

MANAGEMENT NOTES

Range Plants as Ornamentals

ROBERT E. STEGER AND RELDON F. BECK

Highlight: *Range plants are being widely used by homeowners to make attractive settings around their homes. These plants often have desirable characteristics such as large flower, thorns, or unusual shapes. These plants are usually easy to maintain and require little irrigating, an important consideration in the Southwest. Ranchers are starting to capitalize on the demand for these range plants by selling them to either homeowners or nurseries. A few species of plants being sought for landscapes are rare and have either poor or at least slow reproduction. Already some of these rare plants have been completely removed by homeowners from the rangelands surrounding cities. Public education is needed if these plants are to remain as part of the aesthetic beauty of our ranges.*

The rangelands of western United States support a great variety of plants with unusual characteristics that have long interested naturalists, ranchers, and other persons who appreciate the natural beauty of these plants. These plants, individually and in groups, add an aesthetic appeal to the vast expanses of the West. People in ever increasing numbers in cities and towns are using these plants in landscapes to make attractive homes and businesses.

Aesthetic Appeal

The Southwest, from western Texas to southern California, is one of the major areas in which native plants are being used as ornamentals. Attributes of unusual shapes, beautiful flowers, thorns or almost leafless conditions add to the novelty of these plants. These plants appear to be available in an endless supply; however, this may not be true. Many of these plants being used as ornamentals are common and widespread such as the creosotebush¹, salt cedars, pinyons and cenizas. A few species being sought for landscapes have considerable aesthetic appeal and are rare except in isolated areas in the Southwest. Often these plants give the general vegetative

The authors are extension range specialist and professor of range science in the Department of Animal, Range, and Wildlife Sciences, New Mexico State University, Las Cruces.

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¹ Botanical names are listed in Table 1.

aspect to the natural landscapes they inhabit and are recognized as a specific vegetative type. Included within this group are certain species of *Yucca*, century plants, several genera of cactus, sotol, and the ocotillo. Many of these have either poor reproduction capabilities or even appear not to be reproducing at all under present environmental conditions. Often the success in transplanting them is poor.

Around some cities many species have already been completely removed from their natural habitat for landscaping purposes. This has resulted in a loss of some of the aesthetic appeal of the surrounding rangelands. Many of these plants have very low rates of reproduction and slow rate of growth if established. Therefore, the chances of their becoming reestablished on these former sites of habitation are nearly nil. Examples of these include certain species of the Spanish daggers and madrono.

Maintenance of Resources

However, the removal of some plant species from the rangelands may facilitate the conservation of other natural resources. Water, a resource of limited availability in the Southwest, may be conserved in at least two different ways. The removal from the range of plants that use large amounts of water will allow the growth of other plants that use water more efficiently. Many desert plants can use large amounts of water when it is available, but survive very well when only limited amounts are available. Examples of such species include mesquite and salt cedar. The limited needs of water for many range plants are a benefit to the homeowner who uses them in landscapes and results in saving water for domestic use.

The conservation of soil is another prime consideration for the resource managers. Soil, a necessary resource for the maintenance of life, is conserved when plants which provide little protection are removed from the range. For example creosotebush and mesquite, both shrubby invaders on southwestern grasslands, provide the soil with little protection from wind and water erosion. Researchers indicate that as much as 7 inches of soil has been lost over vast expanses invaded by creosotebush. This

has resulted in rocks and pebbles accumulating on the surface and producing an erosion pavement which further reduces water availability for other plants.

Homeowners benefit from using native plants because they require minimal care. These plants are well adapted to the environment and require no additional water or fertilizers. The plants have also evolved with natural immunities to diseases and insects, though problems do occasionally occur. The use of these plants aids in maintaining the quality of the environment, because neither artificial fertilizers nor pesticides are necessary to maintain them.

Desirable Characteristics in Native State

Some of the plants previously mentioned and included in Table 1 are noxious and have no recognized value to either livestock or wildlife, but do have an aesthetic beauty which can be used to an advantage in a landscape.

Other plants which are used as ornamentals are recognized by many to provide forage for both livestock and wildlife. Plants palatable to both livestock and wildlife include mormon tea (*Ephedra* sp.), apache plume, cliffrose (*Edwinia americana*), winterfat, and yucca.

For example, plants especially critical for mule deer forage and thought to be responsible for extensions of mule deer range in West Texas include lechuguilla and candelilla. These plants are eaten at least seasonally by deer and are thought to be extremely critical for at least part of these specific seasons. The removal of these species from critical deer ranges may cause the loss of mule deer from these range areas.

Economic Considerations

Since the removal of plants from public lands is prohibited without special permission, many homeowners obtain their ornamental plants directly from a rancher or through a nursery. A partial list of these plants is shown in Table 1. The economic factor of range plants being used as ornamentals by homeowners is becoming increasingly important for some ranchers. Many species of plants in the southwest are endemic and have poor reproductive characteristics and cannot be easily replaced. (e.g., weeping juniper, certain Spanish daggers, and

Table 1. A partial list of range plants used as ornamentals in the Southwest including the attractive features, usual use and forage value.

| Plant name | Ornamental attractiveness | | | Homeowners use | | | Forage value for | |
|---|---------------------------|---------|--------|----------------|----------|----------------------|------------------|----------|
| | Leaves | Flowers | Spines | Hedge | Solitary | Mixture ¹ | Livestock | Wildlife |
| Algerita (<i>Mahonia</i> sp.) | X | X | | | X | X | | X |
| Apache plume (<i>Fallugia paradoxa</i>) | X | X | | | X | X | X | X |
| Brittlebush (<i>Brickellia incana</i>) | X | X | | | X | X | | |
| Buckeye (<i>Ungnadia speciosa</i>) | X | | | | X | X | | |
| Candelilla (<i>Euphorbia antisyphilitica</i>) | | | | | X | X | | X |
| Ceniza (<i>Leucophyllum</i> sp.) | X | X | | X | X | X | | |
| Century plant (<i>Agave americana</i>) | X | X | | | X | X | | |
| Chamisa (<i>Atriplex canescens</i>) | X | X | | X | X | X | X | X |
| Cholla (<i>Opuntia</i> sp.) | X | X | X | X | X | X | | X |
| Creosotebush (<i>Larrea tridentata</i>) | X | X | | X | X | X | | |
| Crucifixion thorn (<i>Holacantha stewartii</i>) | | | X | | X | X | | |
| Daleas (<i>Dalea</i> sp.) | X | X | | | X | X | X | X |
| Desert willow (<i>Chilopsis linearis</i>) | X | X | | | X | X | | |
| Fendler bush (<i>Fendler rupicola</i>) | X | | | | X | X | | |
| Flowering forbs | | | | | | | | |
| <i>Lupinus</i> sp. | | X | | | | X | X | X |
| <i>Verbena</i> sp. | | X | | | | X | X | X |
| <i>Machaeranthera</i> sp. | | X | | | | X | | |
| <i>Astragalus</i> sp. | | X | | | | X | | |
| Juniper (<i>Juniperus</i> sp.) | X | | | | X | X | | |
| Lechuguilla (<i>Agave lechuguilla</i>) | X | X | | | X | X | | |
| Madrone (<i>Arbutus texana</i>) | X | X | | | X | X | X | X |
| Mescalbean (<i>Sophora secundiflora</i>) | X | X | | | X | X | | |
| Mesquite (<i>Prosopis glandulosa</i>) | | | | | X | X | | X |
| Mormon tea (<i>Ephedra</i> sp.) | X | | | | X | X | X | X |
| Mountain mahogany (<i>Cercocarpus montanus</i>) | X | X | | X | X | X | X | X |
| Oaks (<i>Quercus</i> sp.) | X | | | | | | | |
| Ocotillo (<i>Fouquieria splendens</i>) | | X | X | X | X | X | | |
| Perennial broomweeds (<i>Gutierrezia</i> sp.) | X | X | | | X | X | | |
| Pinyon (<i>Pinus</i> sp.) | X | | | | X | X | | |
| Prickly pear (<i>Opuntia</i> sp.) | X | X | X | | X | X | | X |
| Rabbitbrush (<i>Chrysothamnus</i> sp.) | X | X | | | X | X | | |
| Resurrection plant (<i>Selaginella</i> sp.) | X | | | | X | X | | |
| Retama (<i>Parkinsonia aculeata</i>) | X | | | | X | X | | |
| Sacahuista (<i>Nolina</i> sp.) | X | | | | X | X | | |
| Salt cedar (<i>Tamarix</i> sp.) | X | X | | X | X | X | | |
| Silktassel (<i>Garrya wrightii</i>) | X | X | | | X | X | X | X |
| Small cactus | | | | | | | | |
| <i>Ancistrocactus</i> sp. | X | X | X | | X | X | | |
| <i>Ariocarpus</i> sp. | X | X | X | | X | X | | |
| <i>Cereus</i> sp. | X | X | X | | X | X | | |
| <i>Coryphantha</i> sp. | X | X | X | | X | X | | |
| <i>Echinocactus</i> sp. | X | X | X | | X | X | | |
| <i>Echinocereus</i> sp. | X | X | X | | X | X | | |
| <i>Mamillaria</i> sp. | X | X | X | | X | X | | |
| Soaptree yucca (<i>Yucca</i> sp.) | X | X | | | X | X | X | X |
| Sotol (<i>Dasylirion</i> sp.) | X | X | | | X | X | | |
| Spanish dagger (<i>Yucca</i> sp.) | X | X | | | X | X | | X |
| Sumacs (<i>Rhus</i> sp.) | X | X | | | X | X | | |
| Winterfat (<i>Eurotia lanata</i>) | X | X | | | X | X | X | X |
| Wolfberry (<i>Lycium</i> sp.) | X | X | | | X | X | | X |
| Yellow elder (<i>Tecoma stans</i>) | X | X | | | X | X | | |

¹Mixture of several species to make an attractive landscape arrangement.

the madrone). These, along with other plants, provide a naturalness to range landscapes. In the past, ranchers were only "too glad to be rid of them." An increasing demand exists for some of these plants with desirable ornamental characteristics, but which exhibit slow growth and poor reproductive characteristics. These attributes allow more and more ranchers to sell these plants and at the same time, make room for forage. Table 2 indicates prices some ranchers in West Texas are receiving for native plants, with homeowners or nurserymen providing necessary labor and transportation. Some ranchers in New Mexico are selling trespass rights to homeowners, with the understanding that only a specific number of plants may be collected.

Table 2. Approximate prices ranchers in West Texas receive for plants growing on their rangelands.

| Plant names | Price range |
|------------------------------------|-------------|
| Ocotillo | |
| Less than 3 feet | \$1.00-2.50 |
| 3-8 feet tall | 1.00-3.50 |
| Sotol | |
| Up to 6 in. crown, 36 in. tall | 2.00-2.50 |
| Over 6 in crown, 42 in. tall | 2.00-3.50 |
| Lecheguilla | |
| 8-12 in. | 1.00 |
| 12-15 in. | 1.50 |
| Cholla | |
| Yellow blooms | 1.50 / ft |
| 6-10 in. tall | 1.00 |
| 20-30 in. tall | 2.50 |
| Century plants | |
| 4- 6 in. diameter | 0.40 |
| 12-16 in. diameter | 1.00-3.50 |
| Yuccas (Per ft) | 1.00-2.00 |
| Each additional head | 1.00-5.00 |
| Thornless prickly pear (Per leaf) | 0.10 |
| Resurrection plants (Per thousand) | 45.00 |
| Candelilla | 1.00 |
| Small Cactus | 0.07-0.15 |

Future of Range Plants as Ornamentals

The supply of range plants for ornamental use will probably always exceed the demand. Little is known about many of these plants; for example, extent of their range, their ability to propagate, and whether they are endemic to the Southwest. Because of this and because people are trying to maintain the naturalness of the range landscapes, some ranchers are allowing the removal of these plants only in isolated areas away from their homes. Many states now have laws making it illegal to remove any plants within a specified distance of public roads.

However, the enforcement of laws on state and federal lands is difficult and it will be up to interested individuals to help protect some of these plants. More information is needed about these plants. Public awareness is essential so that

people will understand why it is not wise to remove some of these plants. If the public is not educated, some of these

plants will be lost forever as a part of our natural landscapes.

Range Science in the Future

The following is from the keynote address delivered by Dr. Gerald W. Thomas, president of New Mexico State University, at the 25th Anniversary program of the Department of Range Science, Texas A&M University, March 20, 1972.

Before the year 2000, population pressure and technological development will place tremendous pressure on the range resources of the nation and the world. As stated in the 1971 report of the President's Council on Environmental Quality, "Technological innovation has been and will continue to be necessary if we are to achieve environmental and other goals. . . . However, as the pace of technological innovation has steadily accelerated, so has the need to assess its full impact." Range science can and must play a key role in meeting this challenge of people and technological change.

Ecology has been the dominant science in the management of rangelands for many years and must continue to be the base for range research and education. Studies of energy and nutrient cycling patterns and other forms of ecosystem analysis must be enlarged to include man's impact and man's increased need for consumer goods, recreation, water, and a quality environment. Research on vegetation change through time (succession-regression patterns) must become more sophisticated, and techniques for range improvement much more refined.

Also, while the range scientist, because of the increased interest in the environment, can now proudly identify himself as an ecologist, he must not forget that proper management of the range resource can only be accomplished through significant inputs from animal science, agronomy, economics, forestry, wildlife science, botany, biology, geology, physics, and even the social sciences. The need for more cooperation among scientific disciplines and the need for interdisciplinary research should be obvious.

As we celebrate this 25th Anniversary of the Department of Range Science, we can proudly point to much progress. But, the challenge ahead will certainly prevent any complacency. In the next 25 years man must solve the two biggest problems of all: (1) How can man live with his fellow-man in peace and security? and, (2) How can man live with his environment? I hope to be back for the 50th Anniversary with full knowledge that satisfactory solutions to these problems have been developed.