

THE PUMMELO IN HAWAII

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Acknowledgments

The Honolulu Lions Club and the College of Tropical Agriculture gratefully acknowledge the help of the many home gardeners who participated in the 1971 and 1972 pummelo contests. Only with the assistance of these community gardeners was the locating and cataloging of local outstanding pummelo seedlings possible, and these trees are now being observed and evaluated. Both the Lions Club and the College hope that home gardeners will continue to notify the Extension Horticulturist of outstanding pummelos observed anywhere in the State.

Perhaps Hawaii's people will one day be able to serve to their friends another interesting and delightful Hawaii-grown fruit.

Members of the Agriculture Committee, Honolulu Lions Club, include:

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What Is a Pummelo?

Pummelos and grapefruits are closely related, and indeed the grapefruit was derived from the pummelo, probably by natural hybridization. But their differences are numerous. The pummelo looks like a grapefruit, but it is larger, up to five pounds in weight, and more varied in shape sometimes oval or pear-shaped rather than round. It is sweeter, although pummelo can also be highly acid and bitter. The rinds are very often thicker, and the flesh is more firm; segments can be separated and membranes removed, making it easy to eat with the fingers. The pummelo is one more idea for Hawaii citrus growers.

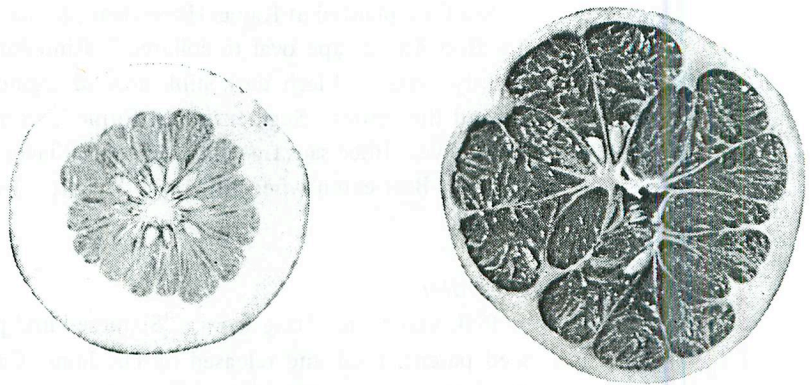


Figure 1. Undesirable characteristics of pummelos include thick skin and a disarray of segments of varying sizes.

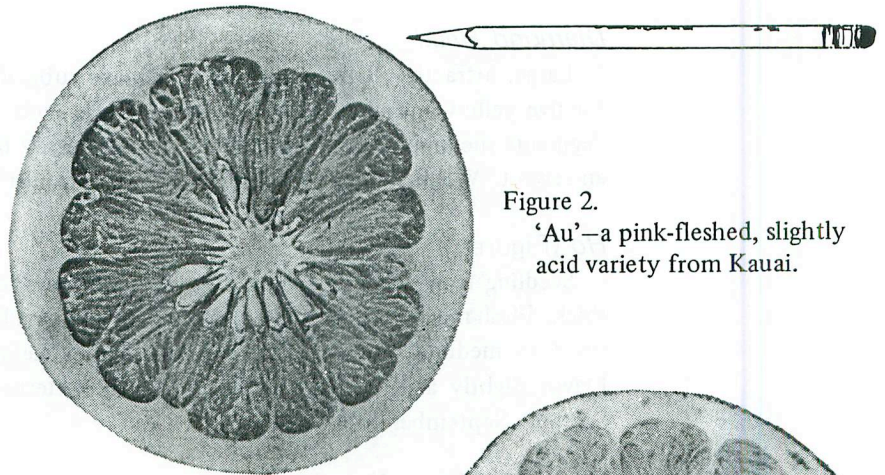


Figure 2.
'Au'—a pink-fleshed, slightly acid variety from Kauai.

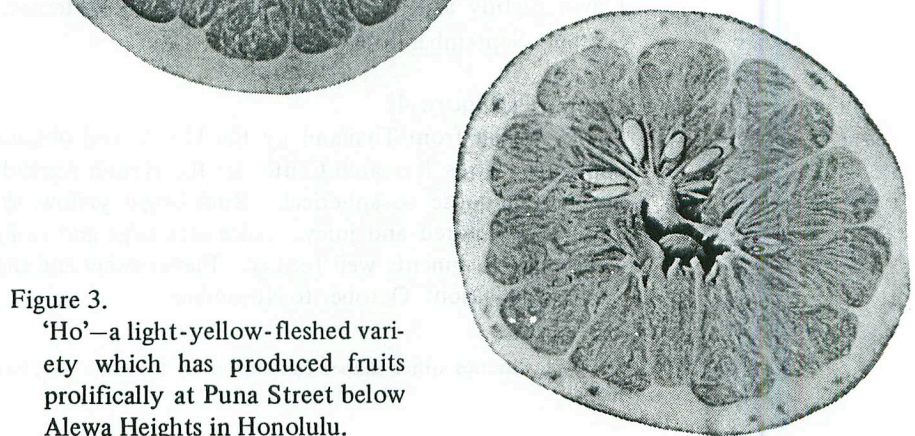


Figure 3.
'Ho'—a light-yellow-fleshed variety which has produced fruits prolifically at Puna Street below Alewa Heights in Honolulu.

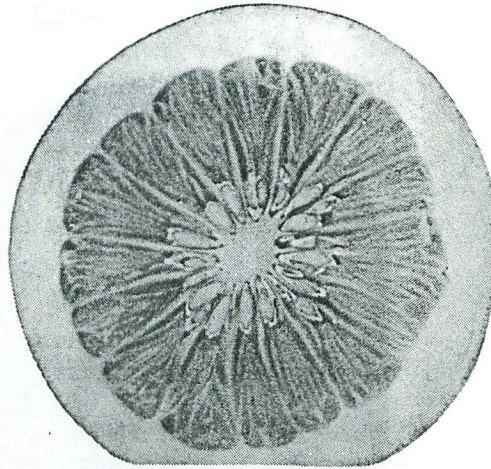


Figure 4. 'Kao Pan'—a variety popular in Thailand. Trees grown at Waimanalo and Poamoho on Oahu have been prolific bearers.

Kao Phuang

Imported from Thailand by the University of California at Riverside. Shape broadly pyriform with short neck. Rind yellow and about $\frac{3}{8}$ inch thick. Flesh juicy and greenish in color. Segments large and uniform with juice sacs held firmly to base of segment membrane. Flavor moderately acid but pleasant. Weight: 2–3½ pounds. Season: October to December.

Kau (Figure 5)

Seedling from seed brought from China and planted by Nancy Kau, 650 Ninth Avenue, Kaimuki, Oahu. Shape broadly obovoid. Rind yellow, about $\frac{1}{2}$ inch thick, and easy to peel. Flesh moderately moist and tinged with pink next to rind. Segments large and well formed with membrane easily separated. Juice sacs firm and fairly compact. Flavor slightly acid, but sweet. Bitterness slight and infrequent. Weight: 3–4 pounds. Season: September to October.

Pauthel (Figure 6)

Seedling grown by Paul Wong, Aliikoa Street, Kaimuki, Oahu. Shape pyriform to obovate. Rind light yellow and about $\frac{3}{8}$ inch thick. Flesh moderately juicy and pale yellow. Juice sacs firm and compact. Segments well formed and large with membrane easily removed. Flavor sweet and slightly acid. Weight: 2–3 pounds. Season: August to September.

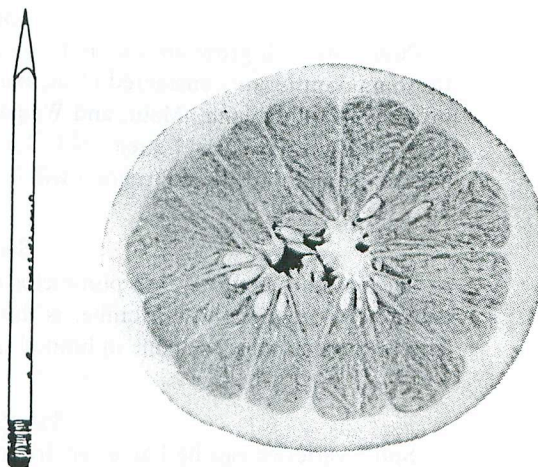


Figure 7. 'Sakata'—a lime-colored pyriform fruit of excellent flavor.

Sakata (Figure 7)

Discovered and grown by Mrs. Hatsu Sakata, 45-623 Kealahala Road, Kaneohe, Oahu. Shape pyriform to obovate. Rind light yellow, $\frac{3}{4}$ inch thick, and smooth. Flesh lime colored and juicy. Juice sacs medium and easily broken. Segments medium in size and well formed. Flavor slightly acid but sweet. Weight: $1\frac{1}{2}$ – $2\frac{1}{2}$ pounds. Season: August to September.

Siamese

Deep pink variety. Shape oblate. Rind yellow and about $\frac{1}{4}$ inch thick. Flesh juicy. Segments large but lacking in uniformity. Juice sacs tender and easily separated from segment membrane. Flavor moderately acid. Weight: $2\frac{1}{2}$ – $3\frac{1}{2}$ pounds. Season: September to October.

Climate

Pummelos grow well from sea level up to 2000 feet elevation, and in most of the areas where other citrus are cultivated in Hawaii, they also flourish. Rainfall is not as important for growth if supplementary irrigation is provided. As is true for many other trees, wind is detrimental to pummelos, making it often necessary to provide windbreaks, especially on the windward side of the Islands. Trees should be planted in full sunlight for optimum growth and yields. In Hawaii, temperature seems to be a critical factor affecting fruit quality and bearing season, and the best quality fruits so far have been produced in warm locations below 500 feet elevation.

Transplanting

Seedlings, grafted trees, or air-layered trees should be transplanted into the garden, normally when they reach a height of 1½ feet or larger and have well-matured leaves. In transplanting, the hole should be approximately 2 feet wide and 1½ feet deep to give the newly transplanted tree ample room to begin growth. The hole should be dug in an area far enough from other trees to avoid roots competing for space. One pound of treble superphosphate or 2 pounds of superphosphate should be placed at the bottom of the hole and covered with 1 inch of soil. The plant is then placed in the hole, and the root system is covered with soil so that the soil level is approximately 1½ to 2 inches higher than it was in the container. This is to insure that the soil level at the base of the tree after the soil settles into the hole will be about the same as before. Then a handful of complete fertilizer, such as 10-10-10, or any other fertilizer with a similar ratio of nitrogen (N), phosphorus (P₂O₅), and potash (K₂O), is applied by scattering it into the basin over the surface of the hole. Finally the tree is watered.

Fertilization

After planting, about a handful of fertilizer should be applied every second month during the first year of growth. The amount is gradually increased each following year, and one suggestion for the schedule is as follows:

2nd year—every 3 months—¼ to ½ pound

3rd year—every 4 months—1 to 2 pounds

4th year—every 4 months—2 pounds

5th year and thereafter—a minimum of 1 to 1½ pounds per inch trunk diameter per year which may be divided into 2 or 3 applications per year.

The time and amount of fertilization for bearing pummelo trees have not been fully determined, but recommendations made for other citrus trees may be applicable.

Irrigation

Young transplanted trees require plenty of water and should be irrigated at least twice a week during the first year. A weekly irrigation should be sufficient thereafter for the drier sections of the State. As the trees increase in size, the area irrigated should also be enlarged to cover at least 2 feet beyond the drip line of the branches.

References

- Reuther, Walter, H. J. Webber, and L. D. Batchelor, eds. 1967. The citrus industry, Vol. 1, Rev. Ed. Univ. Calif. Div. Agr. Sci. Pp. 534-538.
- Reitz, H. J., C. D. Leonard, et al. 1964. Recommended fertilizers and nutritional sprays for citrus. Florida Agr. Exp. Sta. Bull. 536B. 23pp.

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