

What you need to know about Fireweed

What is fireweed?

Fireweed, also known as Madagascar ragwort and sometimes referred to in Hawai'i as yellow flower, is a plant in the family Asteraceae, tribe Senecioneae. Its closest relatives in Hawai'i are all weeds.

- <http://www.ctahr.hawaii.edu/hnfas/publications/pastureRange/fireweed.pdf>

What does it look like?

It resembles a daisy. It has yellow flowers with 13 petals that distinguish it from other flowers. The flowers are about the size of a nickel. The plant itself

Where is it from?

It is native to Madagascar and Southern Africa

Why is it bad?

It produces a chemical called a pyrrolizidine alkaloid that is toxic. This poison can kill horses and cattle. It produces a lot of seeds (150 seeds per flower; 30,000 seeds per year). It is drought tolerant and grows quickly. Following rains it will grow faster than most grasses. It is called fireweed because it is one of the first plants to recover following a fire.

How long has it been in Hawaii?

Since the early 80s

Where in Hawaii is it found?

Throughout Maui and the Big Island. There is a small population on Kaua'i that cannot be reached and a population on Kaho'olawe. Other populations in state have been eradicating using manual or chemical control methods.

Is it a problem anywhere else?

Australia, Japan, Argentina, Brazil, Colombia and Uruguay

What happens if nothing is done?

Fireweed will continue to spread. The continued drought will allow it to spread faster. Eventually ranchers will not have land to graze cattle.

How is it controlled?

Pulling can be done; however, this is labor intensive, especially given how many seeds are produced by one plant (over 150 in one flowering). Chemicals can be used to control fireweed, however, infestations are so great that using pesticides is costly and labor intensive. Management can be done using sheep/goats.

Why is the Department using biological control?

Biological control is being used because the infestation is too widespread on Maui and the Big Island and the rangeland and open spaces are increasingly dominated by fireweed. Other methods of control are proving to be inefficient or too costly. In southern Africa and Madagascar, there are insects and diseases that keep fireweed under control. Over 10 years of testing demonstrates that biocontrol can be safely used to control fireweed. With persistent droughts, fireweed will become more of a problem. If nothing is done, ranching will become a thing of the past.

What you need to know about the Madagascan Fireweed Moth (*Secusio extensa*)**What is it?**

It is a moth native to Madagascar that feeds on fireweed.

What does it look like?

The adults are non-descript. They are beige in color with spots on the body. The mature caterpillars are black and fuzzy.

They are hairy. Do the hairs sting?

No, the hairs are a means of making the moth less appetizing to potential predators.

Are they poisonous?

No. They are like Monarch butterflies. They break down the toxin and use it to make chemicals that make it taste awful. Some of the toxin is used to make chemicals to attract mates.

What will the moth do to the fireweed?

The caterpillars feed on the leaves of fireweed and the green portions of the stems. In the lab, the caterpillars can kill fireweed plants. Out in the wild, this will probably not be the case. The moths feed on nectar of flowers (not just the flowers of fireweed but any flower).

What happens if it eats all the fireweed?

This will not happen. Like any animal, the fireweed moths' population is controlled by the abundance of its primary food source. At best, it will control the population of fireweed not eliminate fireweed.

Will the moth eliminate fireweed?

No. Biological control is not intended to eliminate the target. In an ideal situation, the moth will control the population of fireweed and slow the spread of it. Biocontrol will become a part of an integrated management tool for fireweed.

How do we know it is safe?

It has been tested in a contained facility for over a decade. The tests were designed to see if it would feed on different plants including economically and environmentally important species. Two types of tests were done. No-choice tests where the caterpillar is given the choice of feeding on a plant or starving and choice test where the caterpillar is given a choice between a test plant and fireweed.

Was an Environmental Assessment done?

Yes, you can find the State's EA at

http://oeqc.doh.hawaii.gov/Shared%20Documents/Environmental_Notice/Archives/2010s/2010-09-08.pdf or by searching for "Secusio extensa environmental notice". The

first hit will be the document. A finding of no significant impact (FONSI) was declared.