

In the Back Yard

The D-Word

By Suzan Ormandy

McDonnell Nursery, Orinda

The D-word doesn't have to be a dirty word. There are many steps we can take in the short and long run to reduce the impact of this summer's and future drought conditions. With the winter of 2007 one of the driest on record, conserving water is not optional; water restrictions, however, are voluntary at present. A little conservation now means we may not face such emergency measures later.

EBMUD offers a wealth of very do-able approaches to water conservation at www.ebmud.com: click on More Water Tips. The following 5 suggestions are gleaned primarily from that website and from discussion with Susan Handjian, one of the key contributors to EBMUD's exquisitely beautiful and informative book *Plants and Landscapes for Summer-Dry Climates* of the San Francisco Bay Region (\$34.95 retail).

1. Water less frequently but more deeply, which real gardeners have always known is best for encouraging strong, efficient roots. Specific irrigation depth/time ratios are on the EBMUD website, but three times a week for 15 minutes is the general rule, with a fourth watering added when temps exceed 95* (but still only 15 minutes).

2. Prevent wasteful run-off by setting your system's timer to repeat cycling: 3-5 minute run times with 20-30 minutes between to allow precious water to soak in rather than run off.



Suzan Ormandy is explaining how to water the Godetia

3. Water before sunrise.

4. Mulch beds with a minimum of 3" of material; any less doesn't really help, according to Ms. Handjian. Mulching also keeps clay soils from crusting over, modulates soil temperature and prevents weeds – so you can hardly go wrong with adding a healthy layer of mulch to your garden. Our nursery, for example, offers five varieties of attractive bark mulches; there are also other types of mulch too, like looser amendments and even pebbles.

5. For lawns, should you really feel the need for them, follow the irrigation guidelines mentioned above and raise your mower 1 1/2" - 2" higher than usual, i.e., the maximum height.

Then the taller grass blades will shade the root bed, necessitating less water. And, gulp, refrain from fertilizing in summer. If you absolutely must, then use organic fertilizers like E.B. Stone's or Bradfield Organics'. The slower, more natural growth these organics promote are more consistent with water conservation principles.

Also, certain high-use EBMUD residential customers are eligible for weather-based irrigation-controller rebates should they decide to install these systems along with certain hardscaping. Call 1-866-403-2683 or email custsv@ebmud.com for details. EBMUD also offers free, on-site sur-

veys of indoor and landscape water use to all single and multi-family customers in the District. Significant water savings often result. Call or email the numbers above.

As hinted at already, perhaps it's time to fall out of love with your lawn, especially if you don't have young kids at home anymore. Just take a look at the June issue of *Sunset Magazine*: the cover article on landscaping with gravel may sound unappealing, but you'll be pleasantly surprised at the aesthetics of this very environmental approach. Done right, gravel paths and terraces give a "hard-yet-soft" look, work well with all home styles, and of course greatly reduce water needs. This is true too of pavers, flagstones and decking. In fact, just leaf through this same *Sunset's* ads to appreciate how attractive, versatile and practical decking has become (pp. 2, 76, 101, 109). You just might reconsider that lawn – or at least some of it – after all.

Water-wise gardening includes choosing plants appropriate to this region. We live in a Mediterranean climate and should use plants native to summer-dry climates like southern Australia, South Africa, the Mediterranean countries and of course our own California. The same current issue of *Sunset* happens to have an excellent article, "Water-wise gardens," that not only shows how pretty and dramatic xeriscape gardening can be but also how many

other unexpected advantages it has, like attracting butterflies and birds as well as saving on fertilizer.

Visit www.xeriscape.org to see some stunning water-wise demo gardens. Mediterranean-climate natives like dramatic phormiums (New Zealand Flax), euphorbias and aconiums, for example, as well as a host of colorful salvias, ceanothus and lavenders, all readily available at local nurseries. There are also special native nurseries, plant sales and demo gardens in our area, notably the renowned Ruth Bancroft Garden in Walnut Creek. It is both a showcase of low-water landscaping as well as a rich educational resource on xeriscaping. If you visit their website, I guarantee you'll visit the Garden itself next week, even if it means playing hookey. And while it's not until November 10, the Bancroft and EBMUD will present *How to Remove a Lawn and Create a Water-Wise Garden*. Sooner, on July 14, there is a *Designing with Succulents* workshop. Call 925-210-9663 for information.

For container gardening, consider using a product like Soil Moist – polymer gel granules that reduce watering needs by up to 50% – in your potting soil (before or after planting).

Finally, adding organic material (compost) to all plant beds is a wonderful way to promote healthy,



Godetia



Penstemon



Salviagreggii



Kangaroo Paws (center)



Aenium (center) Euphorbia martinii

less thirsty plants. Compost can be worked into the soil at any point; though before planting is easiest, you can always work it in or even just add a layer and let nature take its course. Compost and fertilizer with beneficial mycorrhizal fungi result in especially drought-resistant plant roots. And making your own compost is gratifying: Central Contra Costa Solid Waste Management offers workshops at local nurseries throughout the year and gives discounts on composters too. Call 925-096-1806 or go to www.wastediversion.org.

An even more efficient and complementary approach is using SoilSoup on beds, lawns and even in pots. This worm-casting compost tea-plus enriches, reinvigorates and makes soil much more moisture retentive. Available at our nursery for \$8.00/gallon, it's a real bargain, especially as that gallon can be greatly diluted in a hose-end sprayer or watering can.

Clearly, it's time we opened our minds to a different and more responsible approach to gardening and landscaping. But that doesn't mean dry and dull. As the Bancroft Garden's mission states, we can "find... beauty and excitement possible in water-conserving landscaping" and practices.

The Brown Recluse Spider – Guilt by Reputation

By Dana Ludwig, M.S. Entomologist

In recent years the public has become concerned about the brown recluse spider, *Loxocelos reclusa*. The notoriety associated with this spider results from the bite, which is usually painless but may become swollen, red, and tender. In some cases, the wound may develop into a large necrotic ulcer which can leave a disfiguring scar. In fact, this potentially dangerous arachnid may be falsely accused of being the culprit in many of the spider bite cases reported in Northern California. The absence of brown recluse spider in this geographic region, the lack of actual specimens associated with specifically reported bites, the potential misidentification of the arachnid, and the possible medical misdiagnosis of the developing wound suggest that the brown recluse spider may be incorrectly blamed as the cause.

The brown recluse spider occurs throughout the south central and Midwestern United States. Other species of *Loxocelos* (recluse spiders) are found in the southwestern U.S. and southern California. Most of the reports of brown recluse spider bites in California are from the San Francisco Bay Area and Sacramento, which are far removed from its known area of distribution. Richard Vetter, a staff research associate from UC Riverside and internationally recognized spider expert, has reviewed more than 40 years of records and found fewer than ten verified identifications of the brown recluse spider in California. Most of these identified specimens were found in facilities which housed goods imported into the state. To date, no known populations of brown recluse spiders occur in California.

The spider varies in size, but a typical adult including leg span is about the size of a quarter. The body ranges from tan to brown in color and the legs and abdomen are always solid and do not have any patterns, mottling, stripes or bands. The legs are covered with fine hairs and never with stout spines found in other types of spiders. A frequently used diagnostic characteristic is the violin-shaped marking on the cephalothorax (head area) with the base of the violin near the front of the spider and the neck of the violin pointing backward. According to Vetter, the problem with the violin pattern is that other markings can be mistaken for this pattern by non-arachnologists. The most reliable diagnostic characteristic is the presence of only six eyes arranged in three pairs, in contrast to most spiders that typically have eight eyes arranged in various configurations. The eye pattern can only be reliably observed under magnification. Physicians, public health personnel and even entomologists have been known to misidentify this species. Up through 2004, Vetter had received almost 1,700 suspected brown recluse spider specimens for identification, and it turned out that they actually belonged to 36 different spider families.



Brown Recluse Spider

The natural habitat of the brown recluse is outdoors beneath logs, woodpiles, rocks and debris. The spider is also found indoors in garages, sheds and living areas with humans. Its occur in corners and crevices, behind furniture, in clothing hanging in a closet, shoes, stacks of newspapers or magazines, and bedding. The arachnid can withstand extreme temperature variations of winter cold and summer heat and can survive for months without food or water. The spider is nocturnal, hunting for live and dead insects. It does not use webs to catch food, so webbing found indoors or on vegetation outdoors is most likely from other types of spiders. Typically, the brown recluse spider hides in dark, secluded places during the day. The spider may line its hiding places with webbing to use for egg sacs. Although adult females stay close to these locations, the more mobile males and older immature spiders may wander further away and seek refuge in shoes, bedding or clothing during the night hours.

The brown recluse spider is not aggressive. Most bites are the result of the spider being accidentally pressed up against when someone puts on an article of clothing or a shoe where the spider is hiding, or when one rolls onto a spider in the bedding. Initially, the bite is painless but it may become swollen, red or tender three to eight hours later. In the majority of cases, the bite is localized and heals on its own within three weeks. In some cases, the wound may develop a necrotic lesion, with discoloration, irregular edges, and a pale center surrounded by a red area like a bull's eye. The venom kills the tissue in the surrounding area, causing a necrotic ulcer up to several inches across. This wound can last for several months and leave a deep, disfiguring scar. In rare cases, bites can cause fever, chills, dizziness, vomiting and a rash. The most severe reactions occur in young children, the elderly and those with compromised immune systems. If one is bitten by a brown recluse spider, apply ice, elevate the affected limb or area and get medical treatment immediately.

Even if brown recluse spiders are present, they rarely bite humans. A UC Riverside study showed that no brown recluse spiders have ever been caught in cases where they were suspected of biting humans in

regions outside their known distribution area. When a habitat is conducive to brown recluse spiders, they tend to occur in the dozens, not individually. In a study of a Kansas family of four, over a six month period the mother caught and submitted 2,055 suspected brown recluse spiders to Vetter for identification. Yet even in the presence of such large numbers of this potentially dangerous spider, not one family member or pet had been bitten in the eight years that they had occupied the house.

Brown recluse spider bites can result in a necrotic wound, however, Vetter believes that many of the suspected wounds are actually misdiagnosed and can be attributed to other arthropods or pathogens. It is difficult even for doctors to diagnose a brown recluse spider bite just based on the wound. Lesions which look similar can be caused by several arthropods that feed on mammal blood including fleas, assassin bugs, bedbugs, and ticks. Also, the bites of other spider species can cause necrosis of the tissue. Although toxins in spider venom can cause wounds, these can also be the result of secondary infection when the victim scratches the affected area. In addition, bacterial and fungal infections, gangrene, and ulcers from diabetes or bed sores can appear similar to necrotic wounds from recluse spider bites. Of particular concern is Lyme disease which is transmitted by ticks. The bite results in a bull's eye shaped wound which is also diagnostic of the brown recluse spider bite. Since the course of treatment for a brown recluse bite is antibiotics and is different from that of Lyme disease, misdiagnosis and incorrect treatment could result in irreversible complications of the nervous system and heart.

Vetter makes a compelling argument that medical personnel in California may be over diagnosing necrotic wounds due to brown recluse spider bites. Because the occurrence of the brown recluse spider in California is extremely rare and there are no established populations, they need to consider other causal agents including other blood feeding arthropods, bacteria, viruses, and fungi. As Vetter states, "...It comes down to the simple premise that in order to have brown recluse spider bites, you must first have lots of brown recluse spiders."

The Moraga Garden Club invites you to join us at our monthly meetings on the third Thursdays, 9:30 a.m. September through May at the Holy Trinity Cultural Center, 1700 School Street, Moraga. Our organization stimulates the knowledge and love of gardening among its members, holds gardening workshops, raises funds for community beautification and reaches out to the schools and other communities. If you are interested in membership, please contact Mardi Potts 376-2004.

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