

# INTEGRATED PEST MANGEMENT

School Recordkeeping Calendar

2023  
2024



# INTEGRATED PEST MANAGEMENT



## School Recordkeeping Calendar 2023–2024

### About this calendar

This calendar can help you keep track of your pest management activities. It is designed as a planning tool for managing pests of school buildings and grounds. This calendar is intended to serve as a reminder of pest management procedures by month, to help schoolsites implement safer, more sustainable pest management practices and to provide a place to monitor pest activity and record pesticide use.

The Healthy Schools Act (HSA) requires each school district to report pesticide applications by school employees to the Department of Pesticide Regulation (DPR) annually. Information that must be reported includes the product name, the time of the application, location, and the amount of the product used. Do not report pesticides applied by pest management professionals. Reports for 2023 pesticide use are due by January 30, 2024.

The HSA requires each schoolsite to keep records of every pesticide application onsite for four years, except certain exempted lower risk pesticides or application techniques. Records must include the pesticide product name, manufacture's name, U.S. EPA registration number, date, areas of application, reason for application, and amount of pesticide used.

## HSA and IPM Training

DPR offers free online HSA training.

Check [www.cdpr.ca.gov/schoolipm/training](http://www.cdpr.ca.gov/schoolipm/training) for courses that meet the HSA training requirement.

DPR also offers free IPM workshops. These workshops teach integrated pest management principles and include demonstrations that teach attendees how to prevent and manage pests around school and child care buildings and grounds.

## Why use integrated pest management?

Integrated pest management is the preferred method of managing pests at schoolsites under California's HSA to reduce childrens' exposure to pesticides. Integrated pest management focuses on the long-term prevention of pests through the use of a combination of techniques, such as identifying and monitoring pests, understanding pest biology, excluding pests from structures, using non-chemical methods, and keeping records. Pesticides that pose the least harm to people and the environment are only used if other methods do not achieve adequate control.

## For more information on managing pests

Visit the DPR School IPM website at: [www.cdpr.ca.gov/schoolipm](http://www.cdpr.ca.gov/schoolipm)

Visit the University of California Statewide IPM Program website at: [www.ipm.ucanr.edu](http://www.ipm.ucanr.edu)



## IPM Tip of the Month!

Apply small amounts of ant bait as needed early in the season to keep colonies from getting out of hand.

2023

# August

SUN	MON	TUE	WED	THU	FRI	SAT
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		



## IPM Tip of the Month!

Combine practices such as sanitation, rat-proofing, and snap traps to manage rat infestations.

2023

# September

SUN	MON	TUE	WED	THU	FRI	SAT
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30





### IPM Tip of the Month!

Use sticky traps to monitor for wandering spiders and a cobweb brush to remove spiderwebs.

2023

# October

SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				



## IPM Tip of the Month!

Prevent wildlife from becoming pests by using habitat modification and exclusion.

2023

# November

SUN	MON	TUE	WED	THU	FRI	SAT
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		



### IPM Tip of the Month!

Seal cracks in building foundations and eliminate all gaps and openings larger than 1/4 inch to exclude house mice from indoor areas.

# December

# 2023

SUN	MON	TUE	WED	THU	FRI	SAT
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						



## IPM Tip of the Month!

Trap gophers to reduce the mating population size.

# 2024

# January

SUN	MON	TUE	WED	THU	FRI	SAT
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30 <b>PUR DUE!</b>	31	* PUR DUE = Pesticide Use Reports are due to DPR via mail		



## IPM Tip of the Month!

Trap ground squirrels as they emerge from hibernation before their population size increases.

2024

# February

SUN	MON	TUE	WED	THU	FRI	SAT
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29		





### IPM Tip of the Month!

Monitor for cockroach activity indoors and apply small drops of gel bait in cracks and crevices where cockroaches were found.

2024

# March

SUN	MON	TUE	WED	THU	FRI	SAT
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						





### IPM Tip of the Month!

Apply slow release organic fertilizers as recommended by a soil analysis to help turf crowd out weeds.

2024

# April

SUN	MON	TUE	WED	THU	FRI	SAT
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				



## IPM Tip of the Month!

Put out lure or water traps to catch yellow jacket queens before they establish nests.

2024

May

SUN	MON	TUE	WED	THU	FRI	SAT
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	



### IPM Tip of the Month!

Reduce perching sites through habitat modification to deter roosting pigeons.

2024

# June

SUN	MON	TUE	WED	THU	FRI	SAT
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						



### IPM Tip of the Month!

Eliminate possible mosquito breeding sites by draining standing water.

2024

# July

SUN	MON	TUE	WED	THU	FRI	SAT
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Pest

**Monitoring**

& Pesticide

**Recordkeeping**

**Forms**









**Pest**

**Identification**

**Charts**



# COCKROACH

# IDENTIFICATION CHART

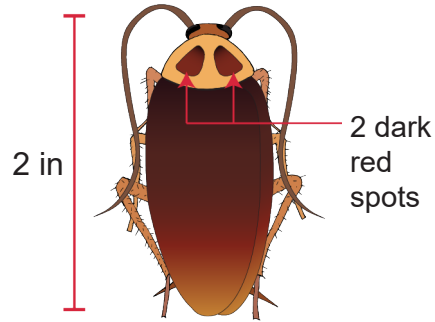
## ADULT

## NYMPH

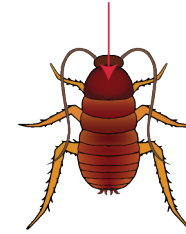
## EGG

### American Cockroach

Location: Humid environments  
Sexual maturity: ~15 months  
Life span: 2–3 years  
Ootheca: 16 eggs  
Egg size: 3/8 inch long



Reddish-brown exterior

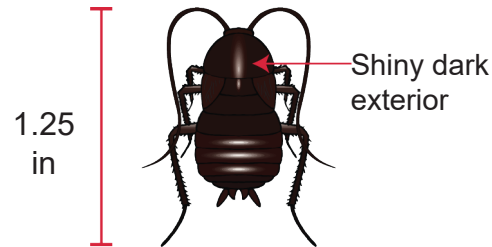


Symmetrical



### Oriental Cockroach

Location: Indoor/Outdoor  
Sexual maturity: ~12 months  
Life span: 1–2 years  
Ootheca: 16 eggs  
Egg size: 3/8 inch



Light brown exterior, darkens with each molt

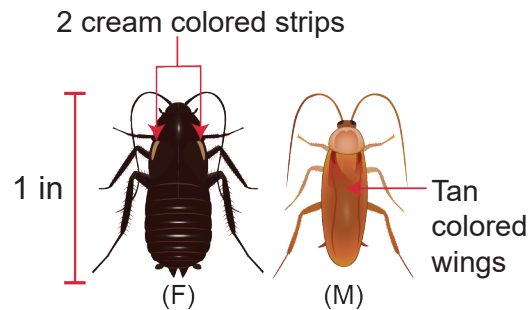


Asymmetrical



### Turkestan Cockroach

Location: Indoor/Outdoor  
Sexual maturity: ~7 months  
Life span: ~13 months  
Ootheca: 16 eggs  
Egg size: 3/8 inch



Red to black exterior

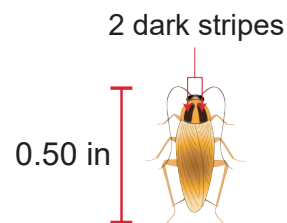


Asymmetrical



### German Cockroach

Location: Indoor  
Sexual maturity: ~2 months  
Life span: ~6 months  
Ootheca: 40 eggs  
Egg size: 1/4 inch



Yellow stripe in center











Visible subsegments



# COMMENSAL RODENTS

# IDENTIFICATION CHART

		CHARACTERISTICS	DROPPINGS
<b>Norway Rat</b>		<b>Tail:</b> Shorter than head and body <b>Ears:</b> Small <b>Eyes:</b> Small <b>Nose:</b> Blunt <b>Weight:</b> 7-18 oz.	 Shape: Blunt Avg. length: 3/4"
<b>Roof Rat</b>		<b>Tail:</b> Longer than head and body <b>Ears:</b> Large <b>Eyes:</b> Large <b>Nose:</b> Pointed <b>Weight:</b> 5-10 oz.	 Shape: Pointed Avg. length: 1/2"
<b>House Mouse</b>		<b>Body Shape:</b> Round <b>Head size:</b> Small <b>Feet:</b> Small <b>Snout:</b> Pointed <b>Weight:</b> 0.5 oz.	 Shape: Pointed Avg. length: 1/4"
<b>Young Rat</b>		<b>Body Shape:</b> Flattened <b>Head size:</b> Large <b>Feet:</b> Large relative to body size <b>Snout:</b> Blunt	 Shape: Blunt

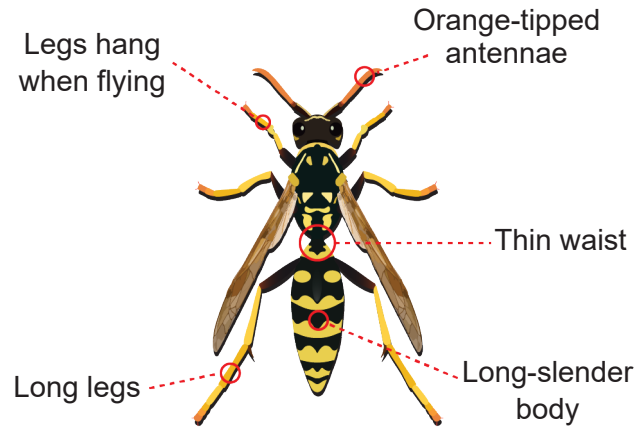
# STINGING PESTS

# IDENTIFICATION CHART

## CHARACTERISTICS

## RISK, DIET, NEST

### PAPER WASP



#### Risk

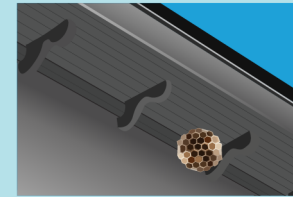
Do not tend to be aggressive

#### Diet

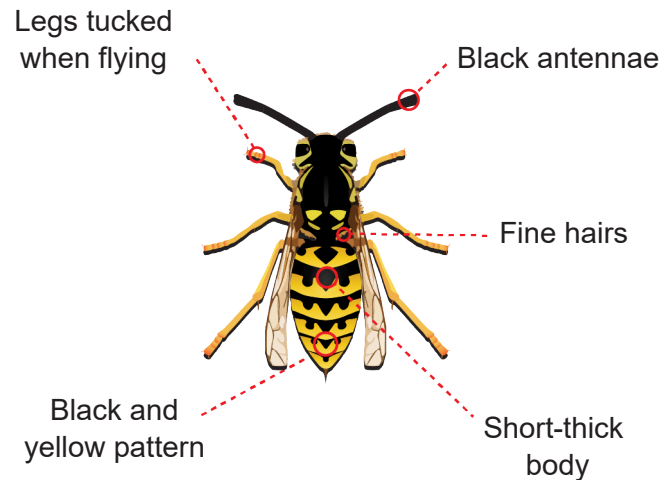
Ripe fruit, nectar, honeydew, and insects

#### Nest

Umbrella-shaped and have visible combs. Typically, built on man-made structures like gutters and eaves.



### YELLOW JACKET



#### Risk

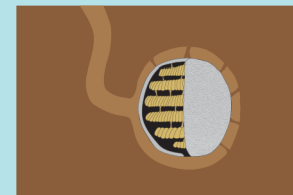
Tend to be aggressive

#### Diet

Nectar, human food, or insects

#### Nest

Typically, built underground with a single entrance hole. Nests built above-ground are enclosed with an outer layer.



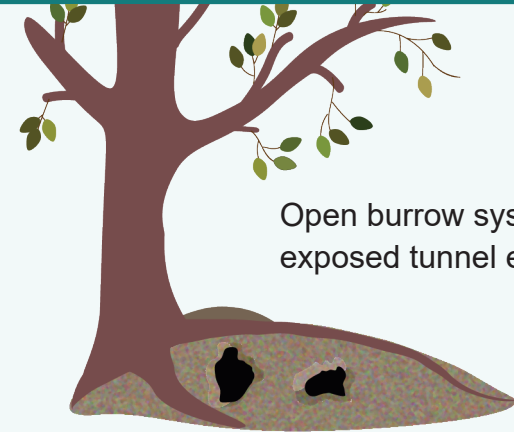
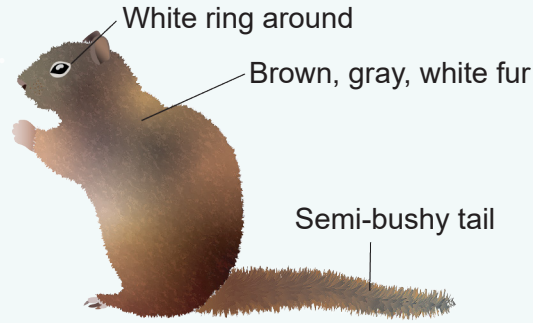
# BURROWING PESTS

# IDENTIFICATION CHART

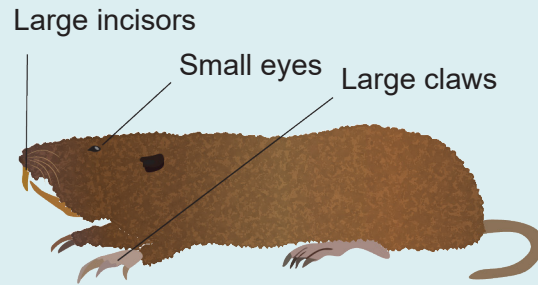
## CHARACTERISTICS

## BURROW TYPE

### Ground Squirrel

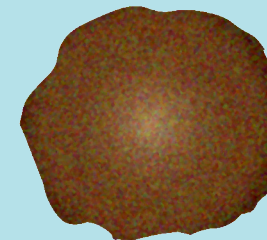


### Gopher



Crescent- or horseshoe-shaped mounds with dirt plug on one side.

### Mole



Volcano-shaped mounds  
Moles also dig surface tunnels that create raised ridges which can be seen above ground.



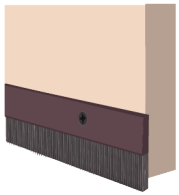
# Integrated Pest Management Practices



# Cockroaches



## Prevent



Install door sweeps and seal gaps on exterior walls and around plumbing to prevent indoor access.

## Clean



Remove food and water sources.

## Declutter



Get rid of clutter to remove hiding places for cockroaches.

## Monitor



Use traps and do site inspections year-round to monitor for cockroaches. Inspect boxes and other deliveries for hitchhiking pests.

## Identify



Cockroach species have different behaviors and location preferences. Identify the species to plan for effective management.

## Remove



Use a vacuum with a HEPA filter to remove cockroaches, egg cases, droppings, and shed skins.

## Bait



Use bait in combination with insect growth regulators to eliminate cockroaches.



## Trapping Tips

Trapping is a lower-risks, effective, and sustainable method of managing commensal rodents.

## Identify

Rodent species have different behaviors and location preferences. Identify the species to plan for effective management.

### Norway Rat



Place traps close to walls, behind objects, and in dark corners.

### Roof Rat



Place traps off the ground on ledges, shelves, branches, pipes, in attics, or garage rafters.

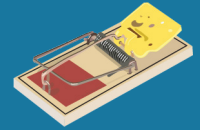
### House Mouse



Place traps close to walls, behind objects, or in areas where there is evidence of mouse activity.

## Pre-Baiting Traps

Rats tend to avoid new objects in their environment. Pre-baiting traps increases the effectiveness of trapping by combating this behavior. Pre-baiting traps is the process of placing a baited trap without setting it. Repeat this process a few times until the rodent becomes familiar with the trap. Then set the trap. Possible baits include: Chocolate syrup, dried food, nutmeats, or bacon.



## Placing Traps Out of Reach

To prevent children and pets from gaining access, place traps in tamper-resistant bait boxes. The U.S. EPA has criteria listed for tamper-resistant bait boxes that can be found on Pesticide Registration {PR} Notice 94-7.





## Yellow Jackets

Yellow jackets can be aggressive. Removal of nests may be necessary at schools.

### Prevention

Empty garbage regularly and keep trash in tightly closed container. Clean any food or drink spillage.

### Nest Removal Services

Contact your local Vector Control District to ask if they provide nest removal services. Or contact a Pest Management Professional to safely remove the nests.

## Paper Wasp

Know your tolerance. Paper wasps are not aggressive and will only sting when threatened. However, nest removal may be necessary in high traffic areas or if someone gets stung.

### Prevention

Monitor for nests in early spring and remove them as soon as possible.

### Nest Removal Services

Reduce the number of paper wasps present at your school by removing nests in early spring when they are small. Large nests are best removed early in the morning or after dark. For aggressive nests you may need to contact a Pest Management Professional.



## Trapping Tips

- Set up lure traps in early spring to reduce the number of wasps searching for nesting sites
- Use attractants that are labelled specifically for the targeted wasp species
- Check for an EPA Registration # because some attractants are registered pesticides
- Place traps away from buildings, heavily-tracked areas, and active nests
- Position traps in the flight path to nest
- Use more traps than needed
- Check lure traps to monitor population size

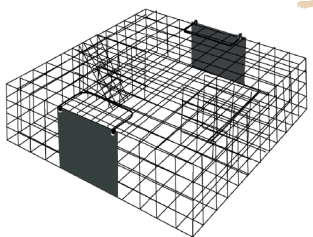


## Ground Squirrel Trapping



### LIVE TRAPS

Live traps capture animals without killing them. These traps are good to use in endangered species territory.



### SETTING LIVE TRAPS

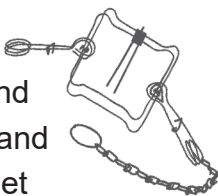
- Place trap several feet away from burrow entrance
- Pre-bait trap to increase capture rate

### REGULATIONS:

- [CFG Code § 465.5, § 4005]
- Live animal cannot be translocated
  - Euthanize with CO<sup>2</sup> only
  - Check traps on a daily basis

### KILL TRAPS

Conibear, box, and tunnel traps are used to capture and kill ground squirrels. Conibear traps are highly visible and should be placed in covered boxes to reduce non-target exposure, especially on schoolsites.



### SETTING KILL TRAPS

- Box and tunnel: Place trap near burrow entrances or in runways
- Conibear: Place trap on burrow entrance in a covered box
- Cover all other burrow openings to increase success

### PROTECT YOURSELF!

Ground squirrels can carry diseases. Wear protective gear when handling carcasses.

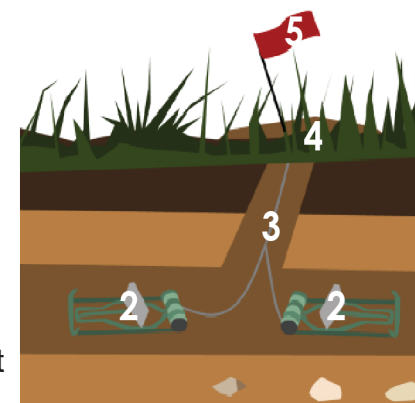
## Gopher Trapping



There are many different types of gopher traps, however, 2-pronged pincer traps are the most common.

### SETTING 2-PRONGED TRAPS

1. Probe soil to find active runway
2. Set a pair of traps facing opposite directions in runway
3. Anchor traps in place
4. Cover the hole
5. Mark area
6. Check every 24 hours
7. Move trap to another location if not caught



## Mole Trapping



Subterranean traps are set to capture moles underground in their tunnel system.

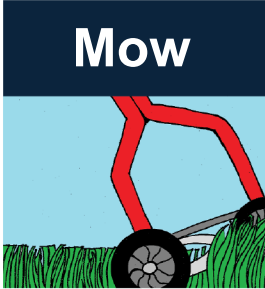
### SETTING SUBTERRANEAN TRAPS

- Monitor mole activity.
- Tamp down mounds to find the most active runway
- Probe soil to find tunnel
- Place trap 18 inches from mound
- Allow the trap to encircle the tunnel
- Set more traps than moles suspected



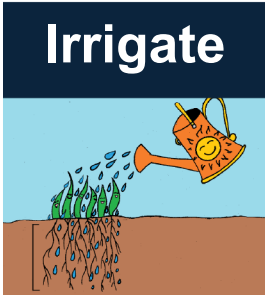
## Healthy Lawn Practices

### Mow



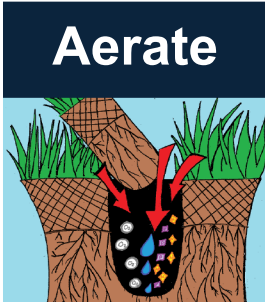
- Mow when grass is dry
- Keep blades sharp
- Remove 1/3 of the grass height

### Irrigate



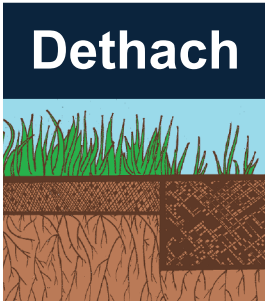
- Irrigate infrequently
- Allow water to seep 6" deep
- Water when top 2" of soil is dry

### Aerate



- Aerate turf once a year
- Frequently aerate heavily trafficked turf
- Fertilize according to soil nutrient levels

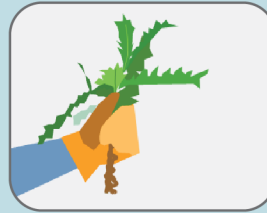
### Dethach



- Dethatch when thatch layer is less than 1/2in thick
- Helps increase oxygen, water, and nutrient flow
- Fertilize appropriately to restore nutrients after dethatching

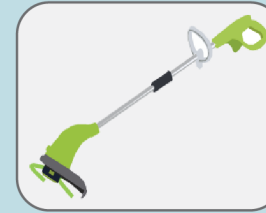
## Alternatives to Herbicides

### HAND-PULLING



Hand-pull weeds before they set seed to help reduce infestations.

### STRING TRIMMER



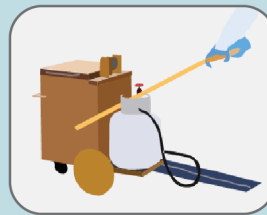
Clear weeds from hardscapes with a string trimmer.

### OVERSEEDING



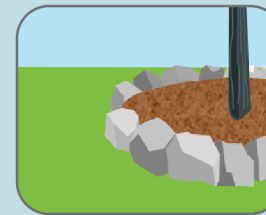
Help grass outcompete weeds and repair patchy spots in lawns.

### CRACK SEALING



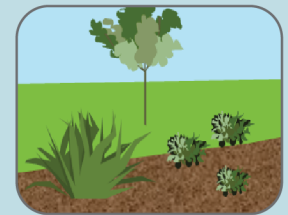
Repair cracks in pavement to help prevent weed seeds from germinating.

### MULCH



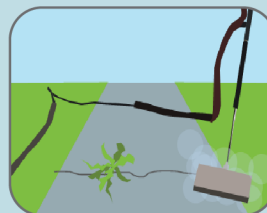
Maintain mulch at 3 to 5 inches to improve water conservation and weed management.

### XERISCAPING



Replace ornamental plants with native species that require less water and maintenance.

### HEAT



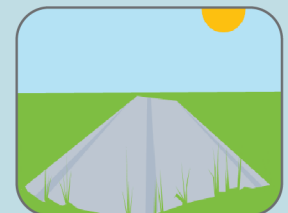
Kill weeds at the roots with heat using flame weeders, steam weeders, or foam steamers.

### GOATS



Hire goats to eat weeds and clear fields of unwanted vegetation.

### SOLARIZATION



Kill weed seeds with soil solarization by cooking the soil under a plastic tarp





Sanitizers and disinfectants are antimicrobial pesticides used to kill germs on contaminated surfaces. Though these products are exempt from most of the HSA requirements, the annual HSA training is still required.

## WHAT IS THE DIFFERENCE BETWEEN CLEANING, SANITIZING, AND DISINFECTING?



**CLEANING** physically removes dirt, grime, oils, and some germs from a surface



**SANITIZING** reduces germs on surfaces to levels considered “safe” by public health authorities



**DISINFECTING** chemically destroys or inactivates almost all germs on a surface

## ANTIMICROBIAL PESTICIDES VS GENERAL PURPOSE CLEANERS

Antimicrobial Pesticides	General Purpose Cleaners
Kills germs	Removes Dirt and Grime
EPA Reg. number	No EPA Reg. number

### Using Antimicrobial Pesticides

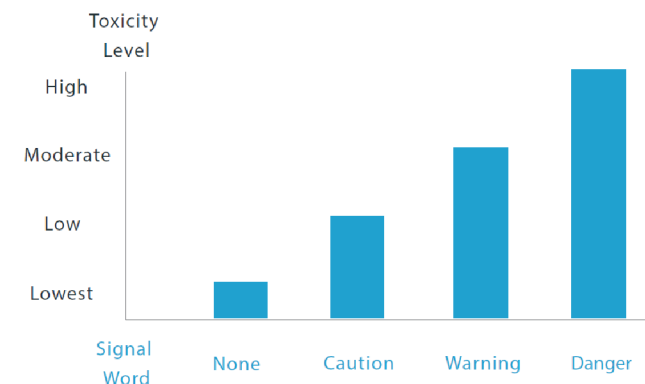
To reduce the risks associated with using pesticide, use antimicrobial pesticides for their intended purposes—sanitizing and disinfecting.

For simple cleaning, use general purpose products.

This includes requirements for pre-cleaning, contact time, rinsing, and wearing personal protective equipment. And remember, label directions are not suggestions.

### Choose Products That Contain Lower-Risk Ingredients

Study the signal words of pesticide labels to find lower risk products



# Photo Credit

Icons Pest Management (Adobe Stock)

August Ant (Adobe Stock)

September Rat (Adobe Stock)

October Spider (Dustin Humes, Unsplash)

November Raccoon (Chalo Garcia, Unsplash)

December Mouse (Alexas Fotos, Pexels)

January Gopher (Adobe Stock)

February Squirrel (James Lee, Unsplash)

March Cockroaches (Adobe Stock)

April Dandelion (Viridi Green, Unsplash)

May Yellow Jacket (Adobe Stock)

June Pigeon (Sam Field, Unsplash)

July Mosquito (Mithil Girish, Unsplash)

## Questions? Contact us!



### School and Child Care IPM Program

Phone: 916.324.3483

Email: [school-ipm@cdpr.ca.gov](mailto:school-ipm@cdpr.ca.gov)

Website: [www.cdpr.ca.gov/schoolipm](http://www.cdpr.ca.gov/schoolipm)

*Any reference in this calendar to companies, commercial products, their source, or use is not to be construed as either an actual or implied endorsement by the Department of Pesticide Regulation. Mention is made of some representative products, but the Department of Pesticide Regulation does not recognize any product as superior to any other.*

Thank you to the UC Statewide IPM Program for their extensive online resources regarding pest management! Their website was crucial to the background research for this calendar.