DIAGNOSING CULTURAL PROBLEMS

OF OUTDOOR ORNAMENTALS

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SYMPTOMS	POSSIBLE CAUSES	PREVENTION OR CONTROL
• Overall poor growth • Poor flowering • General decline • Death of plant	• Poor adaptation of plant (sun-shade/wet-dry). • Improper planting o planted too deep o planted in compacted soil o planted in container or with plastic sheeting covering rootball.	• Set plants in the planting hole at the same depth they were grown in the nursery. • Remove container or plastic burlap before planting.
• Leaf margins burned • Tip burn • Marginal necrosis • Wilt when moist • Deficiency symptoms • Poor root system • Gradual decline	• Salt injury--Salt spray areas; high natural soluble salts; liquid fertilizers applied to foliage; over fertilization with soluble sources; irrigation with salty water; drought; especially in containers	• Do not over fertilize soil or foliage • Leach salts periodically. Use fresh water to irrigate • Do not allow soil to dry out excessively • Use salt tolerant plants
• Symptoms similar to salt injury • Small, uniform-sized spots which are yellow, brown or dead. • Sharp margin between spot and healthy	• Chemical injury--Excessive application of a pesticide; wrong dilution of a chemical; application of a material	• Calibrate equipment often • Check dilutions carefully • Check label registration, uses and restrictions

tissue. • Spray residue evident • Leaf drop	which is phytotoxic to a specific plant.	• Check plant tolerance • Wash off chemical if possible
• Grayish-bluish cast to leaves • Curling of leaves • Wilting • Marginal leaf burn. • Leaf scorch and brown spots • Needle browning and drop	• Drought injury--Lack of rainfall or irrigation; restricted root system--salts, soil problems, shallow rooted plant, new transplant; soluble salts; drying winds.	• Irrigate • Increase water holding capacity of soil by adding organic matter • Remendy root problems • Do not over fertilize • Use wind breakers
• Wilt • Root rot • Deficiency symptoms • Yellowing of lower leaves • Stems soft and dark colored	• Too much water -- Overwatering, especially on new plantings and house plants; poorly drained soil; high water table; excessive rainfall.	• Do not overwater • Have drains in containers • Provide drainage in field • Plant in raised beds
• Plant dying suddenly	• Overfertilization • Nylon rope girdling trunk • Poor drainage • Severe drought damage • Leakage from underground gas line • Misuse of pesticides	• Water heavily to leach excess fertilizer out of the root zone. Keep plants well watered during the recovery period. Avoid heavy fertilizer applications. • Remove nylon rope holding the burlap around the trunk at planting. • Use plants that will grow in wet areas.

		• Water heavily every seven to ten days during dry period. • Dig a trench in the area of the gas leak to aerate soil.
• Damage to stems	• Girdling of stem by nylon rope or wire • Cold damage • Lawn mower damage • Children, rodents and sap-suckers	• Remove nylon rope or wire, at planting • Choose plants able to withstand low temperatures • Select a well-drained planting site • Place short posts around the base of plants • Mulch the area around the base of plants • Protect plants against damage by using wire barriets or other protective devices
• Browning of margins or tips of leaves	• Cold damage • Poor soil drainage • Excessive fertilization • Mechanical damage to stem	• Plants resistant to cold damage should be planted. Prune out dead tissue in spring and fertilize to promote vigor. • Divert drain spouts past plants. Plant species which will tolerate wet conditions. • Water heavily to leach excess fertilzier out of the

		root zone. Keep plants well watered during the recovery period. Avoid heavy fertilizier applications. • Place short posts around the base of plants.
• Plants failing to flower	• Plant too young • Excessive vegetablive growth • Nutritional deficiencies	• Many plants simply will not bloom until they are several years old. Normal seedlings variation results in individual plants that flower at different ages. • Reduce the feritilization frequency. • Appy fertilizer.
• Failure to produce berries	• Cold or frost damage during flowering period • Plant is male • Improper pruning	• Nothing can prevent this problem. • Male plants do not produce berries. • Improper pruning using shears removes most of the tip growth and flower buds. Without flower buds, a plant cannot produce berries.
• Yellowing of entire plant but lower	• Nitrogen deficiency, including poor	• Add complete fertilzier (fertilizer containing

leaves worst. Stunted, few breaks.	soil or no organic matter.	nitrogen, phosphorous and potassium). Add nitrogen fertilzier. Increase organic matter.
• Yellowing begins on margin and near center of old leaf. Progresses inward and downward; tip, upper margin and lower central veins may remain green. Necrosis and leaf drop.	• Magnesium deficiency o Low in acid, marl or some alkaline soils. o Lack of lime in soil or potting mix. o Imbalance fertilization.	• Liming with dolomite. Magnesium sulfate. Sulfate of potash-magnesia.
• Pronounced yellowing of younger leaves with veins appearing as fine green lines. Yellow to white if acute. Dwarf leaves, leaf fall, dead wood, dead tips. Reduced growth.	• Iron deficiency o Low in acid, marl or alkaline soils. o Over-liming. o Excess water. o Poor root system.	• Iron in complete fertilizer. Iron sulfate. Iron chelates. Lower soil pH. Increases organic matter.
• Mottled chlorosis begins between midrib and primary veins. Entire leaf may turn yellow but midrib and large veins stay green the longest. Red to purple seen as anthocyanins build-up. Frizzle top-yellowing, dwarfing and distortion.	• Manganese deficiency o Low in acid, marl or alkaline soils. o Over-liming.	• Manganese sulfate. Chelates. Lower soil pH.

Extracted from: "The Urban Gardener, Diagnosing Cultural Problems of Outdoor Ornamentals", by Robert Black, Extension Urban Horticulturist, Vol. 5 No. 1, January 1980.)

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