

Agenda Item 3D

Water Wise Measures to Minimize Usage and Maximize Savings

Why: We live in a desert where water can be scarce and natural precipitation is inconsistent. Water is an expensive and limited resource in our area. Plants don't waste water. People waste water.

1. **Utilize drip systems at the base of trees and shrubs instead of broadcast sprinklers.**
✚ Benefit: No waste of water in unnecessary areas
2. **Mulch heavily around the base of trees and shrubs at least 2-4 inches deep.**
✚ Benefit: Water evaporates from the ground slower allowing for less frequent watering.
3. **Water less frequently, but water deeper.**
✚ Benefit: Water seeps into the lower roots of the plant, promoting deep root growth and less evaporation.
4. **Water earlier in the morning. Do NOT water between noon and 5pm.**
✚ Benefit: Watering earlier when it is cooler slows evaporation and allows for deeper root infiltration.
5. **Water heavier in the spring through summer. In fall taper off watering to allow trees and shrubs to harden off for the winter. Before the ground freezes, water heavily one more time.**
✚ Benefit: Using water as the tree needs it is efficient and will prevent winter kill.
6. **Do NOT overwater. Newly planted trees and shrubs need water every 5 - 7 days; whereas, established plantings need water every 6 - 10 days.**
✚ Benefit: Over watering creates root rot which doesn't allow the tree to take in water which kills the planting.
7. **Group plantings by their watering needs.**
✚ Benefit: This prevents the over/under watering of certain plants.
8. **Amend soil around trees and shrubs in the fall.**
✚ Benefit: Relieves soil compaction and allows winter moisture to soak deeper.
9. **Do NOT over fertilize trees and shrubs.**
✚ Benefit: Fertilizers increase salts and minerals in the soil. Over fertilizing creates a dangerous build-up that requires more water to balance out.
10. **Given the choice between planting a new tree or a new lawn, plant the tree.**
✚ Benefit: Trees reduce the effect of droughts. Trees provide shade from the sun and shelter from the wind which reduces the drying effects of the wind and sun. Fallen leaves and needles provide the benefits of mulch and organic matter. Trees reduce heating and cooling requirements reducing home water consumption. See attached tree list for the most drought tolerant trees appropriate for our area.

High Drought Tolerance:

- Ash, Green (*Fraxinus pennsylvanica*)
*Boxelder (*Acer negundo*)
Catalpa, Northern or Western (*Catalpa speciosa*)
*+Chinaberry (*Melia azedarach*)
Coffee tree, Kentucky (*Gymnocladus dioica*)
Cork tree, Amur (*Phellodendron amurense*)
Elm, American (*Ulmus americana*)
Elm, Lacebark or Chinese (*Ulmus parvifolia*)
*Elm, Siberian or Chinese (*Ulmus pumila*)
Ginkgo (*Ginkgo biloba*)
Goldenraintree (*Koelreuteria paniculata*)
Hackberry, Common (*Celtis occidentalis*)
Hawthorns (Most) (*Crataegus* species)
Honeylocust (*Gleditsia triacanthos*)
Juniper, Chinese (*Juniperus chinensis*)
Juniper, Rocky Mountain (*Juniperus scopulorum*)
Juniper, Utah (*Juniperus utahensis*)
Pinyons (*Pinus monophylla* or *Pinus edulis*)
Planetree, London (*Platanus X acerifolia*)
Redbud, Eastern (*Cercis canadensis*)
Redcedar, Eastern (*Juniperus virginiana*)
*Russian-olive (*Elaeagnus angustifolia*)
Maple, Amur or Ginnala (*Acer ginnala*)
Maple, Sycamore (*Acer pseudoplatanus*)
Maple, Tatarian (*Acer tataricum*)
Maple, Trident (*Acer buergerianum*)
Mulberries (*Morus* species)
Oak, Bur (*Quercus macrocarpa*)
Oak, Chinkapin (*Quercus muehlenbergii*)
Oak, Gambel or Scrub (*Quercus gambelii*)
Oak, Swamp White (*Quercus bicolor*)
Osage-orange (*Maclura pomifera*)
Pear, Callery (*Pyrus calleryana*)
Pear, Common (*Pyrus communis*)
Pine, Aleppo (*Pinus halepensis*)
Pine, Austrian (*Pinus nigra*)
Pine, Bristlecone (*Pinus aristata*)
Pine, Japanese Black (*Pinus thunbergiana*)
Pine, Limber (*Pinus flexilis*)
Pine, Mugo (*Pinus mugo*)
Pine, Ponderosa (*Pinus ponderosa*)
Smoketree, Common (*Cotinus coggyria*)
*Tree-of-heaven or Ailanthus (*Ailanthus altissima*)
Zelkova, Japanese (*Zelkova serrata*)

Medium Drought Tolerance

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| Alders (<i>Alnus</i> species) | Lindens or Basswoods (<i>Tilia</i> species) |
| Apple (<i>Malus pumila</i>) | +Magnolia, Southern (<i>Magnolia grandiflora</i>) |
| Apricot (<i>Prunus armeniaca</i>) | Maple, Canyon or Bigtooth (<i>Acer grandidentatum</i>) |
| Arborvitae or White-cedars (<i>Thuja</i> species) | Maple, Hedge (<i>Acer campestre</i>) |
| Ash, White (<i>Fraxinus americana</i>) | Maple, Norway (<i>Acer platanoides</i>) |
| *Aspen, Quaking (<i>Populus tremuloides</i>) | Maple, Purpleblow or Shantung (<i>Acer truncatum</i>) |
| Baldcypress (<i>Taxodium distichum</i>) | Maple, Rocky Mountain (<i>Acer glabrum</i>) |
| Catalpa, Umbrella (<i>Catalpa bignonioides</i> 'Nana') | Maple, Sugar (<i>Acer saccharum</i>) |
| Cedar of Lebanon (<i>Cedrus libani</i>) | Oak, English (<i>Quercus robur</i>) |
| Cedar, Atlas (<i>Cedrus atlantica</i>) | Oak, Northern Red (<i>Quercus rubra</i>) |
| +Cedar, Deodar (<i>Cedrus deodar</i>) | Oak, White (<i>Quercus alba</i>) |
| Cherry, European Bird, or May Day Tree (<i>Prunus padus</i>) | Pagodatree, Japanese or Scholar-tree (<i>Sophora japonica</i>) |
| Cherries, Ornamental (<i>Prunus yedoensis</i> and others) | Peach (<i>Prunus persica</i>) |
| Cherry, Sour (<i>Prunus cerasus</i>) | Pine, Himalayan or Bhutan (<i>Pinus wallichiana</i>) |
| Cherry, Sweet (<i>Prunus avium</i>) | Pine, Japanese Red (<i>Pinus densiflora</i>) |
| Chokecherry, Common (<i>Prunus virginiana</i>) | Pine, Japanese White (<i>Pinus parviflora</i>) |
| *Cottonwoods or Poplars (<i>Populus</i> species; some) | Pine, Lacebark (<i>Pinus bungeana</i>) |
| Crabapples (<i>Malus</i> species) | Plums (<i>Prunus domestica</i> and others) |
| +Crapemyrtle (<i>Lagerstroemia indica</i>) | Redwood, Dawn (<i>Metasequoia glyptostroboides</i>) |
| Dogwood, Corneliancherry (<i>Cornus mas</i>) | Serviceberry, Downy (<i>Amelanchier arborea</i>) |
| Falsecypress, Hinoki or Hinoki Cypress (<i>Chamaecyparis obtusa</i>) | Spruce, Blue or Colorado Blue (<i>Picea pungens</i>) |
| Filbert, Turkish (<i>Corylus colurna</i>) | Spruce, Norway (<i>Picea abies</i>) |
| Fir, White (<i>Abies concolor</i>) | Spruce, Serbian (<i>Picea omorika</i>) |
| Goldenchain Tree (<i>Laburnum X watereri</i>) | Spruce, White or Blackhills (<i>Picea glauca</i>) |
| Hawthorn, English (<i>Crataegus laevigata</i>) | Sweetgum or American Sweetgum (<i>Liquidambar styraciflua</i>) |
| Hazelnuts (<i>Corylus</i> species) | Walnuts (<i>Juglans</i> species) |
| Holly, American (<i>Ilex opaca</i>) | Yellow-poplar or Tuliptree or Tulip-poplar (<i>Liriodendron tulipifera</i>) |
| Hornbeam, European (<i>Carpinus betulus</i>) | Yellowwood (<i>Cladrastis lutea</i> or <i>kentuckea</i>) |
| Horsechestnuts or Buckeyes (<i>Aesculus</i> species) | |
| Incense-cedar (<i>Calocedrus decurrens</i>) | |
| Lilac, Japanese Tree (<i>Syringa reticulata</i>) | |

Low Drought Tolerance

Beech, European (*Fagus sylvatica*)

*Birch, European White (*Betula pendula*)

Birch, Water or River (*Betula occidentalis*)

Dogwood, Kousa (*Cornus kousa*)

Dogwood, Pagoda (*Cornus alternifolia*)

Maple, Paperbark (*Acer griseum*)

Maple, Red (*Acer rubrum*)

Mountain-ashes (*Sorbus* species; most)

Douglas-fir (*Pseudotsuga menziesii*)

Katsuratree (*Cercidiphyllum japonicum*)

Larches (*Larix* species)

Magnolias (*Magnolia* species; most)

Maple, Japanese (*Acer palmatum*)

Sequoia, Giant (*Sequoiadendron giganteum*)

*Willows (*Salix* species)

References: Utah State University Extension Service; University of Nebraska Cooperative Extension Service, Cooperative Extension; College of Agriculture & Life Sciences, The University of Arizona; University of Nevada Cooperative Extension.