

XERISCAPING (LOW WATER USE LANDSCAPING)

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¹ Bellapakonda Goutham Kishore* and ² Koppolu Anitha

¹Department of Floriculture, Medicinal and Aromatic Plants, Uttar Banga Krishi Viswavidyalaya, Pundibari, Coochbehar-736 165, West Bengal, India.

²JCD Horticultural College (Affiliated to Dr. YSRHU), Tadipatri, Anantapuramu, Andhra Pradesh-515 411, India

Email: argowtham123@gmail.com

Modern lifestyle has changed the styles of present gardening. Conventional landscaping is shifted to a new change like roof gardening, vertical gardening etc. Xeriscaping, the new technology, is more pronounced than other types of gardening. The term Xeriscape is derived from the Greek word “Xeros,” meaning dry, and “Scape” from the word “Landscape”. Xeriscaping (low water use landscaping) is defined as a creative and method of landscaping that focuses mainly to conserve water, using drought tolerant and native plants that are adapted to hot, dry climates, in conjunction with water saving techniques. This idea of Xeriscape originated with the Denver Water Department. Xeriscape encourages the use of native plants, of drought tolerant plants, and other related principles, such as the use of mulches, efficient irrigation systems, soil analysis, and maintenance (Georgiou, 2002).

Xeriscaping (often incorrectly spelled zero-scaping or xeroscaping). It is promoted in regions that do not have easily accessible, plentiful, or reliable supplies of fresh water and is gaining acceptance in other areas as access to water becomes more limited. In some areas, terms such as water-conserving landscapes, drought-tolerant landscaping, and smart scaping are used instead. Plants whose natural requirements are appropriate to the local climate are emphasized, and care is taken to avoid losing water to evaporation and run-off. The specific plants used in xeriscaping depend upon the climate. Xeriscaping is different from natural landscaping, because the emphasis in xeriscaping is on the selection of plants for water conservation, not necessarily selecting native plants.

How Does Xeriscaping Differ From Conventional Landscaping?

- It is a method of Landscaping, not a style of landscaping.
- It groups plant with similar moisture requirements together in watering zones.

- It promotes a greater the use of native plants, thereby increasing the water savings.
- It restricts higher water-use plants to areas where they will serve a purpose.
- It could save 25% to 50% in outdoor water use, depending on your previous water use habits.
- The initial costs for xeriscape will probably be slightly higher due to cost of plant material.
- The savings in irrigation and maintenance makes it cost-effective in a few year.

Seven principles for Successful Xeriscaping are

1. Plan and design
2. Improvement of soil.
3. Limit turf areas.
4. Use appropriate plants
5. Water efficiently.
6. Use of mulch.
7. Maintain appropriately

1. Plan and Design

Success of any landscape garden depends mainly on planning and its execution. So, proper planning and design can create a beautiful xeriscape garden in front or backyard of our home. While designing three elements should be kept in mind i.e. Sun, View/function and time. By knowing sun, we can place plants i.e. some requires full sunny situation, while others require partial shade or shady areas. Function/view is so important and helps in designing. If the reason of landscaping is for shade then large trees and shrubs should be planted without obstructing any view, if it is for aesthetic point then, plants need to be selected that will grow to the desired height and density to fulfill this purpose. If the purpose of landscaping is offer for attractive colour then trees with different bloom should be selected for planting. Time is the third element which can be successfully fulfilled that completely depends on resources and planting material we used. Select plants that are self sustainable so that it requires minimal human interventions and maintenance.

2. Improvement of Soil.

Xeriscaping mainly focuses on conserving water, so prior soil analysis is important to help determine whether soil improvement is needed for better water absorption, improved water-holding capacity and proper plant selection for xeriscape area. One should spread a layer of organic matter 7.6-10 cm (3-4 in.) thick on the surface of the soil to be improved and then thoroughly incorporate the organic matter into the existing soil. However, incorporating organic matter is not necessary for large turf grass areas and is not economically feasible. Also, for native plants, soil amendment may not be necessary, but it is necessary to loosen the soil.

3. Limit Turf Areas

Turf provides a play area for the yard. It also controls erosion and absorbs heat, cooling the environment around it. In a xeriscape garden, it is always recommended to reduce the lawn areas and turfing shouldn't be done in impractical areas such as long and narrow areas or odd-shaped areas. Grasses which are more drought tolerant are selected, Buffalo grass and Bermuda grass are the recommended type of grasses for Xeriscape gardens but may cost more than other turf grasses. Put turf to practical, efficient use. Choose low water use grasses. Lawns are no longer used to measure one's wealth by the size of the lawn. Limit lawn areas to reduce water use and maintenance. Enlarge your beds to reduce water use. (Hessling, 2001)

4. Use Appropriate Plants

Select the plants which are conducive to native and fit the specific purpose of the landscaping. After selection, these are grouped according to their water requirement since xeriscape focuses mainly on minimizing the resources. Plant selection should be based on the intended use in the landscape. Use of more plants with low water needs and native plants will allow maximum water conservation.

Table 1. Plants for Xeriscape Garden

Trees	Shrubs
Golden rain tree (<i>Koelreuteria paniculata</i>)	Yucca (<i>Yucca spp.</i>)
Burr oak (<i>Quercus macrocarpa</i>)	Heavenly Bamboo (<i>Nandina domestica</i>)

Japanese Pagoda tree (<i>Sophora japonica</i>)	Junipers (<i>Juniperus spp.</i>)
Red Maple (<i>Acer rubrum</i>)	Glossy Abelia (<i>Abelia x grandiflora</i>)
Red Cedar (<i>Juniperus virginiana</i>)	Cotoneaster (<i>Cotoneaster spp.</i>)
Japanese Tree Lilac (<i>Syringa reticulata</i>)	Rock Spiraea (<i>Holodiscus dumosus</i>)
Vines	Ground Covers
Honey suckle (<i>Lonicera japonica</i>)	Algerian Ivy (<i>Hedera algeriensis</i>)
Star Jasmine (<i>Trachelosporum jasminoides</i>)	Asiatic Jasmine (<i>Trachelospermum asiaticum</i>)
Clematis (<i>Clematis paniculata</i>)	Creeping Juniper (<i>Juniperus horizontalis</i>)
Virginia Creeper (<i>Parthenocissus quinquefolia</i>)	Wedelia (<i>Sphagneticola trilobata</i>)
Grasses	Annuals
Buffalo grass (<i>Bouteloua dactyloides</i>)	Day Lily (<i>Heemerocallis</i>)
Bermuda grass (<i>Cynodon dactylon</i>)	Candy Tuft (<i>Iberis sermpervirens</i>)
Zoysia grass (<i>Zoysia japonica</i>)	Iceland Poppy (<i>Papaver nudicaule</i>)
Tifway419 (<i>Cynodon dactylon</i>)	Goldenrod (<i>Solidago spp.</i>)
St. Augustine (<i>Stenotaphrum secundatum</i>)	Coreopsis (<i>Coreopsis verticillata</i>)

Source: Xeriscaping and Conserving Water in the Landscape. *Home and Garden Information Center*. University of Maryland.

5. Water Efficiently

Properly planned irrigation facilities can greatly improve the water usage and reduce the water wastage. Grouping of plants into similar zone of irrigation is a key to irrigation plants wisely. Sprinkler (Permanent and hose end) and Drip irrigation systems are recommended in xeriscape garden. Usually the permanent sprinkler system is more water-efficient than the hose-end sprinkler. For grass, low-pressure, low-angle sprinklers irrigate best. The second irrigation method, drip irrigation, offers increased watering efficiency and plant performance when compared to sprinkler irrigation. It is better to water deeply and infrequently to develop roots. The best time to water is between 9 p. m and 9 a.m.

6. Use of Mulch

In Xeriscapes, the use of mulch to cover the soil around woody and perennial herbaceous plants provides several benefits to the planting areas. Mulches are beneficial in many ways helps to minimize evaporation, reduces weed growth, slows erosion, prevents soil

temperature fluctuations and Decomposes slowly adding nutrients to soil. Best mulches are organic because they can be recycled and also offer the benefit of regenerating the soil with nutrients during decomposition. Don't use plastic mulch they collect excessive moisture under the mulch and increase the waterlogged condition and death of plants.

6. Maintain Appropriately

Maintenance is required in all landscape gardens, even in low landscapes. It is necessary to keep xeriscape healthy by well-timed mowing, proper fertilizing, properly timed pest control, avoid mechanical damage, and periodic checks of irrigation system. A little maintenance on the front end will save time, money, and resources in the long run and will lead to some great looking landscapes.

Advantages

- Lowered consumption of water
- Reduce Maintenance
- Reduced waste and pollution

Disadvantages

- It may not meet modern aesthetics
- Initial Cost is high
- Reduced areas for sports

Conclusion

Xeriscape provides beautiful, healthy and hospitable environment for the people with low water usage and reduced maintenance for the gardeners.

References

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