**Growing Edible-Podded Peas in Your Garden**

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Edible podded peas *Pisum sativum var. macrocarpon* are a productive and easy-to-grow garden vegetable. It’s a healthy addition to your diet and is high In Vitamin C, Iron, protein, and fiber. Also known as snow peas or Chinese peas in Hawaii they’re a local favorite for stir fry and oriental noodle dishes. Usually harvested when young and before peas start to swell, the pods can also be allowed to mature then shelled for sweet round peas.

Peas plants generally produce better in cooler conditions found at higher elevations in Hawaii, but they maybe grown at lower elevations if an adapted variety is utilized and plants are kept free from pests and diseases. Warm weather tends to hasten plant maturity and shorten the productive life of pea plants. Many varieties are not adapted to Hawaii’s tropical conditions with hot days and warm nights.

**Varieties**

There are many varieties that can be grown in Hawaii, but the key is adaptability to your specific conditions and disease resistance. Manoa Sugar, developed at the UH College of Tropical Agriculture and Human Resources by Dr. Jim Gilbert is adapted to Hawaii’s growing conditions and is more tolerant to diseases found in Hawaii’s. This purple-flowered variety is high yielding due to its double flowering characteristic, and is also resistant to Powdery Mildew, a fungal disease that can defoliate plants and lead to early death. A selection of Manoa Sugar, Manoa C is a more compact version of Manoa Sugar with slightly smaller pods.

**Location**

Plant in an area protected from strong winds but allow for good air circulation. Snow peas are susceptible to wind damage since stems are hollow and will bend or break if not protected. Strong winds also damage the root system. The use of windbreaks or planting leeward of a structure to control wind is important. Windbreak species include pigeon pea, sorghum-sudan grass, panax, native white hibiscus, bana grass, and others can be used as a windbreak to protect snow peas and other wind-susceptible plants in your garden.

**Soil Preparation**

Snow Peas require well drained soil to prevent rot rotting diseases. Don’t plant in a low area that’s susceptible to flooding or standing water. If you experience these conditions, plant on a mound if drainage is poor. Moderately acidic to neutral soil with a pH of 6.0 to 6.8 with a good level of organic matter is recommended. If your pH is lower than 6, increasing the pH through the application of ground coral is recommended. If Magnesium is also low, the use of Dolomite to increase both pH and magnesium is recommended. In high rainfall areas, increasing the pH and calcium and possibly magnesium is required due to leaching of bases. Analyzing the pH, Calcium, and Magnesium will identify the best course of action to remedy the situation to determine which amendment to use, including the Ground coral, Dolomite, or Gypsum. Having the soil analyzed will help to identify other limiting factors in your soil including deficiencies of Phosphorus and Potassium. Also, a pH above 6 is important to increase the availability of Molybdenum, a key element for the growth of rhizobia which is discussed later. Its important for amendments such as lime, dolomite, and especially phosphorus to be incorporated into the top 6 to 10 inches because these amendments don’t move in the soil. The use of organic matter, including compost and well-rotted manure is recommended.

For organic or sustainable gardening, the above factors in amending the soil still apply. Adding inputs such as compost, bone meal, blood meal, biochar, and others early when preparing the garden allows for breakdown so nutrients can be taken up when seeds sprout. Incorporating inputs into the top 2-4 inches of soil is important. Light doses of fish emulsion helps to address the nitrogen needs of the plant and can applied to soil near the base of the plant weekly up even after flowering.

When using conventional fertilizer on a 100 square foot basis, two applications of 1¾ pounds of 10-20-10 or 1 pound of 16-16-16 per application, one at pre-planting and another when plants start to flower. Pre-planting fertilizers should be incorporated into the garden. The second application can be split into two applications one at first flowering and the second after a large harvest to give the plants a boost. Since roots are shallow and fragile, if incorporating fertilizers into the surface care should be taken so roots aren’t damaged. If roots have spread out, move the fertilizer out a little more and incorporate lightly.

**Erecting a Trellis**

Erect trellis before sowing seeds to prevent damage to seedlings. Many different trellises can be utilized but must be able to hold up the plants and withstand light winds. When using planting netting, use a large eye of 4-6” for ease of harvesting. Erect a durable trellis at least 6 feet high and about 3” off the ground. Space poles about 10-15 feet apart if using metal poles or strong wooden poles.

**Seed Treatment**

The growth of pea seeds can be enhanced through the use of Rhizobia, a nitrogen-fixing bacteria that can draw nitrogen from the environment and feed it to pea roots. Rhizobia, a roundish pink ball, will attach themselves to pea roots and can inject nitrogen into the roots. Seeds are treated with Rhizobia bacteria in a powder form that can be purchased from seed catalogs. Follow instructions on the packet. Usually seeds are dusted with millions of rhizobia just prior to planting. In many instances, rhizobia may already be present in the soil if legumes such as beans, peas, or sunn hemp have been planted there previously.

**Planting**

Plant seeds 1-1½ inches deep spaced 4-6 inches apart in single rows with rows 36-48 inches apart. Good air circulation helps to minimize fungal diseases. Sow seeds upwind from the trellis so plants lean toward trellis and tendrils can grab on. Assist plants to grab onto trellis.

**Irrigation**

Irrigate as necessary to maintain moisture but avoid soil waterlogging. Do not plant in low areas susceptible to standing water. Irrigate so plants are slightly dry when the sun goes down. Any setback early in the growth may result in smaller, weaker plants with reduced yield. Irrigate near roots but try not to wet plants. Allow soil to dry a little between waterings. Overhead irrigation is not recommended.

**Disease Management**

The most common diseases of pea are Pythium and Rhizoctonia root rots, root-knot nematodes, Ascochyta blight, and powdery mildew. Root rots thrive in soil with excess moisture and areas of the gardens that are over-planted. Rotating crops and planting nematode resistant crops prior to nematode susceptible crops, such as peas will help to break the nematode cycle. These include nematode-resistant tomatoes, Kahala soybean, and cover crops such as sorghum sudan hybrid grass, cowpeas, and sunn hemp. Growing, cutting, and incorporating into the soil will release compounds toxic to nematodes, but will not harm garden crops. Mixing compost into the garden will help to control soil-borne issues, including nematodes. Microorganisms in the compost will compete with pathogens and even kill or trap them. Ascochyta blight thrives on wet plants so good air circulation in wet areas and not wetting plants when irrigating will help to mitigate this disease. The use of powdery mildew resistant varieties, including Manoa Sugar and Manoa C will help to minimize this disease. It’s not known what other varieties are resistant to powdery mildew unless listed on variety descriptions in seed catalogs. If your planting area has poor drainage or standing water, either add soil inputs to increase drainage or sow seeds on mounds to encourage drainage.

**Harvest**

Most pea varieties are ready to harvest in 50-60 days, even earlier under ideal conditions. Pick pods when they have reached their maximum length but before seeds start to swell. This is done by pinching them off with thumb nail and index finger. Pulling them off may damage the plants and break growing tips. Using a harvesting aid, such as attaching a little bucket to your belt will speed up harvests. The time from flowering to ideal harvest time can change depending on the time of year, sometimes three days after flowering. Pods will decrease in size during the season and should be harvested before pods swell. Harvest often, sometimes daily when pods are ripening quickly. Remove pods that are overripe since the plant will direct its energies to seed production at the expense of new pods.

**Seed Harvest**

At the end of the season, pods can be left to mature and can be harvested when seeds are plump and pods begin to yellow and dry. Remove seeds from pods and place seeds on paper towels or newspaper in a tray or cake pan. Dry in a warm area such as a south-facing window with air circulation. Another method of drying is to place seeds in a sealable container with silica gel or silica pellets. After fully dry, seeds can be placed in a jar and stored in the refrigerator.