INTEGRATED PEST MANAGEMENT

School Recordkeeping Pocket Calendar

2020
2021

INTEGRATED PEST MANAGEMENT

School Recordkeeping Calendar 2020–2021

ABOUT THIS CALENDAR

This calendar can help you keep track of your pest management activities. This calendar is designed as a planning tool for managing pests of school buildings and grounds. It is intended to serve as a reminder of pest management procedures by month, to help schoolsites implement integrated pest management practices (IPM), 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 **2020** pesticide use are due by **January 30, 2021**.

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

SCHOOL IPM TRAINING

DPR offers free online training.

Check www.cdpr.ca.gov/schoolipm/training for courses that meet the HSA training requirement. DPR also offers one day in-person workshops. These workshops teach IPM principles and include hands-on demonstrations that teach attendees how to prevent and manage pests around school and child care buildings and grounds.

WHY USE IPM?

IPM is the preferred method of managing pests at schoolsites under California's HSA to reduce childrens' exposure to pesticides. IPM 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 DETAILS ON MANAGING PEST PROBLEMS

- Visit the DPR SchoolIPM website at: www.cdpr.ca.gov/schoolipm
- Visit the University of California Statewide IPM Program website at: www.ipm.ucanr.edu.

AUGUST 2020

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

S	M	T	W	T	F	S
						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					

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SEPTEMBER 2020

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

S	M	T	W	T	F	S
		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			

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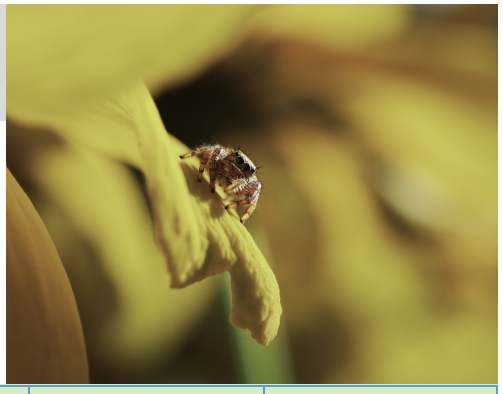
OCTOBER 2020



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

S	M	T	W	T	F	S
				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

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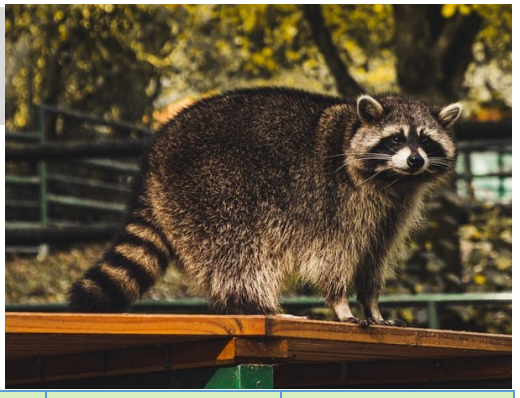
NOVEMBER 2020



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

S	M	T	W	T	F	S
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					

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DECEMBER 2020

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

S	M	T	W	T	F	S
		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		

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JANUARY 2021

Trap gophers to reduce the mating population size.

S	M	T	W	T	F	S
					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 **Pesticide Use Reports Due**
31						

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FEBRUARY 2021

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

S	M	T	W	T	F	S
	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						

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MARCH 2021

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

S	M	T	W	T	F	S
	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			

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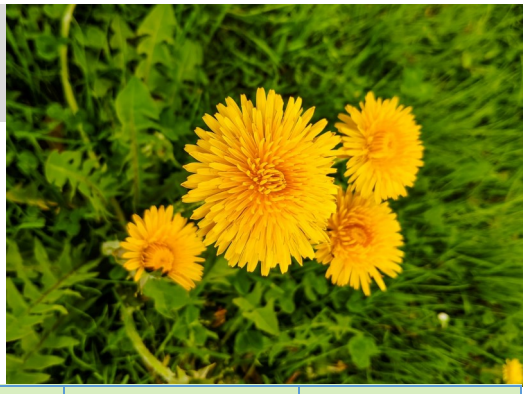
APRIL 2021



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

S	M	T	W	T	F	S
				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	

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MAY 2021

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

S	M	T	W	T	F	S
						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					

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JUNE 2021

Reduce perching sites through habitat modification to deter roosting pigeons.

S	M	T	W	T	F	S
		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			

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JULY 2021

Eliminate possible mosquito breeding sites by draining standing water.

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
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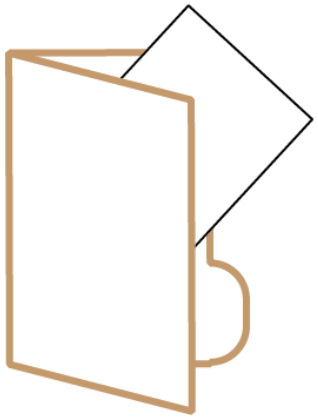
PEST MONITORING AND RECORDKEEPING TABLES



PEST SIGHTING AND MONITORING SHEET

Pest	#	Location	Action Taken	Date

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PEST SIGHTING AND MONITORING SHEET

Pest	#	Location	Action Taken	Date

PESTICIDE RECORDKEEPING FORM

Product Name/ Manufacturer	EPA Reg. Number	Date	Location	Amount (Units)	Reason

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Product Name/ Manufacturer	EPA Reg. Number	Date	Location	Amount (Units)	Reason

PESTS IDENTIFICATION CHARTS

COCKROACH IDENTIFICATION CHART

American Cockroach

Size : ~2 inches long
Location: Indoor/Outdoor
Sexual maturity: ~15 months
Life span: 2–3 years
Ootheca: 16 eggs
Egg size: 3/8 inch long

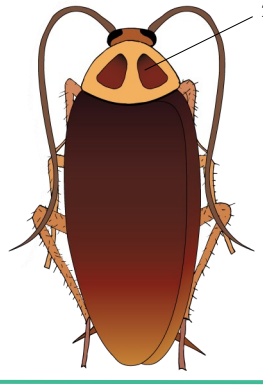
Oriental Cockroach

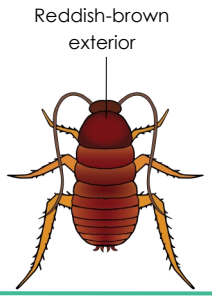
Size : ~1.25 inches long
Location: Outdoor
Sexual maturity: ~12 months
Life span: 1–2 years
Ootheca: 16 eggs
Egg size: 3/8 inch

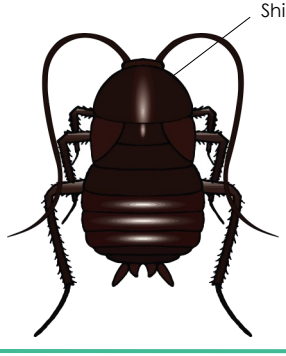
German Cockroach

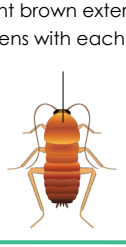
Size : ~0.5 inches long
Location: Indoor
Sexual maturity: ~2 months
Life span: ~6 months
Ootheca: 40 eggs
Egg size: 1/4inch

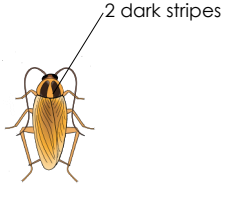
ADULT | NYMPH | EGG

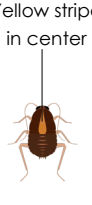










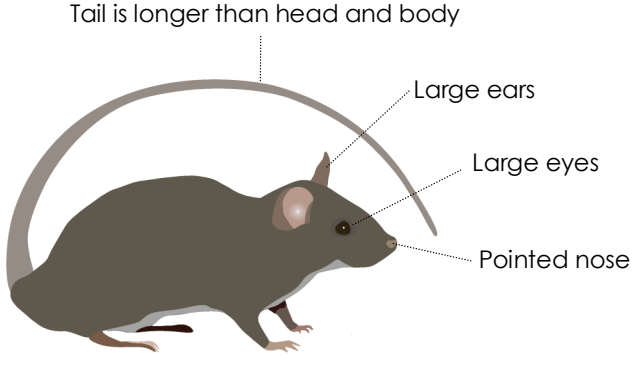


See page 37 for management strategies

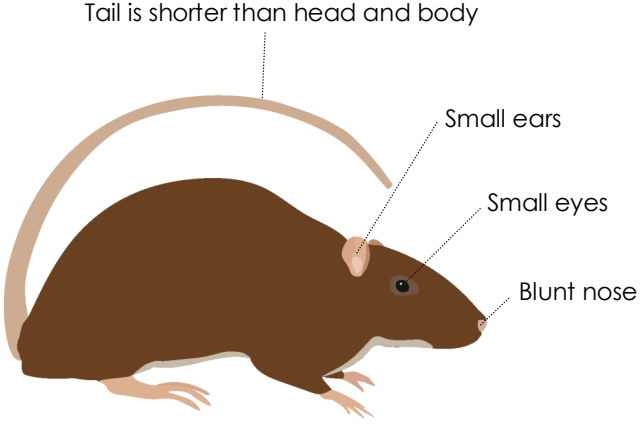
COMMENSAL RODENT IDENTIFICATION

For effective management of commensal rodents, it is important to identify the species of rodent prior to taking action. See page 38 for management strategies.

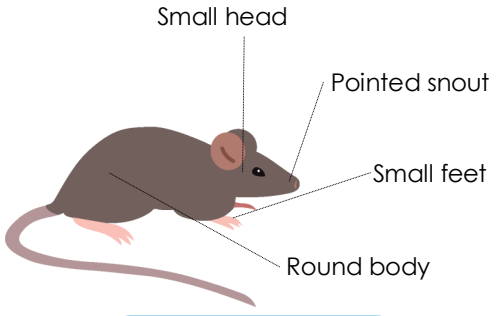
ROOF RAT



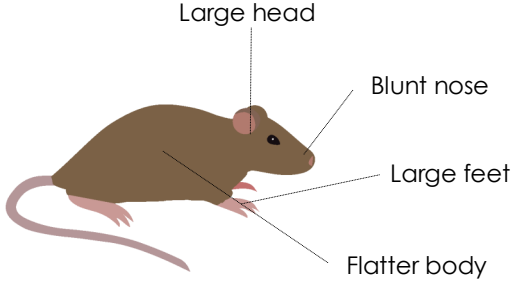
NORWAY RAT



HOUSE MOUSE



YOUNG RAT



OTHER IDENTIFICATION TOOLS

Rats can chew through a 1/2 inch sized hole	Mice can chew through a 1/4 inch sized hole
	

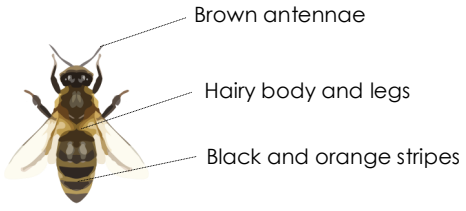
Once they chew it, they can fit through it!

Who's pooping?

House Mouse	Roof Rat	Norway Rat
		

STINGING INSECT IDENTIFICATION

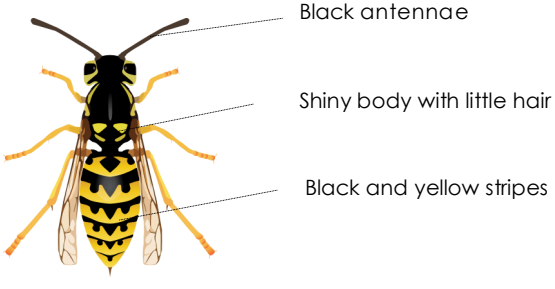
HONEY BEE



CHARACTERISTICS

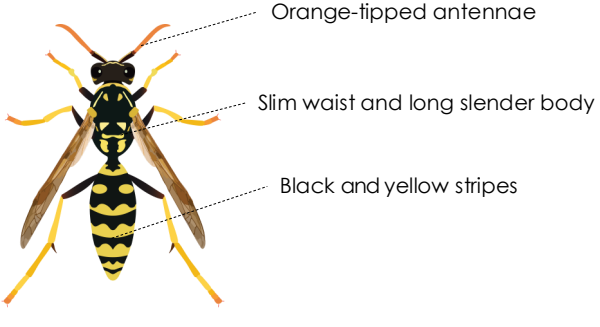
- Nests are built in tree cavities and walls; or hives can be managed by beekeepers.
- Legs are hidden when flying.
- Diet consists of pollen and nectar.

YELLOW JACKET



- Nests are usually underground with a single entrance hole. Nests built above ground are enclosed with an outer layer and often also have one entrance hole.
- Legs are tucked when flying.
- Diet consists of nectar, human food, or insects.

PAPER WASP



- Nests are usually built on manmade structures like gutters and eaves. Nests are umbrella-shaped and have visible combs.
- Legs hang down when flying.
- Diet consists of ripe fruit, nectar from flowers, honeydew, and insects.

See page 39 for management strategies

BURROW IDENTIFICATION CHART

Proper identification of burrowing pests will allow for effective management. See page 40 for management strategies.

Ground Squirrel Burrow

Open burrow system with exposed tunnel entrances

Gopher Burrow

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

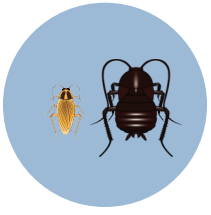
Mole Burrow

Volcano-shaped mounds

Moles also dig surface tunnels that create raised ridges which can be seen above ground

PEST MANAGEMENT TOOLS

COCKROACH MANAGEMENT

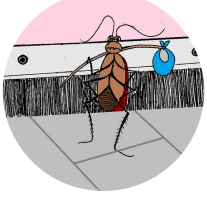


IDENTIFY cockroach species to ensure effective management

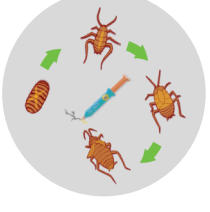
DECLUTTER to remove hiding places for cockroaches

MONITOR for cockroach activity year-round

REMOVE food and water sources to improve sanitation habits



PREVENT access by installing door sweeps and sealing gaps



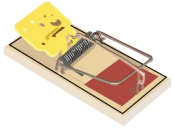
BAIT in combination with insect growth regulators to eliminate cockroaches

Indoor Cockroach	For long term control of indoor cockroaches, practice all management techniques listed above including using baits in combination with IGR's.
Outdoor Cockroach	Oriental cockroaches are outdoor cockroaches that live and breed in dark and moist areas outside. If found indoors, focus on exclusion methods!

Identify the species prior to taking action

MANAGEMENT TECHNIQUES

TRAPPING



Trap placement and size vary by species.

Roof Rat: place traps off the ground, on ledges, shelves, branches, fences, pipes, in attics, or garage rafters.

Norway Rat: place traps close to walls, behind objects, and in dark corners. Set traps parallel to wall and in pairs.

House Mouse: place traps close to walls, behind objects, or in areas where there is evidence of mouse activity. Place traps in pairs parallel to the wall.

PRE-BAITING

Rats tend to avoid new objects in their environment. Pre-baiting traps will increase the effectiveness of trapping by combating this neophobic behavior.

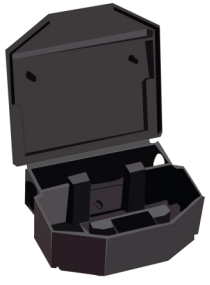
Pre-baiting is the process of placing a baited trap without setting it. Repeat this process a few times until the rodent becomes familiar with the trap. Then set the trap.

Possible baits include: chocolate syrup, dried food, nutmeats, or bacon.

SELF CONTAINED BAIT STATION

Place traps in tamper-resistant bait boxes to prevent children and pets from accessing the traps.

The U.S. EPA has criteria listed for tamper-resistant bait boxes that can be found on Pesticide Registration [PR] Notice 94-7.



STINGING INSECT MANAGEMENT

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 that may attract pests.

Trapping

Put out lure traps in early spring to reduce population size. Place more traps than needed.
Use traps to monitor population size.

Baiting traps:

- Use protein baits in early spring
- Use sugar-based foods in summer and fall

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.

Pesticides

Use FIFRA 25(b) exempt products.
For all other registered insecticides, Healthy Schools Act requirements must be followed.

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.

Treatment

Put out lure traps to reduce the population size.

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.

Pesticides

Use FIFRA 25(b) exempt products.
For all other registered insecticides, Healthy Schools Act requirements must be followed.

Bees

Honey bees are pollinators and therefore play an important role in our ecosystem.

Treatment

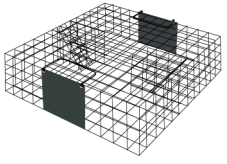
If there is a hive at your school, contact your County Agricultural Commissioner or a local beekeeper to have the hive removed.

BURROWING PEST MANAGEMENT

GROUND SQUIRREL TRAPPING

LIVE TRAPS

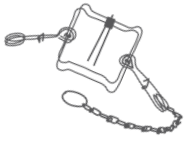
Live traps capture animals without killing them. These traps are good to use in endangered species territory.



SETTING LIVE TRAPS	REGULATIONS:
• Place trap several feet away from burrow entrance • Pre-bait trap to increase capture rate	***[CFG Code § 465.5, § 4005]*** • Live animal cannot be translocated • Euthanize with CO_2 only • Check traps on a daily basis

KILL TRAPS

Conibear, box, and tunnel traps are used to capture and kill ground squirrels. These traps can be placed in covered boxes to reduce non-target exposure.

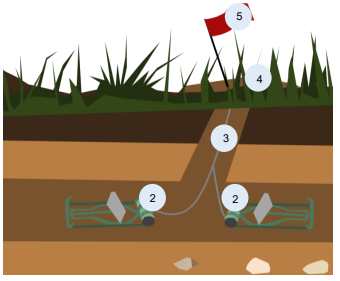


SETTING KILL TRAPS	PROTECT YOURSELF!
Box and tunnel: Place trap near burrow entrances or in runways **Conibear:** Place trap on burrow entrance in a covered box Cover all other burrow openings	Ground squirrels can carry diseases. Wear protective gear when handling carcasses.

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

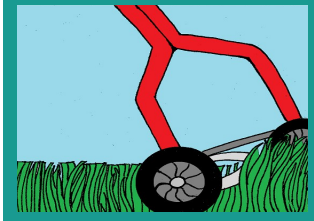
Subterranean traps are set to capture moles underground in their tunnel system.

SETTING SUBTERRANEAN TRAPS

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

Healthy Lawn Tips

Mow

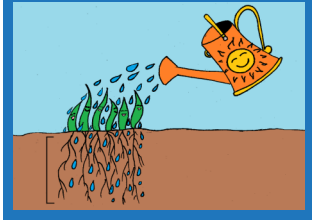


Mow when grass is dry

Keep blades sharp

Remove 1/3 of the grass height

Irrigate

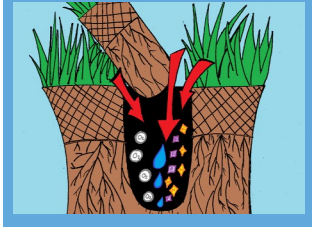


Irrigate infrequently

Allow water to seep 6 inches deep

Water when top 2 inches 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 1/2 inch thick

Helps increases oxygen, water, and nutrient flow

Fertilize appropriately to restore nutrients after dethatching

Weed Management Techniques

HAND-PULLING

Hand-pull weeds before they set seeds

OVERSEEDING

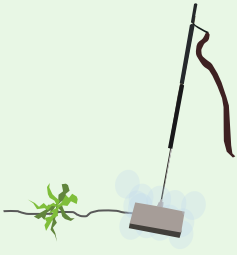
Help grass out-compete weeds

STRING TRIMMING

Remove weeds mechanically

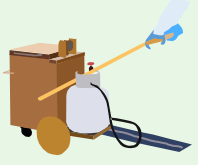
HEAT

Kill weeds with heat



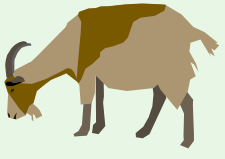
CRACK SEALING

Prevent weeds from growing in cracks



GOATS

Hire goats to eat weeds



SOLARIZATION

Kill weeds by cooking the soil

XERISCAPING

Use native plants

GERM MANAGEMENT

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
✓ Kill germs	✓ Remove dirt and grime
✓ EPA Reg. number	✓ No EPA Reg. number

Use Antimicrobial Pesticides Properly

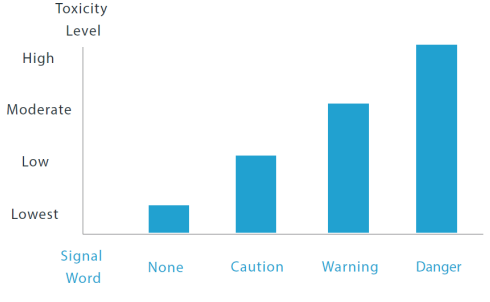
To reduce potential exposure risks, use antimicrobial pesticides for their intended purposes—sanitizing and disinfecting. For simple cleaning, use general purpose products.

Follow The Label

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



2020–2021
IPM CALENDAR

PHOTO CREDITS

Cover and Section dividers	Insect icons (Adobe Stock)
August	Ant (Adobe Stock)
September	Rat (Adobe Stock)
October	Spider (Dustin Humes, Unsplash)
November	Raccoon (Moritz Kindler, Unsplash)
December	Mouse (Adobe Stock)
January	Gopher (Adobe Stock)
February	Ground Squirrel (Adobe Stock)
March	Cockroaches (Adobe Stock)
April	Dandelion (Walter Sturn, Unsplash)
May	Yellow Jacket (Adobe Stock)
June	Pigeon (Sanjiv Nayak, Unsplash)
July	Mosquito (Pixabay)

Contact us!

School and Child Care IPM Program

Phone: 916.324.3483

Email: school-ipm@cdpr.ca.gov

Website: www.cdpr.ca.gov/schoolipm

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

California Environmental Protection Agency

dpr Department of Pesticide Regulation