



'Sharwil' Avocado Identification

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Avocados (*Persea americana* Mill.) are an important economic crop. As of 2017, 'Sharwil' avocados are approved to be shipped to some U.S. mainland states under a USDA-APHIS program. 'Sharwil' avocados account for a large portion, if not most, of Hawai'i's commercial production of avocados.

In order to export 'Sharwil' avocados, growers and packing houses must follow USDA compliance agreements described in USDA's 7CFR 318.13-20 (USDA 2015). For growers, one of the key components of the compliance agreement is ensuring the avocados are of the 'Sharwil' variety.

What Is a 'Sharwil' Avocado?

'Sharwil' is a winter avocado variety resulting from a cross between Guatemalan and Mexican races from Australia (Schnell et al. 2003, Chen et al. 2009). In order to guarantee that an avocado tree is a specific variety, it must be propagated asexually (vegetatively) from a known source, resulting in a clone of the intended cultivar. Avocado trees typically are



Figure 1. 'Sharwil' avocados are pear shaped with bumpy skin, and the skin is green when ripe. Photo credit: Brooks Wakefield.

propagated asexually by various grafting methods. It is important to understand that any trees produced from the seeds of 'Sharwil' fruits (sexually produced seedling trees) are not clones of the source tree, will not produce identical fruit, and thus are not 'Sharwil'. Therefore, it is best to purchase grafted trees from a reputable nursery or graft from a known 'Sharwil' tree. For more information on propagation, please see the Tropical Fruit Tree Propagation Guide (https://www.ctahr.hawaii.edu/oc/freepubs/pdf/F_N-49.pdf). Because the USDA export compliance agreement only applies to 'Sharwil' avocados, it is critical that farmers know the source of their trees and only export true 'Sharwil' avocados to maintain consistency and quality and to be in compliance with the law.

A major risk of any failure to do so is that the USDA approval could be withdrawn and the export program could be suspended or terminated.

'Sharwil' avocado fruit and trees have some characteristics distinguishing them from other avocado va-



Figure 2. 'Sharwil' avocados ready to be exported to the US mainland. Photo credit: Brooks Wakefield.

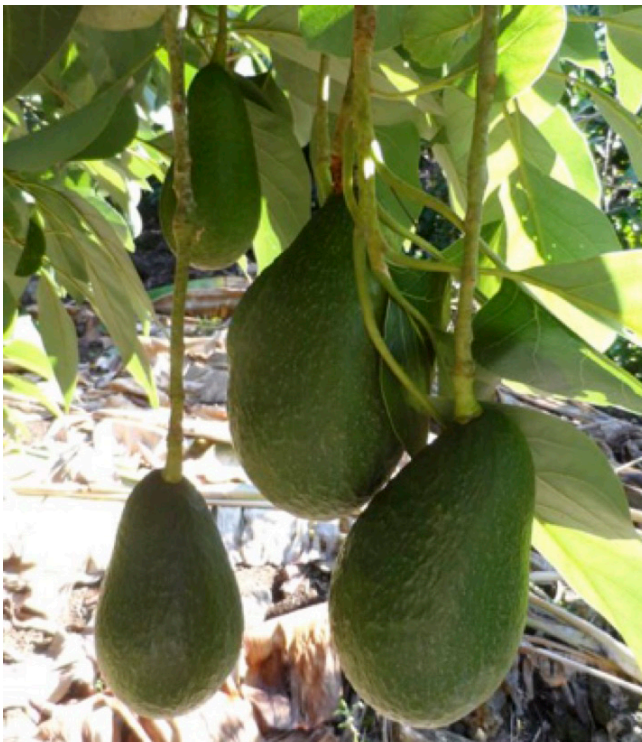


Figure 3. Green-ripe 'Sharwil' avocados on the tree. Photo credit: Brooks Wakefield.

rieties; however, none of these features should be used alone for identification, because they overlap with those of other varieties. A combination of characteristics should be considered, in addition to the records of the farm's planting materials.



Figure 4. 'Sharwil' avocado from the UH Waiakea Research Station. Photo credit: Mike Nagao.

'Sharwil' Fruit

'Sharwil' fruit vary from oval to slightly pear-shaped. The skin is green when ripe, is bumpy and of medium thickness, and peels easily (Figs. 1-4). The seed is small compared to fruit size, and the seed is roundish and not elongated. Most fruit weigh about 8–16 ounces, and about 74% of the fruit is flesh.

The 'Sharwil' avocado is a green-ripe variety and is ready to use when it is soft to the touch. 'Sharwil' avocados have a high oil content and excellent creamy, nutty flavor. 'Sharwil' avocados have an average oil content of 28%. In comparison, 'Hass' has an average oil content of 21% (Chen et al. 2009).

'Sharwil' Tree

While similar to many other avocado trees in *some* ways, the stems of the new growth of the 'Sharwil' avocado have little red flecks, or bars, that run lengthwise along the stem (Fig. 5). The newly emerging leaf flush is red (Fig. 6), and the blossom is type B (UCANR 2016). Mature leaves are a medium green color and smooth along the edges (not ruffled), and they do not emit an anise aroma when crushed. 'Sharwil' is a large, vigorous tree with a spreading growth habit.



Figure 5. The stems on new growth of 'Sharwil' avocados have little red flecks, or bars, that run lengthwise along the stem. Photo credit: Brooks Wakefield.

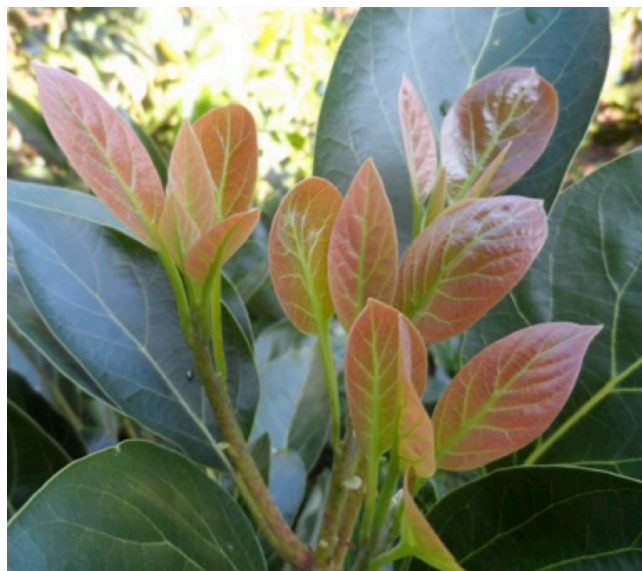


Figure 6. The new flush is red in 'Sharwil' avocados. Photo credit: Brooks Wakefield.

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References

- Chen, N.J., Wall, M.M., Paull, R.E., & Follett, P.A. 2009. Variation in 'Sharwil' avocado maturity during the harvest season and resistance to fruit fly infestation. *HortScience* 44:1655–1661.
- Schnell, R.J., Brown, J.S., Olano, C.T., Power, E.J., Krol, C.A., Kuhn, D.N., & Motamayor, J.C. 2003. Evalu-

ation of avocado germplasm using microsatellite markers. *Journal of the American Society for Horticultural Science* 128:881–889.

[UCANR] University of California Agriculture and Natural Resources. 2016. Avocado information: avocado varieties Kona Sharwil. <http://www.ucavo.ucr.edu/AvocadoVarieties/VarietyFrame.html#Ancho> Accessed October 5, 2016.

[USDA] United States Department of Agriculture. 2015. Hawaii: Regulation and clearance from Hawaii to other parts of the United States. 46 pp. Table 3-1.



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