

- Shallow-rooted vegetation needs water more frequently and will be more prone to pests and stresses
- Mulch ornamentals and vegetables to conserve water. Organic mulches break down to improve the water retention of soil.

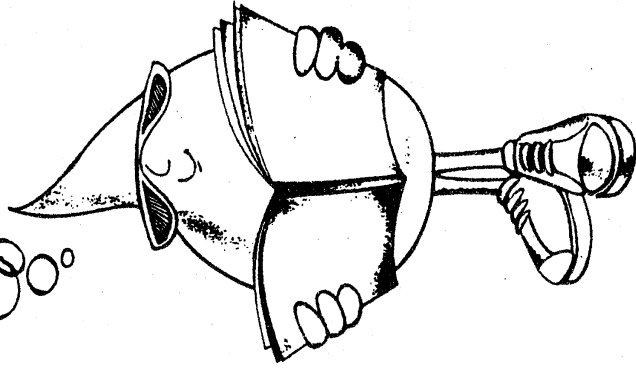
#### CONTAINER GROWN PLANTS

- More house plants die from over-watering than they do from drought. Check for moisture in each pot by using your "educated" index finger to feel soil one to two inches down. A moist feeling indicates ample moisture.
- Plants in containers need more water than those grown in the ground. As plants mature, they fill the container soil with roots, and need more water at more frequent intervals because the shoot to root ratio has increased. If this is the case, transfer the plant to a larger pot for better water relations.
- Reduce the frequency of watering plants in clay pots by nesting them in larger pots. Fill the gap between the pots with potting soil and decorative mulches to insulate against water loss.

#### LITERATURE CITED

- Danielson, R. E., C. M. Feldhake, and W. E. Hart. 1981. Urban lawn irrigation and management practices for water saving with minimum effect on lawn quality. Complete Report OWRP Project No. A-043-Colo.
- Felkhaie, C. M., R. E. Danielson, and J. D. Butler. 1984. Turfgrass evapotranspiration, 11. Responses to deficit irrigation. Agron. J. 76:85-89.
- Gibeault, V. A., J. L. Meyer, V. B. Younger, and S. T. Cockerham. 1985. Irrigation of turfgrass below replacement of evapotranspiration as a means of water conservation: Performance of commonly used turfgrasses. Proc. 5th Int'l Turfgrass Res. Conf. pp. 347-356.
- Kopec, D. M. and C. F. Mancino. 1990. Turfgrass management and water use. Proc. Turfgrass Water Conservation in the Arid Southwest, pp 42-51.
- Madison, J. H. and R. M. Hagan. 1962. Estimation of soil moisture by Merion bluegrass (*Poa pratensis* L. 'Merion') turf, as affected by irrigation frequency, mowing height and other cultural operations. Agron. J. 54:157-160.
- Marklund, F. E. and E. C. Roberts. 1967. Influence of varying nitrogen and potassium levels on growth and mineral composition of *Agrostis palustris* Huds. Agron. Abst. p.53.
- Shearman, R. C. and J. B. Beard. 1973. Environmental and cultural pre-conditioning effects on the water use rate of *Agrostis palustris* Huds. cultivar 'Pennecross'. Crop Sci. 13:424-427.
- Shearman, R. C. 1982. Nitrogen and potassium influence on Kentucky bluegrass turf. Univ. of Nebr. 7th Annual Turfgrass Field Day. Dept. Hort. Publ. No. 82-2, pp 67-69.

Val E. Water reminds us - conserve water wherever we go and in whatever we do.



UNIVERSITY  
OF NEVADA  
RENO

The University of Nevada, Reno is an Equal Opportunity/Affirmative Action employer and does not discriminate on the basis of race, color, religion, sex, age, creed, national or ancestral origin, marital status, or physical or mental disability, and in accordance with University policy, sexual orientation. The University is an affirmative action employer and the University of Nevada employs only United States citizens and aliens lawfully authorized to work in the United States.

# WATERING TIPS TO BEAT THE DRAIN ON THE SOUTHWEST'S WATER SUPPLY

LINN MILLS  
Area Extension Specialist -  
Horticulture

WAYNE JOHNSON, Ph.D.  
State Extension Specialist

Nevada Cooperative Extension  
University of Nevada, Reno

Lawns and landscape utilize a major portion of the water used by residential and commercial properties in the Southwest. Estimates show that outdoor water needs account for up to 55 percent of the water consumed each year. Homeowners and property managers can do many things to reduce consumption. Here are some suggestions:

## TURF

- Water turf early in the morning on a calm day to reduce spray drift and evaporation from sprinklers.
- Irrigate early (4 to 8 a.m.) when domestic water demands are low. Proper water pressure (40-60 pounds per square inch) gives better sprinkler coverage. Higher and lower pressures will cause dry spots.
- Try to avoid sprinkler irrigation on windy days. If putting in a sprinkler system, design with the prevailing wind in mind.
- Purchase sprinklers that deliver water at a lower angle to reduce the effect of wind in areas that have a wind condition.
- When in operation, inspect the sprinkler system once a week to check for problems. Make repairs immediately.
- To ensure unobstructed sprinkler patterns, raise low sprinkler heads or install high pop-up heads so that the water sprays above the grass blades. Another option is to trim around the sprinkler heads.
- Replace worn nozzles on heads with replaceable nozzles. Worn nozzles allow too much water to flow, changing the design pattern and coverage.
- If a dry spot persists in the turf, correct the sprinkler pattern. If the spot still persists, aerify to improve water uptake.
- During the cool season of the year, dethatch and aerate cool season turf to improve water infiltration, reduce water run-off and increase fertilizer efficiency. Dethatch and aerate warm season grasses from May to September.
- Reduce the mowing height to middle of the recommended range of height for cool season grasses to reduce the leaf surface area. Less leaf area will reduce transpiration, or water loss, from plant.
- Do not use excessive amounts of fertilizer on grasses. Fertilize only often enough to maintain a good green color without excessive growth. For cool season grasses, fertilize in the late fall to stimulate root growth. Grass with a deep root system is able to draw moisture from a larger volume of soil and will be more drought tolerant.
- Increase the potassium fertilizer rates on turf to improve drought tolerance, increase root production and decrease the incidence of wilting.

Avoid run-off on sloping areas by aerating often for better water penetration. Apply water slowly using short on-off cycling—turn sprinklers off for a short time (four or less) and re-water another few minutes. Use a solid-state controller with a dual program to allow more frequent cycling each day. Continue the process until the water soaks to a depth of at least 4 to 6 inches. To check moisture depth, use an 8 to 10 inch long screwdriver to probe the soil. Clay soils require longer off times and shorter on times for better infiltration.

Select low-water-use turfgrass varieties, such as hybrid Bermudagrass, that will get by on less water, survive droughty periods and go dormant in winter months.

Reduce turfgrass (lawn) total area. Circles, squares and broad rectangles use water more efficiently than long narrow strips and odd-shaped patches of grass. Never design a turf area less than eight feet wide. Overspraying small patches becomes wasteful, damages parking lot surfaces, sidewalks, buildings, fences and paint, requiring earlier replacement or repair.

Get to know how turf indicates a need for water. A grass lacking moisture will turn a dull blue-green or tan and will lie flat after walked across.

Shrink the turf. Locate turf only in areas where it's functional. Replace non-functional turf with mulches, patios and decks.

## ORNAMENTALS

Observe your ornamentals often to know their signals for water. Many ornamental plants lose their gloss and droop before leaves actually wilt. Water-logged symptoms can be confused with dryness. Dig below soil surface to check moisture rather than guessing. Use a soil sampler for a deeper look. Adding more water to overly wet soil may lead to plant death.

Always check irrigation needs in the morning when plants show the first symptoms of stress.

Zone the irrigation system by separate valves to irrigate the turf, trees, shrubs, groundcovers and annuals separately, according to their individual water requirements.

Change water schedules seasonally or better yet monthly. Water demand varies continuously, with the greatest need during the summer. Adjust watering routine to water less frequently during the winter.

If you hand water, use a timer or an alarm as a reminder to turn off the system.

Water deeply and slowly to develop roots throughout the soil. Light, shallow irrigation discourages deep rooting.