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HB 1087
RELATED TO BIOLOGICAL CONTROL
OF PASSIFLORA MOLLISSIMA (BANANA POKA)

Statement for
House Committees on
Energy, Ecology and Environmental Protection
Water, Land Use Development and Hawaiian Affairs
Public Hearing - 28 February 1981

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HB 1087 relates to the biological control of a noxious forest weed, Passiflora mollissima (Banana poka). This statement on HB 1087 does not represent an institutional position of the University of Hawaii.

Passiflora mollissima is a forest weed that is spreading and endangering our native forests at elevations of 1,000 to 6,500 feet on Hawaii and 280 to 4,200 feet on Kauai. It is important to reduce banana poka to levels that can be tolerated by the native trees from the standpoint of protecting our native ecosystems and our watersheds. Although it may be very difficult to eradicate banana poka, with suitable biological control agents this weed can be brought under control. Hawaii has had many successes in the biological control of weeds.

There are several control measures that can be implemented such as mechanical control, chemical control and biological control. Due to the extent of the banana poka infestation and the rough terrain in which it grows, it would not only be uneconomical but also undesirable to mechanically cut each plant. Moreover, the cutting of the weed will probably not result in long term control because lateral shoots may develop. Similarly, chemical control is not the solution since it would have deleterious effects on the non-target native flora and fauna. Chemicals may also contaminate the ground water.

The ideal control method would be to locate a host specific biological control agent (insect or pathogen) in the native home of banana poka and introduce this agent under strict quarantine procedures to insure that hyperparasites are not introduced. The biological control method would be the most natural and ecologically sound method of control. The major reason banana poka is a pest in Hawaii is because it was introduced without

its natural enemies. In South America where many Passiflora species occur, it is often very difficult to find the plants because they are held in check by natural enemies.

In the long run, an efficient host specific biological control agent would be most economical and practical. Once the biological control agent establishes itself, you would have permanent control.

There has been concern in implementing a biological control method because of the presence of our passion fruit industry based on Passiflora edulis. The State Department of Agriculture has expressed concern that any biological control agent brought in for Passiflora mollissima would likely also attack Passiflora edulis. However, the two species are not closely related. Most botanists, after studying the technical characters of the plants, classify them in different subgenera, some even put them in different genera. What this means, in practical terms, is that the banana poka is genetically and chemically different enough from the lilikoi that undoubtedly insects can be found which would attack banana poka and leave lilikoi alone. We only need to search for these in the homeland of the banana poka.

In summary, we believe that HB 1087 should be approved making funds available to search for biological control agents of Passiflora mollissima. Moreover, funds should be appropriated to conduct research on host and elevation specificity on candidate bio-control agents to determine the feasibility for introduction.