

Progress Report- Year 3

Elvina J. Slosson Endowment for Ornamental Horticulture

Evaluation of the Water Usage of California Native Plants with the Potential as Landscape Ornamentals (Year 3)

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Introduction

The aim of this project is to evaluate 10 California native plants for their potential in landscape settings. We are doing so by subjecting them to 4 different irrigation regimes based on reference evapotranspiration (ET_0) and evaluating their performance as landscape plants. The ultimate goal is to be able to introduce new native plants into the nursery industry that are labeled with their water needs. The plants that we are using currently are listed below:

Aquilegia eximia
Bouteloua gracias
Carex spissa
Ceanothus maritimus 'Valley Violet'
Erigeron 'Wayne Roderick'
Fallugia paradoxa
Grindelia platyphylla
Heuchera 'Rosada'
Lessingia filangifolia 'Silver Carpet'
Salvia sonomensis

Goals/ Objectives

Our goals for this coming year are to get the weather station up and running during the winter and start collecting preliminary data in March. In the mean time, we will be conducting distribution uniformity tests on the emitters and find a new plant to replace *Grindelia platyphylla*. We will also be replacing all of the *Salvia sonomensis* with new cuttings. Some of the salvias have grown 3m in diameter in 18 months. Thus they are taking over some portions of the plot. We are interested in seeing if the treatments will control their expansion rate. Starting April 1st and ending September 15th, 2006 bi-weekly data on plant growth and appearance will be collected. We anticipate presenting this data starting in Fall 2006 at conferences, as well as publishing our findings.

Discussion

Grindelia platyphylla will be replaced because it died back this summer under irrigated conditions. Since it is native to the coast, we think that the valley summers may have

been too hot and dry for it. Also, it has been difficult to get replacements for this plant. Currently, we are managing for weeds in the field, irrigating as needed, and finishing the weather station programming. One advantage to collecting data this coming summer is that the plants that needed more time to establish have had 2 years to do so. Also, this has allowed us to weed out species that we know will not work due to lack of survivability or aesthetic appearances.

Our weather station is very unique in that not only does it collect weather data and calculate ET_0 , but it also controls the irrigations in the field. The data logger is able to use the calculated ET_0 and compare it to the different irrigation regimes to determine when they need to be applied. It also converts ET_0 from inches into a volume that needs to be applied. We have determined that we will irrigate when 4 liters need to be applied for a treatment. We look forward to reporting our findings to the committee this time next year.

Field Pictures



Figure 1. *Aquilegia eximia*



Figure 2. *Bouteloua gracilis*

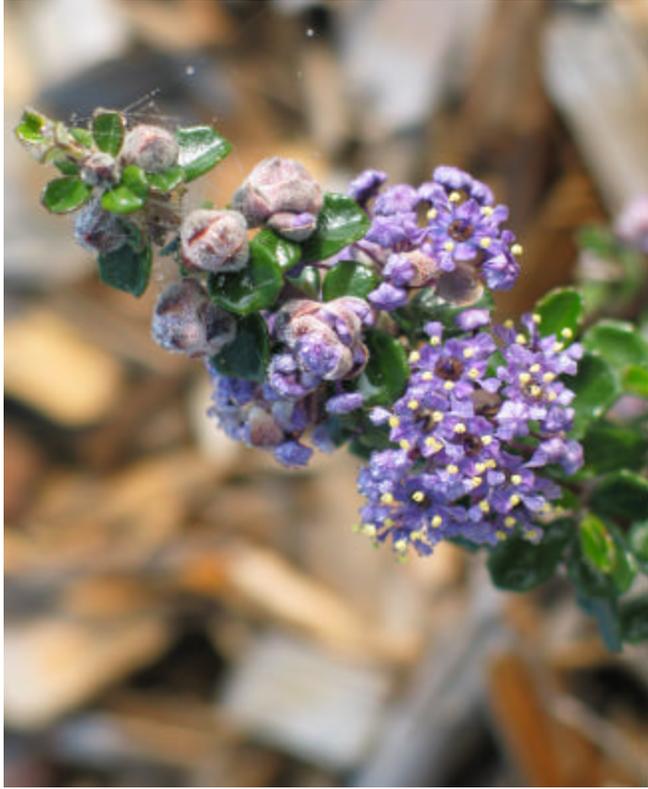


Figure 3. *Ceanothus maritimus*



Figure 4. *Erigeron* 'Wayne Roderick'



Figure 5. *Fallugia paradoxa*



Figure 6. *Heuchera* 'Rosada'



Figure 7. *Lessingia filanginifolia*



Figure 8. 2-*Salvia sonomensis*