



# Rooted Papaya Cuttings

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Workshop



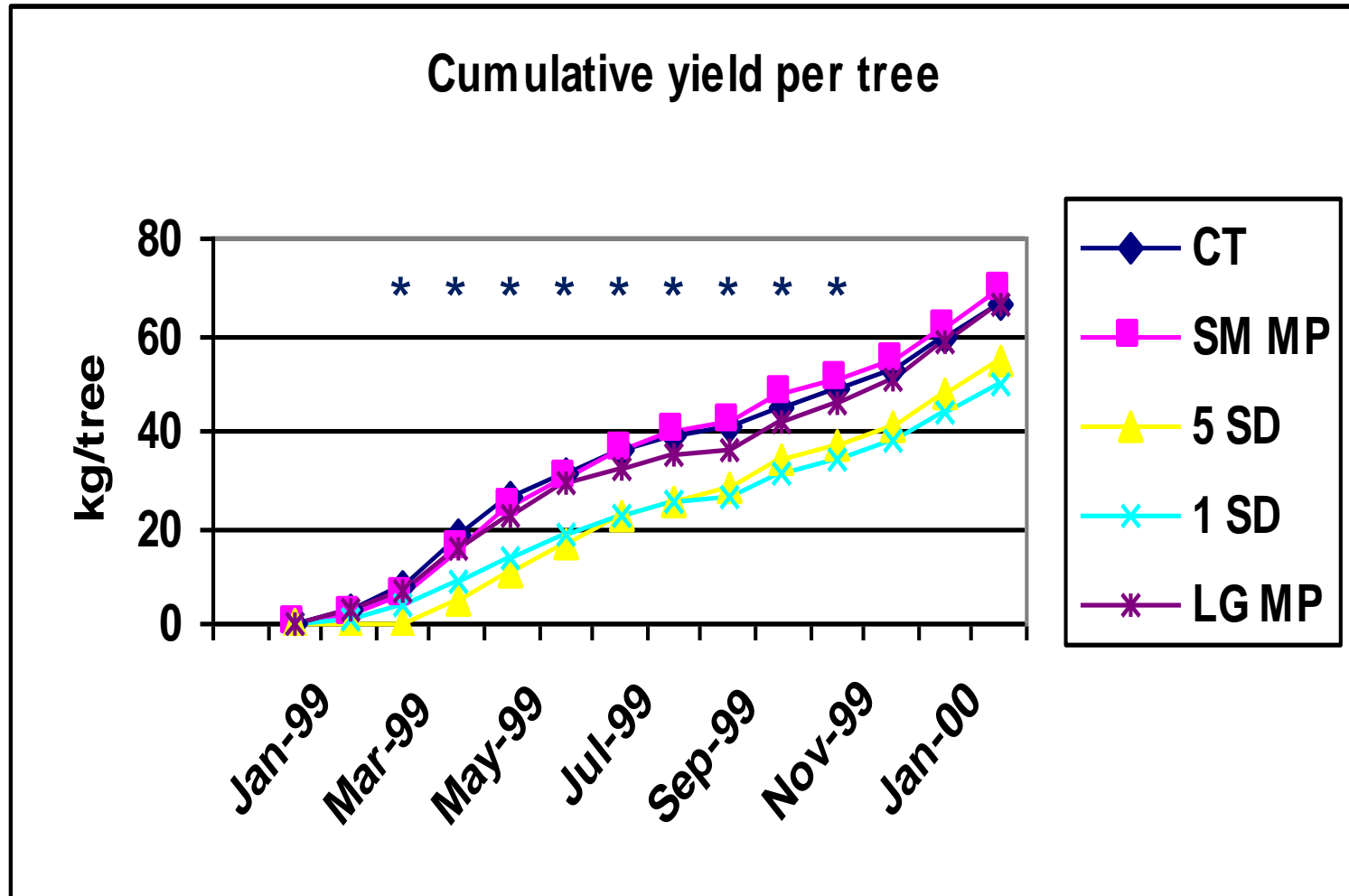
# Background

- In 2000, more than 15 years ago, **rooted cuttings** and other clonally propagated **Rainbow** hermaphrodites showed **increased growth & yield** in 3 field tests, 1 on Hawaii Island & 2 on Oahu.
- In 2015, the Hawaii Department of Agriculture awarded HARC a grant to try to **improve rooted cuttings method & teach it to growers.**

**2000 Keaau: Rooted cuttings of hermaphrodite Rainbow had ripe fruit 3 months earlier, 1 foot lower on trunk, & 30% higher yield than multiple-planted, thinned seedlings.**



2000 Keaau: Total yields statistically higher (\*) from 3<sup>rd</sup> to 11<sup>th</sup> month of harvest.



**2008 Hilo: Aileen Yeh's rooted cuttings in plug trays; transplanted into individual pots & sold to growers.**



## 2008 Hilo: Aileen's Rainbow papaya plants ready for pick up



# HARC 2015-2016 project

- Rooted **Rainbow & Laie Gold (Kamiya)** made in Kunia from shade house-grown stocks.
- Cuttings **rooted after 1 to 2 months** in pots of Sunshine#4 peat/perlite mixture & bagged in ziplocs under fluorescent lights in the lab.
- Rooted plants maintained in shade house until sold for **\$10 each**.

**HARC Rainbow stocks in 1-gallon pots in shade house.  
Cuttings made once a week. Oldest stocks potted in 2012.**



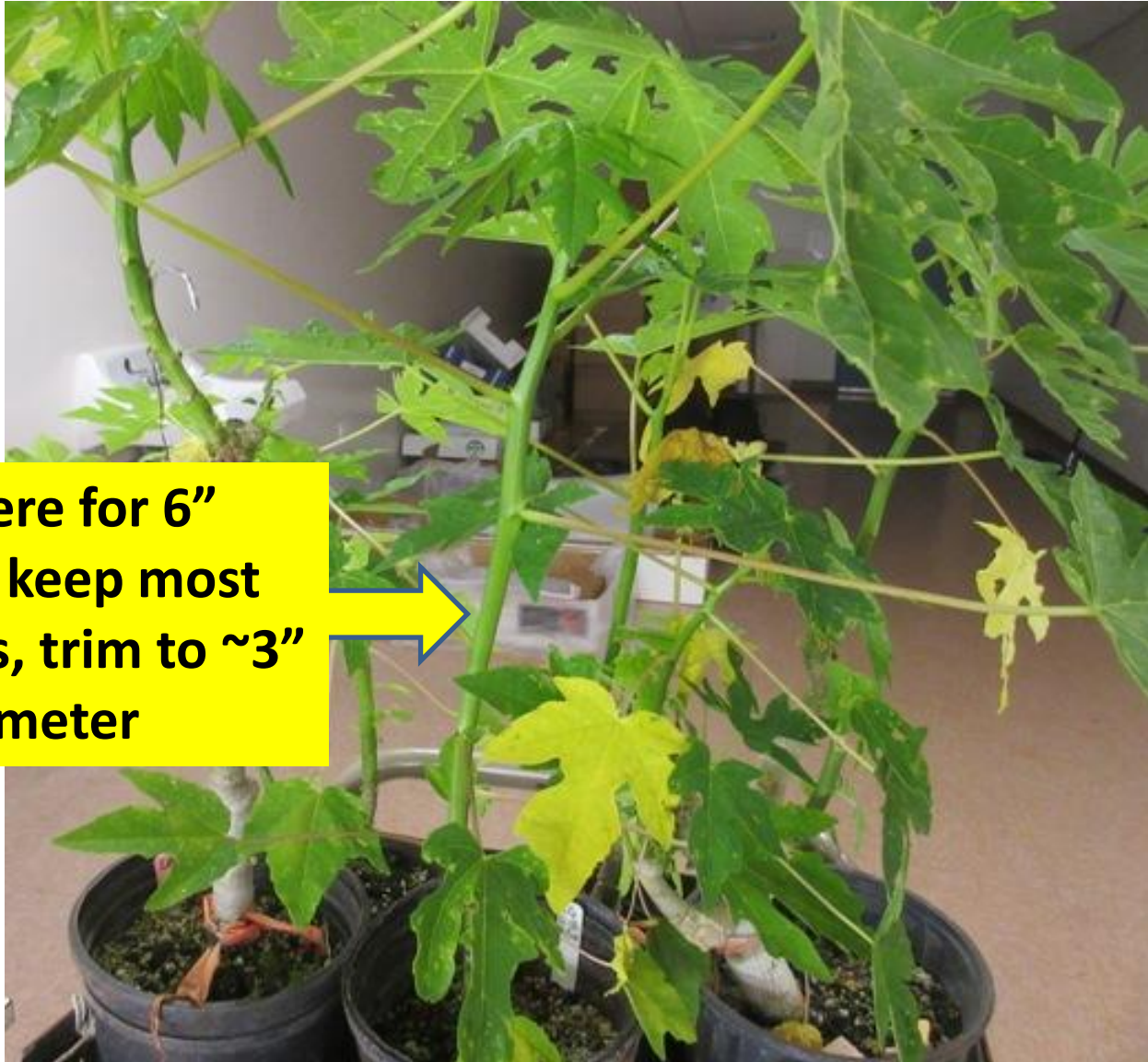


# Lighted rack where cuttings root; shade house stocks ready for cutting in lab



## Stocks to be cut

**Cut here for 6"  
stem, keep most  
leaves, trim to ~3"  
in diameter**



# Tools for cuttings, Larry Tochiki preparing potting soil, stocks ready for cutting



Razor blade  
Labels  
Marking pen  
Hormodin rooting powder  
Cutting board



**Larry poking holes in firm soil, measuring 6" Rainbow stem with Sharpie marker to cut**



# Placed in soil, firming soil, admiring newly potted papaya



**Newly potted papaya on lighted shelf, 16 hrs light, 8 hrs dark, check for roots in 3 weeks; cut stock plant**



**Bagged cuttings under fluorescent lights root in 1 to 2 months.  
2016 total rooted: 2000.**



# Rooted cuttings sold

- **2015:** 676
- **2016:** 714
- **2017 sold to date:** 210



**Freshly topped stocks will be ready for cutting again in  
2 to 3 months**



**Rooted cuttings ready to sell, taller ones to be cut**



**September 2016 Kahuku: Kahuku Brand growers bought & planted 500 Laie Gold cuttings in April/May 2016. About 100 seedling holes planted, too.  
4.5-month-old cuttings in same field (left) as seedlings (right).**



**3.5- to 4.5-month-old plants had many leaves, young fruit**



**One Laie Gold line, LG17-19A, had striped fruit after micropropagation. It is vigorous in micropropagation, therefore many plants have been made.**



**September 2016: Two very nice 4.5-month-old Laie Gold cuttings in Kahuku. In March 2017, growers at this farm bought 30 more hermaphrodites as fillers for holes in a new seedling field.**



# Future plans for cuttings

- **HARC: >500 more Laie Gold ordered.**
- **Wet winter weather killed many stock plants; replacing them.**
- **Train growers/nursery people to make rooted cuttings for growers? If not for whole fields, how about as fillers for empty holes lost to females?**
- **END**