

Seed basics for life

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October 7, 2012

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Special to West Hawaii Today

It doesn't matter if you "eat to live" or "live to eat," plants make up one of the three or four essential parts of our existence. Over millennia of civilization, we have learned to nurture plants in order that we may have some control over our destiny. Seeds, whether for vegetables, ornamentals or fruits provide ways to restart our garden plantings season after season. And if "seeds" is loosely defined, we can include cuttings and other forms of vegetative planting material. Seeds form a chain from the past to the present and a link into the future providing a path and a sense of security as we venture forward. They are the starting point of many good things. Without seeds, the world we know would not exist.

Seeds can be a precious commodity to gardeners, especially when they represent links to our being, as would heirloom seeds handed down from one generation to the next. Precious as these seeds may be, their treatment during production, harvesting and storage varies considerably from individual to individual. When saving seeds, are you a hoarder, keeping everything that passes in front of you? Do you have boxes and boxes full of seeds? Do you store seeds under the proper conditions to favor their survival and vigor? Do you plant each and every variety of your collection at least once every four years and save seeds from those plantings to keep your lines fresh? Are you the keeper and supplier of seeds for friends, neighbors and seed exchanges?

Whatever type of saver you are, it is best that you keep the healthiest and best seeds for your future plantings. Larger seeds tend to have more food reserves and give rise to vigorous seedlings that are better able to weather adversity. Start with seeds free of insect damage and disease to prevent their spread to your garden. After harvest, use caution when drying seeds. Whether using heat from a dryer or the sun, external heat sources can overheat your seeds and damage or kill the living embryo within. A shaded patio or work area with good ventilation and protection from the rain and wind works well, as would an air-conditioned room. Place your seeds or seed pods in a single layer for good, even drying. Using a shallow pan or screen box raised a few inches will result in more uniform drying. In maintaining vigor of many vegetable and flower seeds, low temperatures and humidity are the best for the long-term viability of seeds. One of the fastest ways to weaken and kill many of your seeds is to subject them to heat and high humidity. Temperatures in the mid 80s, with relative humidity between 80 and 90 percent will weaken and kill many garden seeds. In general, the best practical storage condition for garden seeds for the home gardener is the rule of 100. Simply stated, the rule of 100 is the relative humidity plus the Fahrenheit temperature should equal 100. For example, if the storage temperature is 50 degrees, then the relative humidity of the storage container should be 50 percent.

Many gardeners prefer to keep only open-pollinated and heirloom seeds as these tend to breed truer to the type that was originally obtained. For others and for certain crops it doesn't matter since the crop had inherited variability like those found in many of the local pumpkins grown in Hawaii. Growing of the same heirloom or open-pollinated crops is fine if everything stayed the same. The garden is a dynamic place where change is occurring all the time. The climate and environment is slowly changing: temperatures are slowly warming and rain patterns are shifting. Extreme weather is becoming common in many areas. However, the fastest changes affecting Hawaii are caused by the diseases and plant pests that arrive from outside the state and settle in our gardens. We can choose to remain with our current plant varieties and learn how to manage

pests and diseases if possible. We could choose not to grow all susceptible plant varieties, but that may lead to a very bare table in a few years. Addition of new varieties that resist pest and disease into your garden mix may be the best solution for continued sustainability. Plants with host plant resistance that naturally protect plants from diseases and pest offer the best solution. Host plant resistance reduces the need to apply pesticides for the control of certain pest.

The Kohala Center will hold a workshop as part of the Hawaii State Public Seed Initiative on the Basics of Seed Saving, Nov. 3 and 4 at the Amy B.H. Greenwell Botanical Garden. There is a fee for this workshop. For more information, visit kohalacenter.org/seedbasicsworkshop/hawaii.html.

For more information on this and other gardening topics, visit the CTahr electronic publication at ctahr.hawaii.edu/Site/Info.aspx or visit any of the local Cooperative Extension Service offices around the island.

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