

## Irrigate Wisely to Truly Save Water

by Jonathan Keyser and Ethan Romanchak, co-owners of Native Nursery, LLC

We live on an island with limited water resources. Choosing plants that are adapted to your area for landscaping is only part of the solution to a low water-use landscape. We have learned that establishing and maintaining a low water-use landscape can be accomplished by choosing a palette of native Hawaiian plants that works *in combination with* a well designed irrigation system. This article will focus on irrigation practices.



Photo 1. Initial planting of aalii with 3/4" poly-tubing , a 2GPH drip emitter, and 'spaghetti' tubing to get the water where it needs to be

Drip irrigation is ideal for most native plantings. Two systems that work well are: the 1/2" brown in-line drip tubing made by Rainbird® and 3/4" black poly-tubing with individual Rainbird® drip-emitters. Drip irrigation allows you to get water right where you want it, while an overhead sprinkler system can lead to runoff, drift or get blocked as plants grow. Overhead watering systems are best suited for grassy areas and should be installed and monitored by professionals as they tend to have high outputs.

When purchasing a valve controller box, it is important that operation is user-friendly. The homeowner's ability to understand and manipulate the controller is crucial for proper water management. Too often, controllers are set initially then forgotten. Furthermore, seasonal changes in rainfall as well as single rainfall events have a large impact on a plantings overall watering needs. Your goal should be to have your irrigation system intact, programmed correctly and turned off whenever possible!

The largest amount of water used is likely to occur during establishment of a landscape. Until the plant's roots have reached deep into the soil, they are vulnerable to drying out. Even drought resistant natives that may require little to no supplemental water when established benefit from an initial period of more frequent watering.

One example of a common native landscape planting may include drought resistant plants such as a`ali`i, kulu`i, or pili grass mixed in with plants like hapuu or ohia that have higher water requirements. In this case, we suggest separating the plantings into separate valves. For example, hapu`u tree ferns may need multiple small waterings everyday, while drought resistant plants thrive on one good watering every fourth day. It is important to let the landscape dry adequately before applying more water. A careful eye can see signs of water stress in the plants and use this knowledge to determine the watering 'interval' (number of days between waterings).



Photo 2. A`ali`i growth provides leaf litter and shade on soil surface

Above is a picture of a native planting at a site in lower Kula (2,000' elevation). After removing grass and established weeds, irrigation was installed and young a`ali`i were planted directly into native soil with no amendments or fertilizer. The a`ali`i were spaced at 6 feet on center. Each plant was given a 2 GPH dripper that ran for 20 minutes every day for the first two months. As you can see in Photo 2, the a`ali`i are now touching and shading the soil surface below. This shade combined with the effects of leaf litter keep the soil moist and allowed the timing to be changed to 30 minutes every fourth day. The water applied reaches deeper and does not evaporate at the soil surface. This effect was enhanced by sheet mulching with cardboard and a 3" layer of wood chips. Cardboard is effective when carefully laid like shingles on a roof from the lowest point of the landscape. The cardboard should be wetted to form itself to the contour of the land before covering with wood chips.



Photo 3. A 4 year old a`ali`i hedge that was sheet mulched after initial planting and is now thriving with irrigation set for minimal watering (pohinahina in the foreground)

Native Hawaiian plants are often noted for their drought resistant qualities. We believe that using the suggested irrigation practices are fundamental in taking advantage of these qualities.

So get out there and be a master of your irrigation system ... only then can you be proud of your truly low water-use landscape.

\* This article was previously printed in the Maui Nui Botanical Gardens Newsletter, April 2008.

## Resources for Learning more.....

### Native Plantings

Maui Nui Botanical Gardens, Kahului

Ho`olawa Farms, Haiku

Wailea Point seawalk, South Maui

Native Nursery LLC, Kula

### Websites

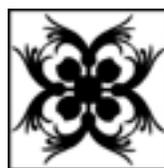
[www.eastmauiwatershed.org](http://www.eastmauiwatershed.org)

### Retail Nursery

Kula True Value Hardware & Nursery 876-0734

### Irrigation Supplies

ISI Hawaii 871-5459



## **Native Nursery, LLC**

PO Box 806 Kula, HI 96790

ph. (808) 878-8276

fax. (808) 876-1020

[www.mauinativenursery.com](http://www.mauinativenursery.com)