing needs by:
  - Bidding and contracting for needed work *or*
  - Providing specifications and requirements for do-it-yourself or other means of repair.
  - Coordinating rodent exclusion with control measures.

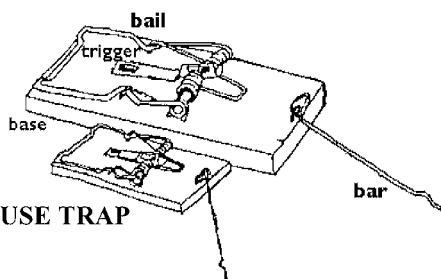
## TRAPPING

Trapping rodents is a perfectly acceptable method of control. Trapping is especially desirable when poisons cannot be used near food, small children, or where domestic animals or livestock are present. Traps should be used indoors to prevent the serious odor problems that can occur when poisoned rodents die in inaccessible areas. **Rats tend to shy away from new objects. To increase effectiveness of traps, put baits in traps, but do not set trap until rats have eaten bait for a couple of days.** Spring on rat traps are strong and can break fingers. **Keep out of reach of children and pets.**

## TYPES OF TRAPS

Rodent “snap traps” are inexpensive and are available in two sizes. The smaller trap is designed for mice and the larger is designed for rats. It is very important to choose the proper size trap. Several rat traps should be set to maximize trapping effectiveness.

### RAT TRAP

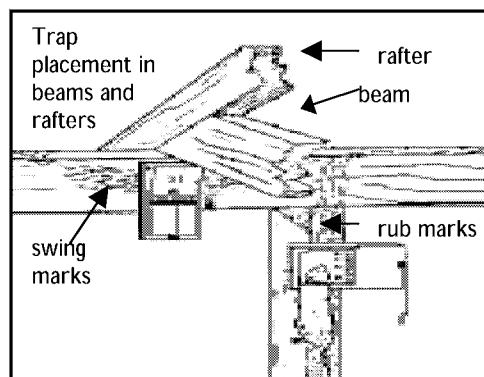
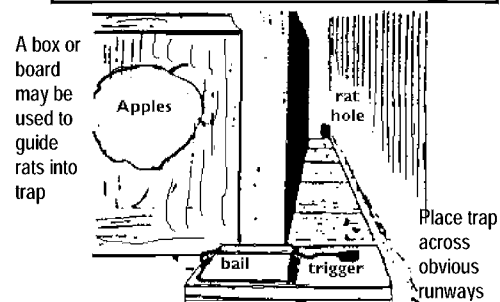
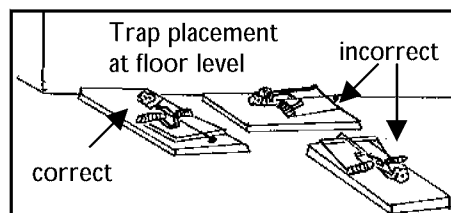


### MOUSE TRAP

Bait selection is important for trapping success. Peanut butter, nutmeats, bacon, pieces of apple, candy and moistened oatmeal are effective baits. For best results try several different baits to see which is most acceptable by rodents.

## PLACEMENT

Placement of snap traps is crucial to their effectiveness. Place traps in areas frequented by rats. Rats establish runways along fence tops, and next to walls. Look for the presence of rat droppings when placing snap traps. Place the narrow end of trap containing the trigger against a wall or known runway. Snap traps can also be attached to pipes or studs with wire, nail or screws. **Be persistent and aggressive. The more traps, the better.**



## DISEASES

Rats and their fleas are capable of transmitting a variety of human diseases including bubonic plague. While there have not been any recent reports of plague in Santa Clara County, the potential for an outbreak may increase as rat populations expand.

**Leptospirosis** may be contracted through contact with water or ingestion of food contaminated with urine of infected rats.

**Salmonellosis** is a bacterial “food poisoning” that may be transmitted when rodents contaminate foods.

The Santa Clara County Vector Control District conducts periodic surveys for disease occurrence in rats and other small mammals throughout the county.

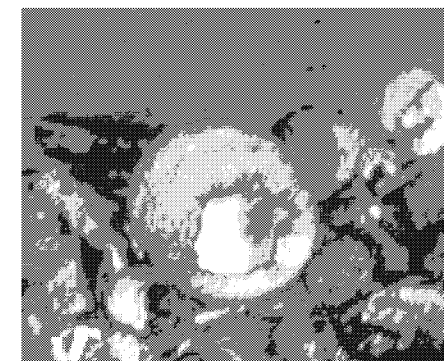
## ROOF RAT HABITAT

Roof rats may live or establish nests in:

- Your home
- Algerian ivy
- Palm trees
- Yucca
- Pampas grass
- Honeysuckle
- Himalayan blackberries
- Italian cypress
- Juniper tams
- Star jasmine
- Other heavy shrubbery
- Wood and lumber piles
- Storage boxes
- Yard and garden storage sheds

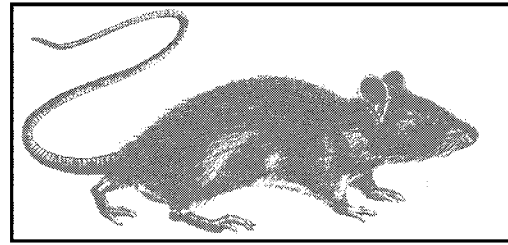
Roof rats prefer to feed on:

- Walnuts
- Pet food
- Snails
- Oranges
- Avocados
- Other ripe fruits
- Grass Seed
- Vegetables
- Ivy
- Berries



Oranges damaged by roof rat gnawing

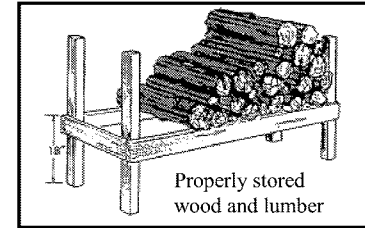
## WHERE ROOF RATS COMMONLY ENTER HOMES



- ✓ Broken or missing foundation vent screens.
- ✓ Vent screens on new structure where foundations are faced with brick. (Screens may have space at bottom or sides.)
- ✓ Holes in foundation vents, screens where new piping or wiring was put in.
- ✓ Outside crawl hole with poorly fitted lid or no tight covering.
- ✓ During construction, space not closed where two different roof planes meet (*called "birdsnest" by carpenters*).
- ✓ Spaces between heavy roof shakes (*especially along ridge of roof*).
- ✓ Attic vent screens broken or left off during construction.
- ✓ Space between roof jack and vent pipe from stove fan. (*Also sometimes enter kitchen cabinet along side vent pipe*).
- ✓ Enter garage under or on sides of large garage door; under side door to garage where threshold is left off and through doors left open constantly.
- ✓ From garage, rats enter attic or under house: between roof boards on shingle roofs; into holes where piping enters walls or through foundation; along rafters, gnawing through common wall sheet rock.
- ✓ Holes in exterior walls of house made by residents.
- ✓ Holes from new construction "add ons" around areas where new meets old.
- ✓ Poorly fitting outside doors, leading to garage, patio, etc.
- ✓ Open wooden meter boxes (in older homes).
- ✓ Brick chimneys which have settled away from house.
- ✓ Tile roof

The homeowner can help control rat populations by practicing the following:

- Harvest fruit and nuts as they ripen.
  - Pick up fallen fruit and nuts on a daily basis.
  - Never leave uneaten pet food outside overnight.
  - Keep palm trees and yucca plants well trimmed.
- Algerian ivy, and other thickly matted plants should be removed or trimmed well away from the roof, walls, fences, utility poles and trees.



- Store wood and lumber piles on racks at least 18 inches above the ground and 12 inches away from walls. Storage boxes should be stacked close together and in an orderly fashion. Clean up debris pile.
- Repair leaky faucets and eliminate any other unnecessary standing water.

When renovating the yard or planning new landscaping, ground cover unsuitable for roof rat harborage should be considered as a substitute for Algerian Ivy.

## RATS AND VEGETATION

Many plant species in Santa Clara County harbor roof rats. Whenever possible, these plants should be replaced with species which achieve the desirable effects of ground cover, but will not contribute to the rat problem. Characteristics to look for in a desirable ground cover are:

- Plants should be low growing, not more than 10" in height.
- They should not be climbers.
- Fruiting plants should not be used.
- Plants should provide soil stabilization.
- Plants should require a minimum amount of water once established.
- Once established, plants should be properly maintained.

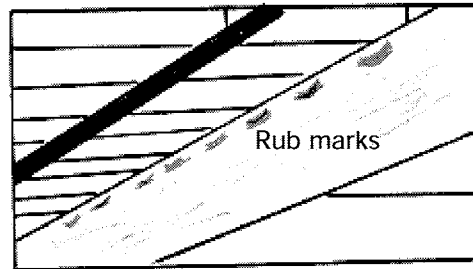
### **Plant species which harbor roof rats in the bay area and should be avoided are:**

Hedera canariensis - Algerian ivy  
Thuja orientalis - Arborvitae  
Bambusa spp. - Bamboo  
Rubus procerus - Himalayan blackberries  
Lonicera caprifolium - Honeysuckle  
Cupressus sempervirens - Italian cypress  
Populus nigra 'Italica' - Lombardy poplar  
Juniperus sabina - Tamariscifolia' - Juniper tams  
Phoenix dactylifera - Date palm trees  
Cortaderia selloana - Pampas grass  
Trachelospermum jasminoides - Star jasmine

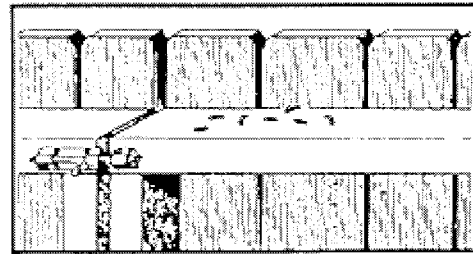
## RECOGNIZING ROOF RAT ACTIVITY

The homeowner should be alert for these signs of roof rat activity:

- Damaged, partially eaten walnuts, oranges, avocados, or other fruits and nuts.
- Broken snail shells under bushes, on fences or near nesting sites.
- Signs of gnawing on plastic, wood or rubber materials.
- Greasy rub marks caused by the rat's oily fur coming in repeated contact with painted surfaces or wooden beams.
- Rat droppings are usually signs of significant rat activity. The droppings are randomly scattered and will normally be found close to a rat runway, feeding location, or near shelter. They are dark in color, spindle shaped, and are about 1/2 inch long.
- Droppings found in forced air heaters, swimming pool heater covers, and water heater closets.
- Visual sightings on utility cables, tops of fences, or in trees.
- Sounds (gnawing, etc.,) from attic, subfloor areas and wall spaces.



Grease marks on beams caused by rat's oily fur



Rat droppings on fence top

## RAT CONTROL - ENVIRONMENTAL MANAGEMENT

Roof rat survival depends upon the existence of three basic environmental factors:  
**FOOD, WATER and HARBORAGE.**

Good environmental management practices supplemented by the wise use of rodenticides are the most effective approach to roof rat control. Environmental sanitation and good housekeeping are the first steps in a successful rat control program.

## BUILDING MAINTENANCE

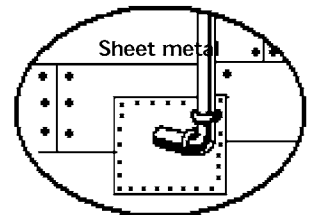
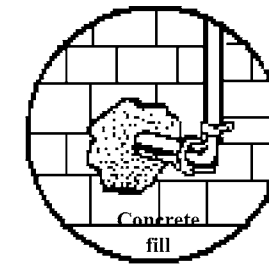
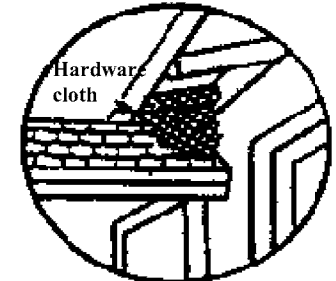
Roof rats can enter even small exterior openings of a home. Important steps a homeowner can take are inspecting and repairing:

- Basement windows and ventilation ports
- Attic vents and louvers
- Vent pipes and shafts.

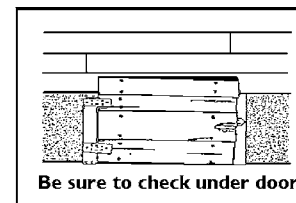
Openings such as these should be screened with 1/4 inch galvanized hardware cloth and inspected at least twice a year. Gaps around pipes and electrical conduit should be sealed, and cracks around doors and windows should be weatherproofed. **Tree limbs should be kept well away from the roof and walls of the house**

## RATPROOF YOUR BUILDING TO PREVENT RAT ENTRY

- Close all openings larger than 1/4 inch, to exclude rats and mice.
- Repair or replace damaged vent screens.
- Screen vents, holes and overlapping roof with 16 or 20 gauge 1/4-inch hardware cloth.
- Use sheet metal collars around pipe entrances on wooden walls.
- Use cement fill around pipe in brick, stone, or stucco walls.
- Use sheet metal edging along door bottoms to prevent entry and gnawing rats.

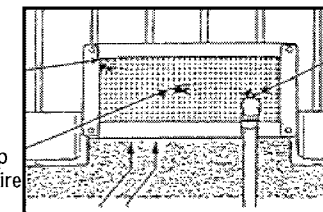


Subfloor crawl space entry hole must be sealed with a door or a lid that will exclude finger-size objects. Removable lids should fit so that the lid must be lifted to open



screen pushed out or detached

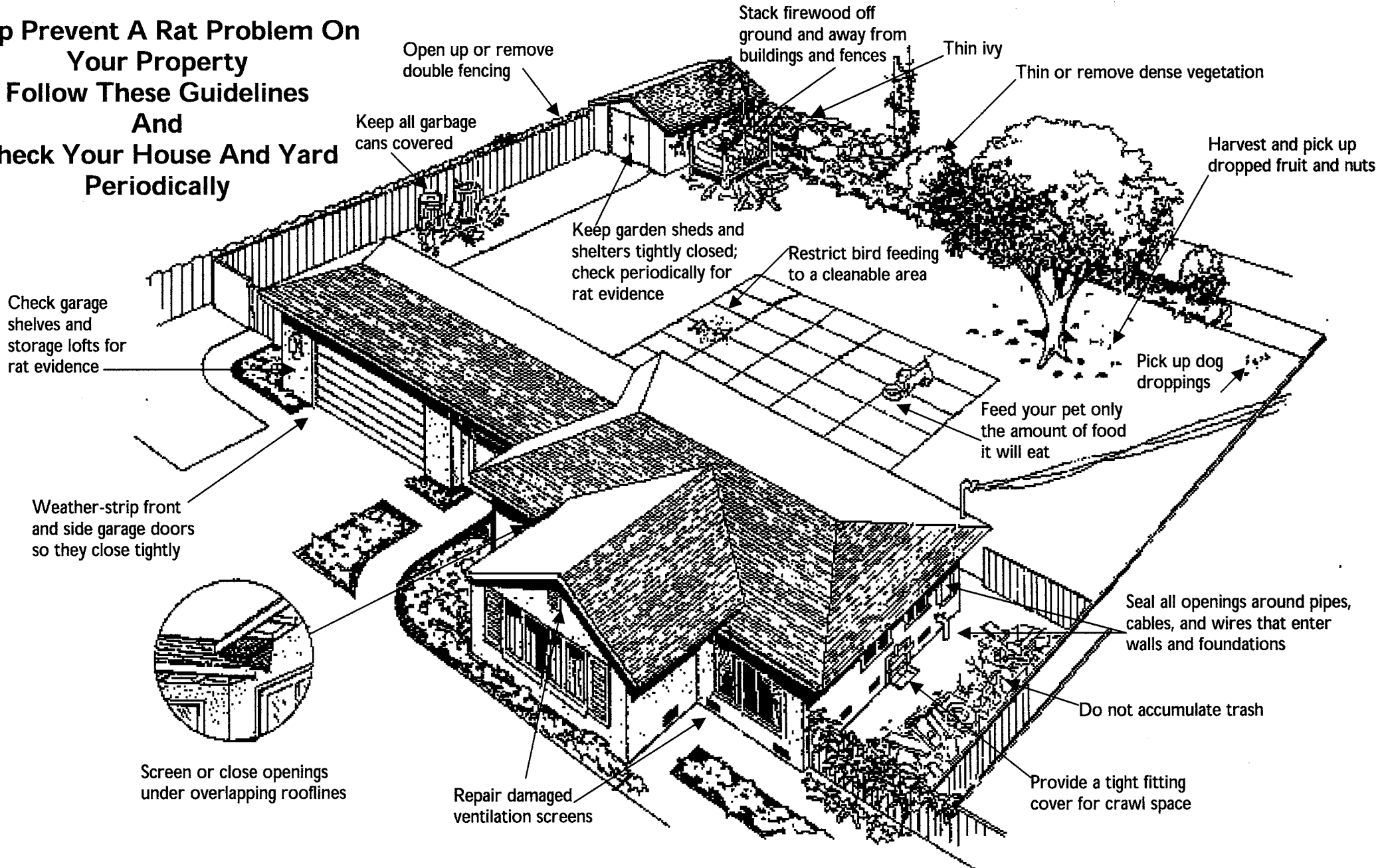
loose flap cut in wire



hole for pipe or wire too large

hand or fingers can be pushed up between screen and foundation

**Help Prevent A Rat Problem On  
Your Property  
Follow These Guidelines  
And  
Check Your House And Yard  
Periodically**



Open up or remove double fencing

Stack firewood off ground and away from buildings and fences

Thin ivy

Thin or remove dense vegetation

Keep all garbage cans covered

Harvest and pick up dropped fruit and nuts

Keep garden sheds and shelters tightly closed; check periodically for rat evidence

Restrict bird feeding to a cleanable area

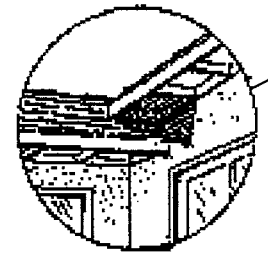
Check garage shelves and storage lofts for rat evidence

Pick up dog droppings

Feed your pet only the amount of food it will eat

Weather-strip front and side garage doors so they close tightly

Seal all openings around pipes, cables, and wires that enter walls and foundations



Do not accumulate trash

Screen or close openings under overlapping rooflines

Repair damaged ventilation screens

Provide a tight fitting cover for crawl space