



# Ungulate Management for Young 'Ulu Trees

One of the most common threats to young breadfruit ('ulu) trees in Hawai'i is disturbance from feral ungulates, especially wild pigs. Below is a summary of Hawai'i farmers' views and recommendations on different strategies for protecting their trees from these unwanted pests.

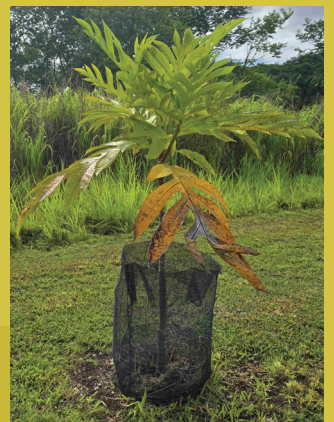
## Tire Barriers \$

- Description:** Tire barriers consist of stacking three tires vertically around each tree. The tires are punctured or have holes drilled in them to prevent water retention.
- Cost:**
- Can vary, but typically, a great way to reuse old or spare tires
  - Consider the time for removal once the tree gets older, which might require more significant equipment, time, and labor
- Frequency:**
- At the time of tree planting
- Efficacy:**
- Use in addition to other methods, such as tree cages
  - Mow regularly around barrier
  - Consider installing fencing around the entire orchard
- Disadvantages:**
- As trees grow, removal of tires can be costly and time-intensive
  - Tires can collect debris/water that will need to be cleared out periodically



## Wire Cages \$\$

- Description:** Building wire cages around newly planted trees protects them from ungulate damage. These cages are roughly 3 ft wide and 4 ft tall, and are attached by crimping the wire together around the tree. In some cases, weed mat is added around the sides of the cage to provide a visual barrier from pigs.
- Cost:**
- About \$40 per application
  - Factor in labor and time costs for each installation around each tree
- Frequency:**
- At the time of tree planting, you may have to adjust the cage as the tree grows
- Efficacy:**
- Use in addition to other interventions such as mulch or tires
  - Will keep ungulates away from the tree, but will require upkeep as the tree grows
  - Consider installing fencing around the orchard
- Disadvantages:**
- Pigs may still "push through" cages and cause damage to trees.
  - The cages may make it difficult to remove weeds that grow inside the cages.



# Permanent Fencing \$\$\$

- Description:** Fencing involves building a protective enclosure around the entire perimeter of an orchard or planting site. This method is costly, but highly effective in keeping ungulates away from young 'ulu trees.
- Cost:**
- Can vary with the size of the perimeter, approximately \$15-20 per linear foot
- Frequency:**
- Before tree planting
- Efficacy:**
- Will keep ungulates away from trees, but requires upkeep to prevent damage and breakthroughs
  - Works well in combination with other interventions
- Disadvantages:** Fencing is the most expensive recommendation, although it is also the most effective.



## Other Considerations

- Axis Deer:** For farmers on islands with Axis Deer or similar tall ungulate pests, 6ft tall wire cages around trees or 8ft tall perimeter fencing may be required.
- Trapping:** Some farmers incorporate trapping as part of their management strategy. Cage style traps are effective for individual animals, while corral style traps are capable of trapping whole herds. Traps, trap rentals, and trapping services can often be found online.

**Here are some additional perspectives from our farmers about their experience with ungulate prevention:**

*"I like the mulch, but the pigs...they scattered the mulch all over. If you can afford it, number one - fence your fields - in terms of stopping the pig damage."*



*"If you do have some funds I would definitely suggest fencing off the acre[age]. In the long term it's going to help...If you have just a few trees, I would say [use] wooden pallets and mulch."*

*"I used some old tires, because they were a free resource."*



**Scan to watch a video overview**

