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5th Grade 'Ike Hawai'i: How to Grow 'Uala - Sweet Potatoes

Aloha pūmehana kākou! A warm greeting of aloha to you all! This lesson is one to help you grow 'ai or food at home to help mālama or care for your 'ohana. Now that you have some knowledge on how to build soil through compost and pu'epu'e planting practices and also have information about how to build your own māla 'ai (garden), here is a lesson on how to grow 'Uala or Sweet Potatoes. If you don't have any 'Uala growing at home... no worries! This lesson will tell you how to take a Sweet Potato from the grocery store, farmers market or from a neighbor and how to use it to make your own vines to plant your own Sweet Potato patch.

Let's get started!

General Information:



'Uala is the 'ōlelo Hawai'i (Hawaiian language) word for Sweet Potato. Scientifically, 'Uala are called, "Ipomea batatas". They are a part of the morning glory family and they are actually not considered "potatoes". The underground "potatoes" are actually called "tubers". The tubers that the plant grows are a very nutritious root vegetable eaten all over the world. Yet, most people don't call them tubers, their real name... most people like us in Hawai'i just call them potatoes.

According to Handy, there were 24 documented ancient varieties of Hawaiian 'uala that he was able to collect and document prior to 1940. There were undoubtedly many more. It is said that there were at least 232 names for 'uala grown in Hawai'i. Many of those names were the original 'uala varieties which were grown in certain areas because they grew best there. This list of names also includes 'uala that were brought by immigrants and visitors to the islands that are also still grown and eaten in Hawai'i to this day.

'Uala was a very important food crop here in Hawai'i and considered one of the important food starches similar to kalo that helped to feed many of our kūpuna for countless generations. 'Uala is a food source which is much better at growing in drier and hotter climates where there were no running streams.

‘Ōlelo Noeau # 946 “He ‘uala ka ‘ai ho‘ōla koke i ka wi. The sweet potato is the food that ends famine quickly.” *The sweet potato is a plant that matures in a few months.* This ‘Ōlelo Noeau (or words of wisdom) was collected by Mary Kawena Pukui and it show the importance of ‘Uala to our kūpuna here in Hawai‘i. Sometimes when the rain stopped falling or when food crops died for many other reasons, sadly people suffered and were hungry because there was no food. In the English language, when people have very little or no food, this is called a “famine”. ‘Uala was a very important food source to help to end a famine because it grows very quickly from the time it takes to plant until harvest.

Compared to Kalo which takes anywhere between 7 months to 18 months to grow depending upon the variety and conditions where it is grown, ‘Uala can grow food within 3 - 6 months depending on the variety and conditions. That is why our kūpuna called ‘Uala a “food that ends famine quickly”.

Every home should have some ‘Uala growing so that if times get tough ‘Uala can be grown to help feed the ‘ohana!

How to Plant and Grow:

‘Uala is grown in Hawai‘i by collecting the vine “slips” or “cuttings” from an existing plant. The vine tips are cut or broken off so that they are between 12” to 20” long. The slips or cuttings are taken from the ends only with the new leaf buds. Then all the leaves are cut off of the vine except for the new leaf bud (at the vines tip) and the next 3 to 4 leaves.



To the left is an example of a “slip” or a “cutting” ready for planting. Notice the leaves have been carefully cut off the vine except for the last 3 or 4 leaves.



The photo to the left shows the new leaf buds at the “tip” or vines end which should be saved for planting.

Next, take the “lepo” or soil to plant in and gather it up into a pu‘e or a “hill or mound”. Make each pu‘e at least 3 feet across. Once you have your mound of soil you are ready to plant.



To the left is an example of an ‘ō‘ō or planting stick. Any stick can be used as an ‘ō‘ō. You can use a ruler or tape measure to make marks on your stick to know how deep to make your holes.

Then, use an ‘ō‘ō or a planting stick to make two to three holes into the pu‘e that were 6 to 8 inches deep.. The vine slips were placed into the holes and the lepo was “patted” down and made firm around each slip. It is okay if you put a few slips (2-3) into each hole.



This picture shows some recently planted ‘Uala “slips” or “cutting” in a large pu‘epu‘e (mound of soil). The tree trunks have been placed to keep the lepo from washing away in the rain. Notice some of the different leaf shapes. These are all different varieties or types of ‘Uala. They all are ‘ono (yummy or delicious)!!!!

As the ‘uala vines begin to grow well they will begin to run wild across the ground. One trick I have learned is to “wili” or twist up the vines around the base where they were planted. After being twisted, the vines should be covered with more soil. This will help the potatoes to grow larger.

When to Harvest:

‘Uala can be harvested after 3 to 4 months. Some people say that when the plant begins to flower or when the leaves at the vine tips begin to yellow, but really if you wait 3-4 months and dig one up you will be ok.

If you harvest your uala and the skin is cracking open, it is past the ideal time to harvest. Take note of how long it was planted and next time harvest a little earlier.

Cooking:

‘Uala need to be cooked by either boiling, steaming, roasting or frying until the tubers are soft enough to easily stick a butter knife or fork through.

The ‘Uala “green’s” or leaves and tender stems of the ‘Uala vines can also be eaten. They are a very delicious and a healthy treat eaten by many people around the world. The leaves and tender stems also need to be cooked until soft. They can be cooked in hot soups, blanched, steamed or stir fried and eaten like spinach. ‘Uala is a very nutritious dish that is packed with important vitamins and minerals.

DO NOT EAT ‘Uala potatoes or leaves and vines RAW!!! They must be cooked.

After harvesting, save the vines by keeping the cut ends in water until you are ready to regrow. If keeping for more than two days, change the water regularly. Roots will appear on the cut ends of the “slips” and will help the ‘Uala regrow faster when planted.

You can regrow ‘uala in the same area. Yet, if planted in the same soil more than 2 times, the soil becomes more susceptible to the Sweet Potato Weevil and other pests like Nematodes and the Sweet Potato Hornworm which can damage or harm the tubers or “potatoes” that we use to eat as food.

Pests:

Sweet Potato Weevil likes to eat the potatoes of the ‘uala and creates small holes or “channels” on the outside of the potatoes. If left in the ground too long the Sweet Potato Weevil will ruin the potatoes.



Left: Sweet Potato Weevil

The Sweet Potato Hornworm, is the “caterpillar” or larva of the Pink-spotted Hawk Moth. The hornworm eats the leaves of the ‘uala. The Pink-spotted Hawk Moth lays its eggs on the ‘Uala leaves and vines which will then hatch into the hungry larva or caterpillar we call the Sweet Potato Hornworm. Below left is the “Hornworm” and below right is the “Hawk Moth”.



Plant other crops where your ‘Uala was growing after you harvest it to help the soil heal. If you add any fertilizer, I recommend adding an organic form of phosphorus which helps develop the healthy tuber roots of your ‘Uala. If you don’t have fertilizer, you can always do what our kūpuna did. They would add a layer of dead plants to the soil and let it decompose. This will help to heal the soil by building a healthy soil ecosystem. If you want more information of how our kūpuna grew crops without buying fertilizers please check out the other lessons on “‘Āina Engineering” or on “Composting” available at the link at the top of this document.

How to Grow ‘Uala Vine “Slips” for Planting at Home:

If you talk to any adult at home who helps to cook food, they will tell you that ‘Uala will begin to sprout and regrow vines after a few months if not eaten and left on the counter or in a kitchen pantry. I did some internet research and tests of my own to see how to grow ‘Uala vines fastest from the sweet potatoes that any of us can buy from the grocery store or farmers markets.

Online, some people suggested planting a sweet potato in soil, some said place it on top of soil, some said cut it in half and use toothpicks to hold it in a jar with water. I tried them all. Water worked the best!

My tests to sprout ‘Uala vines by using lepo and placing the tuber on or under the lepo where not as effective as the “soaking in water” technique. Sprouting vines by soil took a lot longer so I do not suggest trying this method.

The picture below shows the other ways that I tried to make the ‘Uala grow vines with water. The longest vines have grown from the whole potato just sitting in a container half way filled with water (far left). This picture was taken 3 weeks after soaking in the water.



I found that taking a whole ‘Uala and placing it in a container and filling it with water (make sure the tuber is covered halfway with water) then placing the container on a windowsill or in a partly sunny spot works the best.



Left: The ‘Uala vines grow best from placing the whole tuber into a container that covers the tuber halfway with water and leaving it near a window.

If you try to grow 'Uala at home to feed your 'ohana using a sweet potato you bought from the store it will probably take over a month to grow your own vines that will be long enough to plant. Remember vine cuttings or slips need to be at least 12 inches long to plant in your pu'e or mound.

Other resources on 'Uala:

- *Hawaiian 'Uala Info:*
 - <https://www.canoepplants.com/uala.html>
- <https://hawaiiannativeplants.com/ourplants/uala/>
- *Nutritional Information and Health Benefits of 'Uala*
 - <https://www.healthline.com/nutrition/sweet-potato-benefits>
- *Kō'elepālau Recipe- Traditional Hawaiian Desert with 'Uala and Coconut Milk*
 - <https://apps.ksbe.edu/kaiwakiloumoku/makalii/recipes/starch/koelepalau>

Questions:

If you have questions please don't hesitate to email me and ask @ nifraci@ksbe.edu