

Bugs & Blights

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Record rainfall on July 25, 2015 measured 1.57-inch at Sea-Tac, broke the previous 1974 record of 1.20 inches. Even so don't expect landscapes to be well watered. When soils or mulch are dry, they can be hydrophobic (repel water). That rain was too much and came too fast to soak into many soils (compacted, hydrophobic sands or mulch, bone dry, silt, clay). For most of the summer we have been breaking other records for low rainfall and high temperatures.

Kick up your soil or dig a 6" deep hole to see how far the rainfall, or irrigation, has penetrated into the soil. Ample compost worked into the soil helps water infiltrate rather than run off. Even compost applied on top of the soil, will eventually be pulled down by earthworms and other soil critters and at least will hold some water. Be generous and apply enough compost to work into the soil for several inches.

The Puget Sound area has always had its "Mediterranean summers" with low rainfall, but we also had moderate summer temperatures and overcast skies (an average of 225 cloudy days with only 58 days of sun) <http://seattle.about.com/od/familylifestyles/tp/Rain-In-Seattle.htm>). This year the entire state is experiencing severe to extreme drought and temperatures that are breaking records and the plants are showing the stress. (<http://www.wunderground.com/blog/weatherhistorian/comment.html?entrynum=328>).

Symptoms of drought are many. Usually drought symptoms are uniformly distributed rather than random on plants though damage may be worse on the sunny side of the plant. Plants may extract the water and nitrogen from old leaves and move it to the new growth. Leaves may show uniformly burned edges, or simply drop leaves. Sunburn occurs where the sun strikes perpendicular to the leaf surface or if the leaves rolled downward to prevent water loss, the area along the midvein turns brown with yellow edges. There may be a distinct line where one leaf shaded the leaf below it. Thin-bark trees (e.g. dogwood, madrona) may also be sunburned on the southwest side. Look for cross-checking or discoloration where the sun is most intense on the trunk. Dieback of the top branches, the furthest away from the water source occurs when the tree can't pump water to the top. Drought symptoms may be due to a lack of water, injury to root system, excess fertilizer salts. When temperatures are in the 90s, the plant can't replace evaporating water fast enough. Plants in pots will need even more watering daily. Even though we normally reduce water in August, drought stressed plants will need water now so plants are well hydrated going into winter.

WSU Resource:

Drought Tolerant Landscaping for Washington State (Home Garden Series) By Charles Brun, WSU Clark County EBO684E Part 1: Intro, Choosing Plants, Soil and Site Management, Limiting the Use of Turf, Efficient Irrigation, Part 2: Drought Tolerant Plants (with descriptions and color photos).

This and some older publications are available for free download at <http://pubs.wsu.edu> (search word = drought).



LEAVES DRY UNIFORMLY AROUND THE EDGES OR FROM THE TIPS.



LEAVES ROLL UP TO REDUCE THE LEAF SURFACE EVAPORATION. WHEN THE SUN STRIKES THE EXPOSED SURFACE THE BURN DAMAGE IS CONCENTRATED ALONG THE MIDRIB.



NOTE THE BURN ON THE TOP OF THE ROLLED LEAVES RECEIVING PERPENDICULAR SUN RAYS.



PLANTS MOVE WATER AND/OR NITROGEN FROM OLDER LEAVES TO NEW LEAVES



DROUGHT TOLERANT MADRONE HAS SACRIFICED OLDER LEAVES TO PROTECT NEW GROWTH. THE LEAF SPOT FUNGI LEAVE BLOTCHES AND SPOTS.



A COMBINATION OF HEAT, DROUGHT AND TRANSPLANT SHOCK NAILED THIS *CHAMAECYPARIS*



CROCOSMIA AND OTHER THIN LEAVES BECOME PAPER THIN AS THEY DRY. MITES (ALSO COMMON) WOULD LEAVE STIPPLES, AND EVIDENCE OF MITES AND THEIR EGGS.



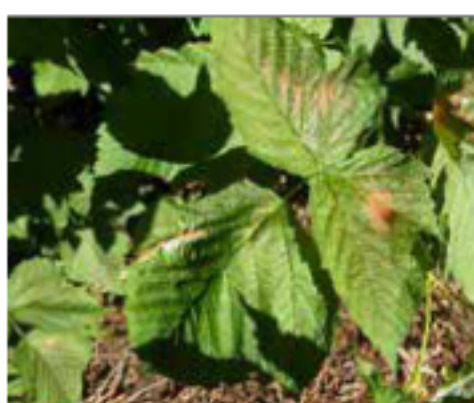
LEAVES ON MANY PLANTS BEGAN SHOWING "FALL COLORS" IN EARLY AUGUST ON MANY PLANTS. BY NOW THEY ARE BARE, A PROTECTIVE MECHANISM.



EPIMEDIUM IN FULL SUN WHEN A SHRUB WAS REMOVED. *CROCOSMIA* AT THE BOTTOM OF THE PHOTO IS ALSO FADED YELLOW AND BURNED.



BERRIES SHRIVEL FOR LACK OF WATER TO DEVELOP THE FRUIT PROPERLY.



SUNBURN OCCURS ON THE PART OF THE LEAF EXPOSED TO PERPENDICULAR SUN RAYS; SCORCHED AREAS HAVE INDISTINCT EDGES.



BY THE TIME LEAVES WILT, THERE MAY ALREADY BE DAMAGE WATER CONDUCTING AND LEAF TISSUE.



INSECTS ATTACK IN RANDOM PATTERNS. HERE A MITE CAUSES ERINEUM ON DOUGLAS MAPLE. THE IRREGULAR PATCHES OF FUZZY RED HAIRS PROTECT THE MITES.



FUNGUS DISEASES ARE RANDOM AND ARE OFTEN TARGET-SHAPED. SIZES VARY SINCE SPORES MAY LAND AND GERMINATE AT DIFFERENT TIMES. NOTE TINY YELLOW SPOTS OF NEW INFECTIONS.



CULTURAL OR ENVIRONMENTAL PROBLEMS USUALLY AFFECT THE WHOLE PLANT OR SECTIONS RATHER THAN RANDOM LEAVES OR BRANCHES. THE STREAKS (USUALLY ONE DIRECTION) AND HOLES ARE CAUSED BY HAIL.