

Growing Table Grapes in Subtropical Hawaii Using Organic Practices

by Gerry Herbert and Nancy Redfeather

Humans have been eating and cultivating grape varieties for thousands of years. Grapes have provided an essential food world-wide producing wine, juices, fresh and dried fruit, all with a high nutritional profile making it a super-food. Did you know that America is the “country of origin” of six of the eight *Vitis* species of wild grapes? Grapes were growing on the North American continent way before any people arrived. Wild varieties are found in all states *except* Alaska and Hawaii.

Over the last hundred years some interest has been given to this rowdy and uncouth bunch of American species. While these grape varieties are not widely cultivated or commercialized as the *vinifera* varieties, they show potential for crossing with European grapes to make enjoyable juices, wines, table grapes, and raisins and deserve to be recognized.

Worldwide, there are 10,000-20,000 grape varieties growing under very different climatic conditions. From this large group, there are only *some* varieties that would grow well in the subtropics. So, theoretically, there should be grape varieties that would both grow well and taste delicious in Hawaii, so finding the right ones with parent lines that have some adaptation to the subtropics was an essential part of our research. That was also the focus of our Western SARE Research and Education project from 2021-2023, although our grape research work here in Kona started years before.

We began our research project in 2015 following up on Ken Love’s SARE project “Grapes for Tropical Hawaii.” Our small farm is located at the 1,450 ft. elevation in the mauka Kona area of Hawaii Island. Since 2015, we have planted fifty eight varieties of grapes we thought had potential to grow here and have discovered twelve varieties that continue to grow well and taste very good. We currently have 33 mature grapes of those varieties and the oldest vine is 7 years old. But remember, the actual taste of the grape will take 6-8 years to develop and then you will enjoy them for the next 100 years!

Grapes bred for temperate or Mediterranean climates, just won’t do well here. That fact has been proven many times in previous grape research projects in Hawaii and in selections grown at our wineries. We don’t get a freeze that helps the grape drop their leaves and enter hibernation, and we don’t have a long day/short day cycle of light. We have a short day light cycle that requires growing varieties that have some subtropical parent genetics and we also have different pest and disease pressures and unique temperature and rainfall patterns.

Gerry discovered through his years of research that there had been a few independent grape researchers and University breeders who had also been looking at that same combination of factors mostly in Florida. There wasn’t a lot of research on these varieties because the subtropical area in the US is so small but it did give him direction when deciding which varieties to order from the UC Davis National Grape Repository. We started planting a few varieties we obtained from Ken in 2015 and ordered more

scion wood from Davis in 2018 and 2020. Since 2015 we used the “modified” Double Geneva Curtain trellis system creating 5 small vineyards in various sections of our farm.

From 2018-2021 we experienced both volcanic eruptions and radical climate change in this area where we had farmed for almost 25 years. In 2018 there was the 3 month eruption at Kilauea with high levels of sulfur and in 2019-2021 we experienced almost 100 inches of rain each year with no “dry” season in an area that usually receives about 40 inches. So the “vetting” process was pretty extreme. Only the tough and hardy survived. All but *one* of the varieties that thrived during those years have subtropical parents in their genetics.

Because of COVID, our outreach and education program consisted of quarterly blogs and frequent videos on our you-tube channel that focused on seasonal work and observations from the field, regular postings of photos, Instagram - #grapesforhawaii, posting of grape research documents, logs, and reports all on our website. www.kawanuifarm.org

We are also in the process of publishing a 50 page Booklet “Growing Table Grapes in Subtropical Hawaii Using Organic Practices.” This practical guide to growing grapes in Hawaii will be available at no cost to all our Stakeholders who signed on in 2020 to follow this project. A PDF of the Booklet will be available for download on our website and on Kindle by April 2023. The book has 9 chapters each focusing on aspects of what we learned. Chapters include Getting Started, Building Your Trellis, Starting Grapes from Scion Wood, Using Organic Soil Building Practices, Training the Grapevines, Pruning the Vineyards, Vetting Varieties for Your Micro-Climate, Summary of Best Varieties from our Trials, and Culinary and Nutritional Benefits.

If this has perked your interest, check out our website or follow us on Instagram for announcements of more resources in the future. There are *many* other subtropical areas of the world that grow grapes, and much research lies ahead for those who are interested in pursuing this new fruit for Hawaii’s tables.

Mahalo Nui to Western SARE: the Sustainable Agriculture Research and Education Initiative and NIFA: the National Institute of Food and Agriculture both programs of the US Department of Agriculture for their support each step of the way. We are indeed fortunate in America to have government agencies dedicated to furthering and supporting the building of components of our local and regional community food systems.

Mahalo Nui to our PI Ken Love, the Hawaii Tropical Fruit Growers Association, Dr. Ted Radovich Extension Specialist and Professor at CTAHR, HDOA, and many others for their support and encouragement for this project. The beautiful grape poster seen in this article is available at <https://www.htfg.org/product-page/grapes-poster>

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www.kawanuifarm.org