

# New Ground Cover Releases

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Working with drought tolerant plants from dry places around the world and evaluating them for landscape use has resulted in much exposure to desert plants and to harsh desert conditions over the years. This exploring, collecting, propagating and testing has been accomplished under aegis of a Hatch Act funded project "The Introduction and Breeding of Desert Plants for Landscape Use." The central point for this living collection is at the University of Arizona Campbell Avenue Farm. Many plants being tested are also being grown on the University of Arizona campus itself. A second collection has been established at the Central Arizona College Campus near Casa Grande by Professor William Kinnison of that institution.

Evaluation of plants for landscape use presents a different approach than that used for plants being tested as field crops. Evaluation under field conditions of a farm are not realistic or conclusive for landscape plants. Performance under urban conditions is the real bottom line as to the real value of an introduction. Thus, being able to test plants on the University campus has been invaluable. The release to interested nurserymen is also a way to expand the knowledge of a plant's value and capabilities under a variety of conditions. Public response to it in the retail nursery and its holding qualities under those conditions are an integral part of the story.

With several offices of the Cooperative Extension Service assisting, two promising ground covers for southern Arizona have been recently released to nurserymen. These plants have subsequently been propagated by various commercial nurseries and are now available to the public at those nurseries. The two ground covers come from two different deserts.

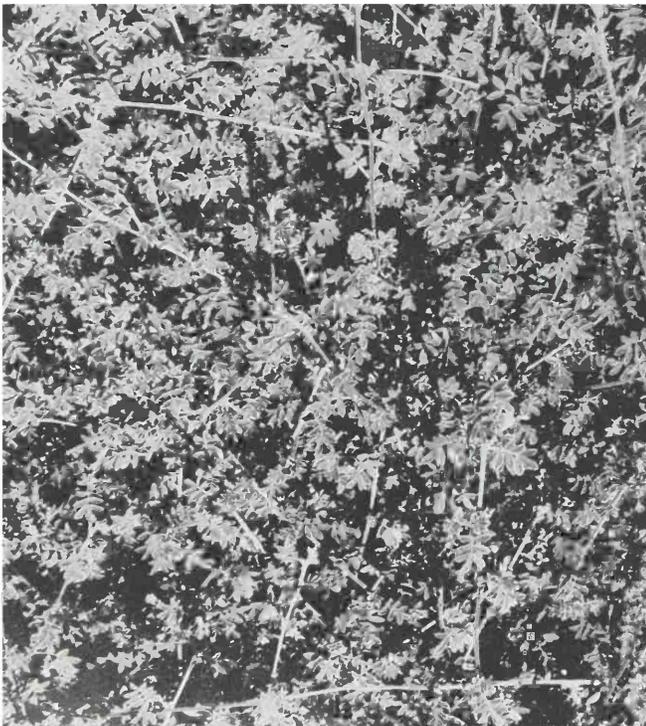
## Trailing Indigo Bush

*Dalea greggii*, Trailing Indigo Bush, was collected near Saltillo, State of Coahuila, Mexico. This is not to be confused with *Dalea pulchra*, native to Arizona, which once was incorrectly referred to as *Dalea greggii*. The true *D. greggii* is a far superior ground cover plant with its fine grey-green foliage covering a dense spreading mound. On the University of Arizona campus, a single one-gallon size plant developed into a four-foot diameter mound in the space of a year and a half. The tiny blue-lavender flowers are interesting at close range, but the outstanding color note comes from the warm pearly-grey foliage itself.

Growth is rapid if plants are watered at weekly intervals after being transplanted. Irrigations can be spaced further apart once the planting matures. In its native habitat, where there is open space between individual plants, Trailing Indigo Bush endures prolonged periods of drought. However, supplemental



**Figure 1.** Trailing Indigo Bush.



watering is necessary to maintain a good solid ground cover, especially during the hottest and driest periods of the year.

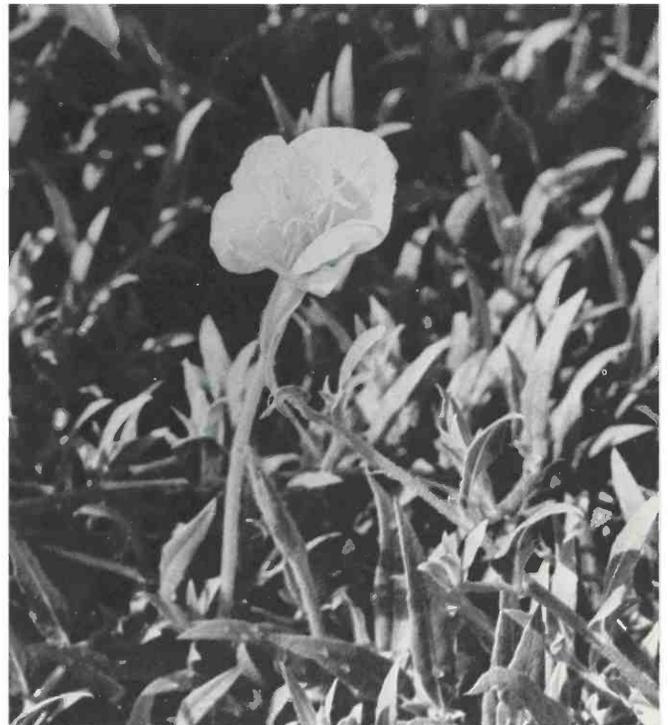
Plants on the University campus exhibited complete hardiness to the sixteen degree freeze of December 9, 1978. In fact, they didn't even stop growing. The plants were in a vigorous state of growth when the historic freeze hit and that may have been the cause for the setback of two other test plantings in cold air drainage locations. On these two sites established plants recovered within a short time, but the new plantings did not. The lesson learned here is that watering and other growth-forcing activities should be reduced in fall. This is especially important with new plantings so they can harden off. There should be no hardiness problem under normal winter conditions since the Saltillo region where the plants were collected is around 5,000 feet in elevation and experiences some very cold winters.



Figure 2. Baja Primrose.

Trailing Indigo Bush propagates easily from soft-wood cuttings. Rooted cuttings make vigorous growth and can be planted directly into one-gallon size containers from the propagation bed. They can also be grown in pony packs, but the rapid growth requires some nipping back. With weekly irrigations, a one-gallon size plant will form a three foot diameter mat in the first growing season. Liners grow about half as large under the same circumstances.

*Dalea greggii*, from our observations, is not particular about soil and does not need to be fertilized in an average situation. No insect or disease problems have been observed to date. Perhaps the most encouraging fact is that on one rabbit-infested site, this plant was not even nibbled while another species of *Dalea* being tested nearby was virtually eaten to the ground. Trailing Indigo Bush is illustrated in Figure 1.



### Baja Primrose

From south-central Baja California comes another interesting ground cover possibility: *Oenothera drummondii* var. *thalassaphila*, the Baja Primrose. This plant is a relative of the Mexican Primrose, an herbaceous perennial sometimes used as a ground cover. When evaluated under controlled growing conditions, the Baja Primrose proved to have a vigorous spreading habit and quickly formed a thick leafy mat over the soil. This was a complete surprise since in the wild the Baja Primrose appeared to be simply an attractive desert perennial. For that reason, we test-planted it in a rock mulch area with some other desert perennials being evaluated for their ornamental qualities. Our interest quickened almost immediately as the plant became a fast-spreading ground cover with average soil and once a week irrigation. It completely crowded out the other perennials and covered the rock mulch. A single plant first forms a tufted clump of narrow, pointed medium green leaves. Once established, a runner phase develops and the plant spreads rapidly in all directions. The runners also root from the nodes when they are spreading over moist soil suggesting special soil binding qualities.

The Baja Primrose has 2½-inch single flowers of soft yellow, borne on erect stems six to eight inches above the foliage. It blooms heaviest in spring and intermittently during the summer. Flowers open in early evening, generally closing by noon, especially when the weather is hot and dry. Old bloom or seed heads do not show up or make the plant look untidy.

Baja Primrose roots very easily from cuttings, in

fact so easily that we have never tried to collect or grow the plant from seed. New plantings become established during the clump phase of growth the first growing season. The rapid lateral spreading seems to take place in the second year.

So far no disease problem has appeared. There has been some evidence of chewing insects feeding on the foliage in spring. The cause of the damage was never identified but grasshoppers are a likely suspect. The injury hardly seemed a problem since vigorous regrowth quickly covered the evidence.

The record cold of December, 1978 seemed to have no effect on this Baja California native. It was growing in an open exposed position on the University of Arizona campus where some other test plant species were severely damaged. In cold weather it develops some reddish leaves which are not unattractive. Intermittent drought stress seems to have the same effect. Prolonged drought causes the plant to retrench into dormancy. It quickly resumes lush growth when soil moisture is once again available.

*Oenothera drummondii* var. *thalassaphila* rapidly develops a thick vegetative cover far superior to its relative *Oenothera speciosa* var. *childsii*, the Mexican Primrose. While the pink flowers of the Mexican Primrose are a bit more showy at peak bloom, it does have a very poor appearance in its off-season. The Baja Primrose doesn't seem to have an off-season as long as it isn't put through too long a period of drought stress. Water supplied at seven to ten day intervals seems to keep a mature planting looking lush and vibrant. Baja Primrose is illustrated in Figure 2.