

Features| The Urban Gardener

Agroforestry can offer cooling shade, nutritious food

By Kalani Matsumura, Special to the Star-Advertiser
April 2, 2017



COURTESY KALANI MATSUMURA

The Katuk plant.

Agroforestry is the integration of trees and shrubs into farming systems for economic, environmental and social benefits. You can use tropical agroforestry practices in your garden to provide shade, recycle nutrients and grow nutritious food.

Many homes still have a favorite fruit tree such as mango, which keeps the house cool, provides a nice place to hang out and gives tasty fruit every year. When planting new fruit trees, keep them short enough to allow for regular pruning and care. This can help to prevent damage to infrastructure, make harvesting easier and optimize fruit production. Besides fruit trees, there are many easy-to-grow edible plants that you could add to your garden.

>> **Moringa (*Moringa oleifera*)** is cultivated throughout the tropics for its leaves and bean pods, which are high in protein, vitamins and minerals, and provide all the essential amino acids. It is commonly known here as marunggay. This tree is very hardy, drought-tolerant and easy to grow from a seed or cutting. You can grow it by cutting a branch up to 5 feet long and planting it in the soil, keeping it watered until it establishes roots. When the tree grows too tall, it can be cut down about chest high and allowed to regrow, in a practice called pollarding.

>> **Katuk (*Sauropus androgynus*)** is a small tree or shrub grown for its nutritious leaves and young shoots, which taste like peas and can be eaten raw or cooked. Like marunggay, it can also be grown from seeds or cuttings and should be pollarded to produce lots of new shoots.

>> **Chaya (*Cnidoscolus chayamansa*)** is yet another tough, easy-to-grow perennial that provides lots of tasty, nutritious greens. It is propagated from branch cuttings planted in the ground. In my yard in Kaimuki, which gets lots of hot sun and very little rain, this plant grows lush and green without any watering. The leaves are high in vitamins, minerals and protein but must be cooked before eating. Like cassava and many other plants, the leaves contain a toxic cyanide compound that is destroyed during cooking.

>> **Bele (*Abelmoschus manihot*)** is propagated just as easily as chaya but requires more moisture. It is more susceptible to leaf-eating pests such as slugs and rose beetles. It can be eaten raw or cooked. Like okra, it has some slimy mucilage, which some people enjoy.

While your trees are young and still growing, plant vegetables around them and you'll get a few harvests before the tree takes over the space.

Agroforestry systems often include intercropping of taro, sweet potato and

other vegetables, herbs, medicinal plants and lei plants that can live in the understory. Visit ctahr.hawaii.edu/sustainag/links/agroforestry.html to learn more about traditional agroforestry plants and practices.

Traditional agroforestry systems don't rely heavily on adding fertilizers, but instead recycle nutrients through mulching. Tree leaves that fall will decompose and return their nutrients to the soil. Animals and decomposers speed up the process. When you trim your grass, shrubs and trees, don't throw out the trimmings. Instead, lay them on the soil around your plants or compost them in a pile, kept well-watered.

Visit the UH Master Gardener website (ctahr.hawaii.edu/UHMG) for more information about plants, gardening and events in your area.

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