

University of California
Agriculture and Natural Resources

Excluding Seasonal Nuisance Pests from Structures

As temperatures drop and seasonal moisture returns to California, some pests may seek shelter or overwintering sites within homes and other structures. These seasonal nuisance pests (or “occasional invaders”) can cause concern for residents and may lead to unnecessary, ineffective, and potentially harmful pesticide applications, both inside and out. Be prepared to educate your customers about nonchemical exclusion tools, materials, and techniques that can prevent pest entry over the long term, helping to reduce pesticide use around our homes and environment.

Pests invade homes for varying reasons during autumn and winter. Common outdoor species such as Argentine ants, Oriental (or Turkestan) cockroaches, sowbugs and pillbugs, springtails, and millipedes may simply be escaping harsh conditions such as freezing temperatures or small-scale flooding. Some insects, especially true bugs (Hemiptera) such as boxelder bug (Figure 1), bordered plant bug, milkweed bug and other seed bugs, false chinch bug, and various stink bugs, naturally seek out dry, protected cracks and crevices within which to spend the winter. In the landscape such sites may be beneath loose tree bark or deep within firewood piles; but structural gaps, cracks, and crevices may be warmer, drier, and thus even more attractive to these overwintering bugs.

Two relatively new invasive stink bug species, the bagrada bug and the brown marmorated stink bug (Figure 2), established in many urban and suburban areas throughout the state, may build up large populations since they lack specialized natural enemies in California. Many of these bug species aggregate (form large groups) within their winter harborages. Some lady beetle (lady bug) species, important predators in the garden and landscape, also form such overwintering aggregations in sheltered locations.

The best way to prevent nuisance pests from invading structures is to exclude them by sealing up possible entry points. To keep pests out, special attention should be focused on doors, windows, foundations, chimneys, roof joints, shingles, vents, and conduit ports. Door sweeps (Figure 3) and threshold seals can be installed to eliminate gaps under and around doors while new screens, weather stripping, and expanding foam may be necessary to seal up gaps in and around windows. Instruct your customers to seal up all cracks and openings on the outside of the structure using appropriate sealant materials for the site and situation. These materials may include mortar and cement products (for hardscape gaps), roof cement (for sealing chimney flashings), elastomeric sealants (for large gaps at joints subject to movement), expanding foams (for hard to seal gaps and for



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Figure 1. Boxelder bug adult and nymphs.



S. Ausmus, USDA-ARS

Figure 2. Brown marmorated stink bug adult (left) and nymph (right).



C. Reynolds, UC IPM

Figure 3. Install door sweeps to keep pests out.

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conduit ports), and caulks (for small gaps and joints where no movement is expected) (Figure 4).

It is also important to eliminate landscape conditions that may favor pest presence and buildup. Certain plant species may serve as food sources for true bugs in the summer and fall, allowing populations to build up locally; identify these plants and remove and/or replace with alternative species. Eliminate excess moisture near structural foundations and entryways and reduce potential pest habitats, such as thick vegetation, wood chips and other organic mulches, and firewood piles, by moving them at least one meter away from structural perimeters and entryways.

Teaching your customers about structural exclusion and habitat modification techniques for management of seasonal nuisance pests will promote sustainable and long-term pest prevention while protecting their homes, communities, and environments from unnecessary pesticide applications. By steering them towards the right products and approaches you will build customer satisfaction and loyalty for years to come.

For more information about managing specific pests see the UC IPM web site at www.ipm.ucanr.edu.

To read additional guidelines for how to design or build pests out of structures, see the publication *Pest Prevention by*



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Figure 4. Use caulk or sealant to block small openings.

Design at <http://www.sfenvironment.org/download/pest-prevention-by-design-guidelines>.

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Avoid Pruning Apricots and Cherries during the Cool Season

Most people think about pruning fruit trees during the winter since the branch structure is most visible and winter is considered the traditional time to prune deciduous trees. Actually, pruning fruit trees mainly during the growing season is a good practice and with some species, such as apricots and cherries, pruning between September and March in Northern California could lead to detrimental canker diseases.

Cherries, apricots, and a few related species are particularly susceptible to fungal and bacterial canker diseases, including *Eutypa dieback*, *Botryosphaeria canker*, and bacterial canker. Pathogens can be spread by rain or tree wounds—such as pruning wounds—during wet weather; subsequent infections spread through the wood for several years and may eventually kill the tree. When trees are infected, limbs or twigs may wilt and die suddenly in late spring or summer with the leaves still attached. Bark may be darkly discolored and amber-colored gumming may ooze (Figure 1). Infected areas in the interior of the wood are discolored brown (Figure 2) sometimes in wedge shapes; with bacterial

canker the cambial area will turn red or speckled red and then brown. To remove such infections cut infected limbs at least one foot below any internal symptom of the disease, preferably during the dry season when infection risk is lowest.

The best practice is to avoid pruning these susceptible species during the typical rainy period from September through mid-March. Rains after March can still lead to infections, although tissue susceptibility to disease decreases with warmer weather. However, it is best to avoid pruning altogether until at least late spring.

If growth is very vigorous, the first summer pruning can be done in late May or

June, at which time many strong upright shoots can be removed to allow sunlight to reach lower fruiting branches. Doing the final pruning in July leads to excessive regrowth later that summer. The main or final pruning should be in August, but heavy pruning, especially at that time of year, may lead to sunburned branches, so leave spurs and some other shoots to provide some shade. Alternatively, whitewash west- and south-facing branches with a 50:50 mixture of interior, white latex paint and water to prevent sunburn.

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Figure 1. Oozing produced by fungal infection of a cherry branch pruned during a previous cool season.



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Figure 2. A cross-cut into the infected branch reveals a large fungal canker in the wood; the infection continues into the trunk.

Excluding Migratory Birds from Buildings

Although urban areas are important habitats for migrating birds, birds can also quickly become a nuisance or economic issue when they begin nesting in colonies on buildings and other structures. Their activities can result in disruptive noises, lead to potential structural damage (Figure 1), and their droppings can create aesthetic and human health problems. The most effective method to keep migrating and nesting birds from becoming a nuisance or causing building damage is to exclude them.

Laws Protecting Birds

Some birds that nest on dwellings may be protected under the Migratory Bird Treaty Act and Endangered Species Act. These laws prohibit the trapping, possession, or killing of listed species and their parts (eggs, nests, feathers, etc.) without a permit. Generally, there must be a good case to justify a permit; and the permit process can be time consuming. For all permit requirements, contact your state's main office of USDA-APHIS Wildlife Services.

Before any exclusionary methods are enacted, it is important to correctly identify the bird species and understand its biology and migrating/nesting season. Removing nests of protected birds must be timed according to their migration departure. Once the birds have migrated and vacated their nests, it is safe to remove them and take measures to prevent future unwanted nesting.

When it is safe and appropriate to remove the nest, wear personal protective gear such as gloves, a dust mask, and coveralls or similar clothing to protect against contamination from fleas, mites, bacteria, or other parasites that may be associated with the nest.

Physical Exclusion

Exclusion refers to any control method that denies physical access to the nest site area and is a relatively permanent, long-term solution to the problem. In

California, a permit is not required for this method if it is done before the birds arrive, during nest building when there are no eggs or young in the nest, or after the birds have left for the winter.

Suggest to customers they install bird-type netting, hardware cloth, metal or plastic projectors, or fiberglass panels to prevent birds from gaining access to ledges, under eaves, wood siding or other wood surfaces. Lightweight, plastic, 3/4-inch mesh can be stretched from the eaves to a lower point on the building (Figure 2). Alternatively, netting can be stretched over any flat surface subject to damage, leaving at least three inches of space between the netting and damaged surface so that the birds cannot cause further damage through the mesh. It may be necessary to net the entire side of a building; otherwise birds may move just beyond the netted area and continue their activities.

If a plastic net is used, it should be attached so that it can be pulled taut. This prevents flapping in the wind, which looks unsightly and results in tangles or breakage at mounting points. The net should not have any loose pockets or wrinkles that could trap and entangle birds.

Bird netting and other materials mentioned above are available at many hardware and farm supply stores as well as from Internet sources. Extensive netting may be a bigger task than some homeowners want to assume, especially if it involves a two-story building. In this case, it may be advisable to call a bird control professional.

Frightening Devices

Models of hawks, owls, and snakes are sold at many garden centers, but these devices are ineffective. Plastic twirlers or windmills fastened to the eaves and aluminum foil or brightly colored plastic strips hung from above repel by movement and reflection and have been used with inconsistent success. Various other gadgets or frightening devices are



W. P. Gorenzel

Figure 1. Damage caused by cliff swallows and their nests.

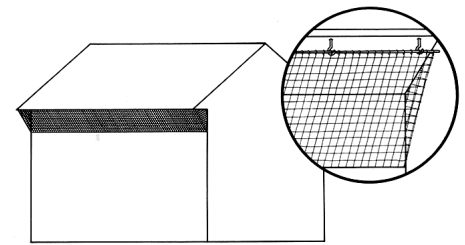


Figure 2. Netting can be mounted from the outer edge of the eaves down to the side of the building. Insert shows one method of attachment using hooks and wooden dowels.

marketed for birds, some with limited success. Once established, birds such as woodpeckers are persistent and are not easily driven from their territory or selected pecking site.

For more detailed information about installing netting, see the UC IPM *Pest Notes: Cliff Swallows* at <http://www.ipm.ucanr.edu/PMG/PESTNOTES/pn7482.html> and *Woodpeckers* at <http://www.ipm.ucanr.edu/PMG/PESTNOTES/pn74124.html>.

For legal and permitting information about birds and other wildlife visit the California Department of Fish and Wildlife web site at <https://www.wildlife.ca.gov/> and the USDA-APHIS Wildlife Services at <http://www.aphis.usda.gov/wps/portal/aphis/ourfocus/wildlifedamage>.

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Excerpted with modifications from UC IPM *Pest Notes: Cliff Swallows and Woodpeckers*, www.ipm.ucanr.edu.

Dormant Sprays for Peach Leaf Curl

As reported in the article “It’s Time to Spray for Peach Leaf Curl” from our February 2012 issue, winter is a key time for gardeners to take preventive actions against peach leaf curl. Caused by the fungus *Taphrina deformans*, peach leaf curl causes distortion, thickening, and reddening of foliage as peach and nectarine trees leaf out in the spring. Damaged leaves often die and drop, but they will be replaced with new, healthier leaves once the weather turns dry and warm. An untreated leaf curl infection will contribute to a tree’s decline over several years.

To prevent peach leaf curl, treat trees with preventive fungicides during the dormant season, ideally in **late November or December**. A second application should be made in late winter or early spring just before buds swell. In some places, a third treatment may be necessary. Treatment isn’t effective if applied after symptoms appear. Removing affected leaves or shoots will not reduce the problem. A few peach varieties are resistant, including Frost, Indian Free, Muir, and Q-1-8.

Dormant Treatment Materials

When lime sulfur and tribasic copper sulfate were removed from retail shelves,

the choices of fungicides available against peach leaf curl for home gardeners became limited. Copper ammonium complex (Liqui-Cop or Kop-R-Spray) is less effective than discontinued formulations but can be made more effective by applying it with 1% horticultural oil in the solution. Copper soap (copper octanoate) may also provide some protection.

The fungicide chlorothalonil (sold as Daconil, Ortho Garden Disease Control, and others) is effective, but care must be taken in handling it since it causes severe eye or skin irritation and is likely a carcinogen. Proper protective care, clothing, and equipment should always be used.

Bordeaux mixture, which gardeners can mix up themselves, is also effective but preparing it takes time and planning. The ingredients needed to make Bordeaux mixture are powdered copper sulfate in

“bluestone” form and hydrated lime (calcium hydroxide) or quick lime (calcium oxide). Be sure customers have goggles, gloves, and a dust and mist-filtering respirator to use while working with hydrated lime and mixing up the solution.

For more information, see the UC IPM *Pest Notes: Peach Leaf Curl* at <http://www.ipm.ucanr.edu/PMG/PESTNOTES/pn7426.html> and *Bordeaux Mixture* at <http://www.ipm.ucanr.edu/PMG/PESTNOTES/pn7481.html>.



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Figure 1. Peach leaves deformed by peach leaf curl.



This blog provides a one-stop site for UC IPM news related to pests of homes, gardens, landscapes, and structures. We post articles from our newsletters as well as announce new and revised Pest Notes and other new educational materials or activities of interest to urban and residential audiences.

View or subscribe to the blog at: ucanr.edu/blogs/ucipmurbanpests/

New Resources

UC IPM recently revised two Pest Notes:

Scales:

<http://www.ipm.ucanr.edu/PMG/PESTNOTES/pn7408.html>

Lawn Insects:

<http://www.ipm.ucanr.edu/PMG/PESTNOTES/pn7476.html>

To access more than 160 other titles, visit UC IPM’s Pest Notes Web page:

<http://www.ipm.ucanr.edu/PMG/PESTNOTES/index.html>



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For more information about managing pests, contact your University of California Cooperative Extension office listed under the county government pages of your phone book, or visit the UC IPM Web site at www.ipm.ucanr.edu.

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