



# Growing Specialty Ethnic Crops for a South Asian Market in the Northeast





## Table of Contents

### **2. Introduction**

### **3. Beans**

#### 3. Winged Beans

#### 4. Long Beans

#### 5. Seim Beans

### **6. Gourds**

#### 6. Snake Gourd

#### 7. Bitter Melon

#### 8. Luffa

#### 9. Bottle Gourd

### **10. Greens**

#### 10. Jute

#### 11. Dasheen

#### 12. Malabar Spinach

#### 13. Lamb's Quarters



# Growing Specialty Ethnic Crops for a South Asian Market in the Northeast

Cultivating South Asian specialty crops in the Northeast of the United States requires creativity, versatility, and intuition, not only because of the gap in literature addressing their cultivation in temperate zones, but also because of the increasing rate of unpredictable weather patterns that growers are confronted with worldwide.

Our hope is that this guide will impart a cohesive understanding of these crop types, and will share some helpful growing tips to increase the yield and fulfillment gained from growing these unique crops. The South Asian specialty crops included in this guide are divided into three general categories: beans, vining gourds, and greens. We chose these crops



East New York Farmers Market on a busy summer Saturday.

because they are viable in our climate and show economic potential. We did not include every crop that growers were planting, many of which are well-known and commonly grown (e.g. tomatoes, onions, etc.).



An elaborate trellis system for vining crops in an East New York backyard garden.

Unless otherwise noted, all pictures in this guide were taken by East New York Farms! staff in our network of gardens and at our farmers market.

The beans mentioned here, *long beans*, *seim beans*, and *winged beans*, are all vining beans that require trellising, although bush-like varieties exist for many of them. As nitrogen fixers, these beans are able to thrive in less fertile soils that other crops might not tolerate, and have deep-reaching roots that make them somewhat drought tolerant. All of these beans should be direct sown safely after the last frost, as they are extremely cold-sensitive, and thinned to a spacing of about 6 inches, with a row on each side of the trellis.



Winged beans at commercially harvestable size. See Resource section for citation.

### **Winged Beans (*Psophocarpus tetragonolobus*)**

Also known as Princess bean, Asparagus pea, Four Angled bean, Manila bean, Dragon bean, Goa bean, and Kamrana Sheem (Bengali), these climbing pole beans produce edible pods at 4-6 inch length, edible beans when pods reach maturity at 6-9 inch length, 3-6 inch long edible leaves, and large tuberous roots, similar to potatoes, that can be eaten raw or cooked.



Winged beans hanging off a net trellis. See Resource section for citation.

### **Planting and Care**

Seeds have poor germination and should be scarified or soaked overnight before planting. Plant seeds 1 inch deep with a 4-6 inch spacing and 4 feet between rows. The plants can climb up to 10 feet, so be sure to construct a strong trellis alongside the rows.

Winged beans require short day length to flower, but they are extremely sensitive to cold. Because of this, the best time to plant is in late spring after threat of frost for a heavy flower set in late summer and a harvest in September.

Pruning the vine after the 12th leaf will induce side-shoot growth and a higher pod yield. Winged beans are relatively resistant to pest pressure, but they are very susceptible to waterlogging, so choosing a location with good drainage is crucial.

### **Harvest**

Pods can typically be harvested 75 days after sowing, or 2 weeks after flower pollination (in September). Young leaves and growing tips can be harvested at any point after the plant is established. Because of the short growing season in the Northeast, winged beans will not produce a large tuber crop, however, removing flowers can help increase the inevitably small yield. Winged beans can be harvested at full size, 4-6 inches, although some gardeners prefer to eat them when they are more tender, at 2-3 inches. (Stephens).

### **Varieties and Seed Sources**

Hunan is one of the few varieties that can be grown in the Northeast because it can tolerate colder temperatures; all that it requires are at least two months of warm nighttime temperatures, and a short-day period to induce flowering. Kitazawa, Evergreen, and Baker Creek Heirloom Seeds offer Hunan seeds.



Seeds can be saved by leaving the pod on the vine until it dries and blackens. See Resource section for picture citation.



Freshly harvested long beans at farmers market.

## **Long beans (*Vigna unguiculata*)**

These beans are affectionately recognized by a number of English names, including Yardlong Bean, Asparagus Bean, Snake Bean, and Chinese Long bean, and are known as Borboti Sheem in Bengali, Fali in Hindi, and Bora in parts of the Caribbean.

## **Planting and Care**

Long beans excel in soils with a pH range of 5.5 -7.5, and, as a legume, thrives in and enriches soil that is not abundant in nitrogen. Long beans climb up to 12 ft and require a strong trellising system for support. Plant seeds in late spring at a spacing of 3-4 inches and a depth of 2 inches in loose friable soil or 1 inch in heavy soil. Expect germination in about 7-10 days, after which point seedlings can be thinned to a 6 inch spacing. Long beans can tolerate high heat and low rainfall, but are very sensitive to cold temperatures.



Young long beans reach for a trellis.

## **Harvest**

Long beans can be harvested about two months after sowing, and may even require daily harvest once they start producing. Fresh beans can be harvested at 10-12 inches long, and about pencil thickness. Beans can also be left to mature, and the dried beans can be cooked as a southern “pea” or prepared as bean sprouts. Young leaves and growing tips can also be cooked and eaten as greens (Lawrence, 2012).



Long beans ready to be picked.

## **Seed sources & Varieties**

Long bean seeds are available from a number of seed companies in the northeast, including Baker Creek Heirloom Seeds, Burpee, Johnny’s, Evergreen, Kitazawa, and Fedco. Two standard, black-seeded varieties are Gita (Johnny’s) and Liana (Southern Exposure, both producing pods up to 20 inches in length. A few bush-like varieties that do not require trellising include: “Stickless Wonder”, which produces pods up to 15 inches long (Evergreen Seeds), and “Thai Soldier”, whose pods have pale green and dark red variegation (Baker Creek Heirloom Seeds). Some other notable varieties include “Orient Extra Long”, which tolerates excessive heat and rain and produces pods that are 65-70 cm (Evergreen Seeds); “Red Noodle”, which has a unique dark red color and is popular in Southern China (Kitazawa Seed Co. and Baker Creek); and “White Seeded”, which has a paler green, sweet, tender pod (Kitazawa Seed Co. and Evergreen Seeds).



These beautiful purple seim beans are ready to be picked, either as food or as decoration.

### **Seim Beans (*Lablab purpureus*)**

These popular beans go by the names Dolichos bean, Hyacinth bean, Bonavist bean, Lablab bean, Seim bean, Egyptian kidney bean, Indian bean, Pandal bean, Waby bean, Ballar (Hindi), Pavta, Avara, and Shim (Bengali). Seim beans have teardrop-shaped trifoliate leaves and flowers that grow in clusters and can be white, purple, or blue depending on the variety. The plant can have either bush or vining growth habits, depending on the variety. They are a tender perennial in zones 9-10, and are best grown as an annual elsewhere (Sheahan, 2012).

### **Planting and Care**

Seim beans can tolerate soils with a pH range of 4.5-7.5, and does better in well drained soils. It is more drought-resistant than most beans, having roots that can access water up to 6 feet deep (Gardening Organic). Sow beans 1-3 inches deep, giving each plant at least one square foot of space. When planting a vining variety, thin plants to no more than 2 plants per pole. Young plants can be affected by cutworms and wireworms, and flowering plants can suffer from thrips, mirids, and *Heliothis sp.* (Sheahan, 2012)

### **Harvest**

Plants typically begin producing 110-120 days after sowing. Seed pods can be picked when they reach 2-4 inches in length, and while the pods are still flat, smooth, and pointed. The pod is consumed as a vegetable, the mature bean as a pulse, and the entire plant is used as fodder for constipation and weight loss. Young leaves and

growing tips can also be steamed and eaten, and animals in some regions. The high fiber content of the pod makes it an ideal choice for relieving the open flowers can be used as an edible decoration in fresh salads or desserts, or they can be used in floral arrangements. (Agrifarming, 2014).



Green and purple seim beans at a market stand.

### **Seed Sources and Varieties**

The two most popular varieties in the United States are Rongai and Highworth, both of which are forage varieties that can also be used for human consumption. Rongai has late-flowering white blossoms and upright growth habit, and Highworth has vining growth and early-flowering purple blooms. Ruby Moon Hyacinth, offered by Johnny's Seeds, is the more common edible ornamental addition in garden settings.

# VINING GOURDS

The vining gourds mentioned in this guide are *bitter melon*, *bottle gourd*, *snake gourd*, and *luffa*. These gourds require trellising to maximize solar capture, soil area usage, ease in harvest, and to ensure that the fruits will grow without deformities and scarring, which could happen if the fruit were resting on the ground. The seeds for these gourds have hard outer shells that can slow or even prevent germination, so many gardeners choose to **scarify** their seeds by carefully cracking the shell with pliers, being mindful not to damage the endosperm, soak them for 2-10 hours, and then plant them in moist potting mix to induce uniform and rapid sprouting. Another common method of scarification is rubbing one side of the seed with a rasp, boiling the seeds for 5 seconds, and then planting them in moist potting mix. When the plants have germinated and begun climbing the trellis, any lateral growth below the trellis should be pruned to make the plant more manageable and to induce fruiting by directing the plant's energy to the flowers rather than to foliar growth. When the plants reach around 8 feet in height, the growing tips can also be pruned to induce branching and bushier growth. The flowers for these gourds are night blooming, so some growers add a light fixture next to their trellis or arbor to attract moths and other nighttime pollinators.

The fruits of luffa, bottle gourd, and snake gourd can be harvested three months after germination, at which point they will generally be tender and soft skinned, or they can be left to develop hard skins either on the vine or in a dry storage space so that they can be used as dried gourds for artisanal crafts. The leaves can also be eaten; most growers skin the fuzzy outer skin of bottle gourd leaves and vines before cooking, and many use the leaves of bitter melon in medicinal teas and tinctures.



White snake gourds hanging from an arbor. See Resource section for picture citation.

## Snake gourd (*Trichosanthes anguina*)

Also known as serpent gourd, Chichinga in Bengali, and Padwal in Hindi, this long squash features brilliant striping in its fruit. It is cherished not only for its tender, juicy texture, but also for the plethora of health benefits it offers. Eating the fruit cools the body and reduces fevers, aids in digestion, and promotes heart health. The root is used in Traditional Chinese Medicine in treating diabetes and the juice can be rubbed on the scalp to treat dandruff and alopecia.

## Planting and Care

Snake gourds should be cultivated with the same practices as the other vining gourds mentioned in this guide. Begin harvest 95-120 days from planting.

## Harvest

Longer varieties, like Long EX, can be harvested at 16-18 inches, while shorter varieties like India Short should be harvested at around 6-8 inches for a tender crop. Fully ripe snake gourd does not dry well, but rather becomes orange, mushy, and generally quite unappealing. Leaves and growing tips can be harvested and eaten fresh or cooked (Grant, 2017).



As a long, tender fruit, snake gourd snaps easily and should be harvested with care. See Resource section for citation.

## Varieties and Seed Sources

Some notable varieties are “Buag Ngu”, which has medium length and plump squash and is offered by Kitazawa Seed Co., “White Glory”, which has a brilliant white fruit and is sold by Evergreen Seed Co. and Kalash Seed Co., and the aforementioned “India Short” and “Long EX” which are also offered by Evergreen Seed Co.



A basket of short “Indian” bitter melon at market.

## **Bitter Melon (*Momordica charantia*)**

Also known as Balsam Pear, Balsam Apple, Bitter Gourd, Carilla, Karela, Sorossie, Cerasse, Ku Gua, Foo Gwa and Korola in Bengali, bitter melon is popular around the world for both its bitter flavor and its numerous medicinal properties in addressing diabetes, heart ailments, hypertension, cancer, asthma, various skin infections, gastrointestinal disorders, and the common cold.

Its facility in **managing and preventing Type II diabetes** is perhaps the best documented medicinal property. It contains a lectin that works in much the same way as insulin to reduce blood sugar levels. Dozens of studies have shown that it is effective, both in terms of reducing blood sugar levels and preventing complications that can develop as a result of the disease.



Flats of bitter melon seedlings.

**Planting and Care**  
Like other vining gourds, bitter melon seeds have poor germination and should be scarified before starting. Transplant seedlings into well-drained, fertile soil between pH 5.5-6 at

a spacing of 2 feet alongside a net trellis. The vines can grow up to 16 feet long, so be sure that the trellis is strong and tall enough to support vigorous growth and fruit set (Albert, 2016)

Bitter melons are heavy feeders, so either add compost to the bed before planting or side-dress week-old transplants with compost or organic fertilizer. Male flowers will appear on the vines 5-6 weeks after transplanting, shortly followed by female flowers, and if pollination is successful, fruit can be harvested within another 5-6 weeks.

## **Harvest**

Bitter melon can be harvested 70 days after planting, when the lobes or ridges have filled, just before or as the fruit is turning white. Carefully cut the stem from the vine and move to cold storage. The sweet, orange ripened fruit can also be harvested and used for juicing.



An ENY Farmers market vendor proudly displays her harvest.

## **Varieties and Seed Sources**

The two main types of bitter melon are “Chinese”, which have long, lobed and smooth fruits, and “Indian”, which have shorter, plumper fruits coated with ridged teeth. Kitazawa Seed Co, Evergreen Seed Co., and Baker Creek Heirloom Seeds all offer a number of bitter melon varieties, including “Futo-Spindle”, a short spiky Indian cultivar, and “Tai Guo”, a long smooth Chinese cultivar. Saving seed is relatively easy for bitter melon; simply allow the fruit to ripen to an orange, mushy maturity and remove the seeds, which will be coated in bright red jelly. Clean the seeds thoroughly and store in dry, cool conditions. If planning to save seed, be sure to avoid purchasing hybrid seed for your first crop, because the next generation crop will not be true to type and will be less vigorous.





Luffa gourds hanging from an arbor. See Resource section for picture source.

## Luffa

Also known as Chinese okra, angle gourd, Patora, Tori, Jhingga in Bengali, this unique fruit is commonly used both as a long sponge and as a tender squash.

## **Planting and Care**

Because of the short growing season in the Northeast, luffa seeds should be started indoors in March and transplanted outdoors after the last threat of frost. Luffa seedlings should be transplanted at least 4 feet apart from one another, and should be grown alongside a strong support system or trellis so that the gourds do not touch the ground. When the plant exceeds 10 feet, the growing tips can be pinched back to induce branching and thicker growth. Early flowers can also be pruned to induce a higher yield (Kelley, 1981).



Freshly picked luffa at an East New York Farmers market vendor's stand

## **Harvest**

When grown for gastronomic purposes, luffa fruits should be harvested when they are about 10 inches long, before they develop fibrous qualities and bitter taste. The fruit should be crisp, and should snap when bent in your fingers. To prepare, peel the tough ridges and prepare the flesh as you might prepare any summer squash.

When grown for the sponge, luffa should be harvested when the fruits have reached about 2 feet in length. They usually reach this stage 90-120 days after germination. The gourds can either be left on the vine to dry, or they can be harvested and cured in a dry indoor space. After drying, you can either scratch off the brittle outer skin, or you can soak the gourd overnight and peel off the skin at the ridges (2010, Martin).



Dried luffa sponge and luffa seeds. See Resource section for picture source.

## **Varieties and Seed Sources**

The two most popular varieties are the common luffa (*Luffa cylindrica*), which is typically grown to maturity as a gourd, and ridged luffa (*Luffa acutangula*), which is grown for its young fruit, although both varieties can be grown for either consumption or use as a sponge. Seeds are offered by Burpees, Baker Creek Heirloom Seeds, Evergreen Seeds, and Territorial Seeds.

Bottle gourds are susceptible to other pests that plague the cucurbits family, including powdery mildew (in humid weather), and fruit flies.

## Harvest

Bottle gourds can be harvested 90 days after germination, before the skins of the fruit become hardened. At this tender stage they can be prepared like other summer squash. Great care should be taken in harvesting and handling the long squash, cacuzzi, because the fruits can snap easily. Fuzzy leaves and stems are also edible and can be prepared like other leafy greens. If fruits are being harvested for the hardened gourd, you can either leave the fruit on the vine to dry, or remove the fruit and cure it in a dry indoor space (My Kitchen Garden, 2014).

## Varieties and Seed Sources

Bottle gourd seeds are available at Baker Creek Heirloom Seeds, Kitazawa Seed Co., Evergreen Seed, and Burpee.



An East New York Farmers Market vendor with a display of cacuzzi squash.

## Bottle gourd (*Lagenaria siceraria*)

This remarkable crop comes in a number of shapes and sizes; variations include round (called calabash), long (called cacuzzi or cacuzza in Southern Italy), cylindrical, bottle-shaped, and dumbbell-shaped. It goes by the names Opo squash, long Opo, Calabash, Lau in Bengali, and Lauki in Hindi. Longer forms of bottle gourd can grow up to 6 feet long; other variations can have rounder fruit shapes. The plant has a very similar growth habit to luffa squash, having climbing vines and large fuzzy leaves.

## Planting and Care

Start bottle gourd plants indoors in March and transplant outdoors safely after last threat of frost. These plants are very sensitive to cold temperatures. Seedlings can be transplanted 4 feet apart from one another, or planted into large pots. There should be a strong trellis or support system for these vines to climb on, and to ensure that the fruits won't rest on the ground. When the plants reach 6-8 feet in length, prune the growing tips to induce branching and hasten fruiting.

Bottle gourd plants have separate male and female flowers, and require pollinators to be fertilized. Gardeners who are concerned about the pollinator population in their growing spaces may choose to hand pollinate flowers to ensure a high yield. To do this, rub a soft brush on the open male flower, and then rub open female flowers.



Cacuzzi squash hanging from the arbor at East New York Farms! Youth Farm

The greens mentioned in this guide, *jute*, *dasheen*, *lamb's quarter*, and *malabar spinach*, are quite different botanically, so growing practices will be explored in greater depth individually. One thing that unifies these crops is their share intolerance of frost; they should be sown safely after the last frost date in well drained, fertile soil.



International Jute Study Group

**Jute growing tips have the most tender, desirable greens. See Resource section for citation.**

### **Jute (*Corchorus olitorius* L.)**

Also known as Egyptian Spinach, Molokheiya, Jew's Mallow, and Pat-er-shag in Bengali, this vigorous annual shrub can be eaten as a green or grown to maturity and used as a fiber. The plant can grow up to 2 meters high, with oval-shaped, toothed leaves.

### **Planting and Care**

Sow jute seeds safely after danger of last frost in fertile, well drained soil and thin to about 5 inches spacing. Jute is slow to establish, so early weeding is essential to the success of your plants.



International Jute Study Group

**Four month old jute that is ready to harvest, both for the greens and fiber. See Resource section for citation.**

### **Harvest**

The leaves of jute can be harvested once the plant is established, 30-60 days after planting, and can be eaten either dry or fresh. The leaves are valued for their mucilaginous quality when cooked, and are a good source of iron, protein, calcium, thiamin, riboflavin, niacin, and folate. To keep the jute at a manageable height, harvest stems for bunching at about 1 foot length, cutting just above a leaf node to induce branching and bushier growth. Foliage wilts quickly after cutting, so harvest at a cool time of day and quickly transport bunches to a cold storage facility. Some growers harvest the entire plants at 20-40 days, bunching several plants and washing off the root ball. This method allows the greens to appear fresh for longer at a market stand.



International Jute Study Group

**Growers hanging jute fiber to dry. See Resource section for citation.**

In traditional systems where jute is grown for fiber, the whole plants are harvested after four months and left to soak in water for several days, after which point the fibers are stripped off the stems and dried for two to three days (Mixph, 2014).

### **Varieties and Seed Sources**

Seeds can be purchased at Kitazawa by the name "Molohkia", and at Baker Creek as "Mulukhiyah".



Dasheen leaves are sometimes used as makeshift umbrellas because of their large size and water repellence. See Resource section for citation.

### Dasheen (*Colocasia esculenta*)

Known as taro, elephant ear plant, Kochur shag in Bengali, and Arbi in Hindi, this crop is widely enjoyed for both its leafy green and its sweet root tuber. The tuber can be made into a flour, a paste called poi, or can be prepared like other root vegetables. When not cooked adequately the tuber can cause itchiness in the throat and mouth. Unfortunately, tuber production is only possible in areas with a 200 day frost-free growing season, so it's not possible in the Northeast. However, with care, dasheen can be grown for light-colored heart-shaped leaves, performing better in the heat of a hoop house (Albert, 2010).

### Planting and Care

Dasheen is typically propagated using sections of the tuber or the corm, which can be planted 3 inches deep in moist, well drained soil with a pH between 5.5 and 6.5, and during a time in late spring when temperatures will not drop below 60 degrees. Under ideal conditions, dasheen can grow 8 feet tall and have an 8 foot leaf spread! However, when it is grown in the Northeast and has its leaves harvested on a regular basis, dasheen should be given 3-4 square feet of space to spread out. Dasheen has extremely high water requirements, and in Asia are often planted in wet paddies where they receive a consistent flow of cool water (Lawrence, 2003).

Growers in the Northeast can mimic this culture by planting in furrows and setting up an adequate irrigation system.

When grown in a hoophouse, dasheen is susceptible to common hoophouse pests like aphids and red spider mites, which can be combatted with predatory insects like praying mantises and lady bugs.



These dasheen tubers were dug up and separated to propagate.

### Harvest

Leaf stems can be cut and bunched when leaves reach about 1 square foot in size, and should be immediately transferred to cold storage to prevent wilting. Harvest can begin after there are at least 4 leaves (usually 40 days after germination), always leaving 3 leaves to support the health of the plant

### Varieties and Seed Sources

There are no taro corm sources specifically available for propagation in the Northeast, so unfortunately growers cannot be selective about growing dry upland varieties or wet lowland varieties. Dasheen tubers can be purchased at ethnic grocery stores and divided for propagation.



Gardenate

Dasheen root as it might be found at a supermarket. This can be cut up and propagated. See Resource section for citation.



**Untrellised Malabar spinach grows tangled at the ENYF! Youth Farm.**

### **Malabar spinach (*Basella alba*)**

Known as ceylon spinach, climbing spinach, vine spinach, thick leaf callaloo, Pui Shag in Bengali, and Palak in Hindi, this spinach is popular among many communities in the South Asian diaspora. It has a mucilaginous texture when cooked and a light, citrus flavor when eaten raw.

### **Planting and Care**

Malabar spinach can be propagated from both seeds and cuttings. Seeds typically germinate 2-3 weeks after sowing them into moist soil, with a minimum atmospheric temperature of 65 degrees, although this can be hastened by scarifying or soaking the seeds. Cuttings of the vine can simply be placed in water, and after a week or so roots and new foliar growth will appear. Plants can be thinned to or transplanted at about one foot distance in moist, fertile soil, with a pH between 6.5-6.8 (Grant, 2016). As a tropical crop, it thrives in hot weather, but produces larger leaves when grown in partial shade. In cold weather, the plant creeps along with more vine growth and less leaf growth. Consistent irrigation or rain prevents blooms, which cause the leaves to take on a bitter flavor. As a climbing vine, malabar spinach does well on a net trellis, where it can harvest more solar energy and offer a more ergonomic harvesting experience.

### **Harvest**

Both the vines and leaves of malabar spinach are edible, so some growers choose to harvest one foot growing tips, or pick individual leaves. Harvest can begin 40-50 days after germination.

The advantage to picking the growing tips is that it makes the plants more manageable and less tangled, however a small-scale backyard grower with just a few plants might choose to harvest individual leaves when they reach the maximum size.

### **Varieties and Seed Sources**

The two most common varieties are “Red Malabar Spinach”, which has red vines and veins and is offered by Johnny’s Seed Co., Baker Creek Heirloom Seeds, and Kitazawa Seed Co., and the “Green Malabar Spinach” which is offered by Kitazawa Seed Co.



**Malabar vines soaking in cold water to remove the field heat after harvest. This practice keeps the leaves crisp for longer.**



Young lamb's quarter from above. See Resource section for citation.

**Lamb's quarters (*Chenopodium Album*)**

Lamb's quarters, known generically as shaag in Bengali, is commonly recognized as a weed in the Northeast because of its (often unwanted) prevalence and vigor in agricultural spaces. Despite this reputation, it is a well-loved crop that has promising market potential among South Asian consumers. It is a close relative of spinach and quinoa, and is desired for its tender greens and nutty flavored grain.

**Planting and Care**

Lamb's quarters is dangerously easy to grow in the Northeast and requires little specialized attention or care. Some growers simply scatter seeds and allow an annual patch to grow and reseed itself for the next year. Because of its weedy nature, lamb's quarter seeds do not offer the same uniformity in germination rates as the domesticated crops that we are used to, so sowing lambs quarters in a specific spacing or, worse, starting seedlings for transplanting can be frustrating for growers.



Older lamb's quarters plants have a pink tint and narrower leaves. See Resource section for citation.

**Harvest**

Leaves on younger growth and diamond-shaped, tooth-edged, and generally tastier. Older leaves have smooth edges, are long with pointed tips, have a faint pink color, and have a more bitter, woodier flavor. Stems can be harvested down to the leaf node, or leaves can be picked individually. A small grain crop can be harvested after the

plant has flowered and set seed, generally in the fall. The seeds can be cleaned, rinsed, and prepared in a similar manner to quinoa (Mills, 2014).



Seed heads in late August. These can be harvested and cleaned for planting next year, or prepared and eaten as a grain. See Resource section for citation.

**Varieties and Seed Sources**

Seeds are sold by Local Harvest and Rare Exotic Seeds, but seed heads are easy to find and harvest in most natural, urban, and peri-urban areas.

## RESOURCES:

- AgriFarming. 2014. "Indian Bean Cultivation: Lablab plant guide". <http://www.agrifarming.in/indian-bean-cultivation/>
- Albert, Steve. 2010. "How to Grow Taro". Bulb vegetables, How to Grow. <http://www.harvesttotable.com/2010/03/taro/>
- Albert, Steve. 2016. "How to Grow Bitter Melon". <http://www.harvesttotable.com/2016/01/how-to-grow-bitter-melon/>
- Garden Organic. "Growing Lablab". <https://www.gardenorganic.org.uk/sites/www.gardenorganic.org.uk/files/sns/factsheets/FactsheetLablab.pdf>
- Grant, Amy. 2016. "What is Malabar Spinach: Tips for Growing and Using Malabar Spinach". <https://www.gardeningknowhow.com/edible/vegetables/malabar-spinach/growing-malabar-spinach.htm>
- Grant, Amy. 2017. "What is a Snake Gourd Plant: Snake Gourd Info and Growing". <https://www.gardeningknowhow.com/edible/vegetables/gourd/snake-gourd-plant-growing.htm>
- Kelley, Katherine, and Shobe, John. 1981. "The Highly Versatile Luffa Plant". <http://www.motherearthnews.com/natural-health/luffa-plant-zmaz81mazraw>
- Lawrence, John and Moore, Lincoln. 2003. "Plant Guide: Taro". USDA National Resource Conservancy Service. [https://plants.usda.gov/plantguide/pdf/cs\\_coes.pdf](https://plants.usda.gov/plantguide/pdf/cs_coes.pdf)
- Lawrence, John and Moore, Lincoln. 2012. "Plant Guide: Yardlong Bean". USDA National Resource Conservancy Service. [https://plants.usda.gov/plantguide/pdf/pg\\_viuns2.pdf](https://plants.usda.gov/plantguide/pdf/pg_viuns2.pdf)
- Martin, Sasha. 2010. "How to Prepare and Eat Loofah". Global Table Adventure. <http://globaltableadventure.com/2010/07/08/technique-thursday-how-to-prepare-and-eat-loofah/>
- Mills, David. 2014. "Lamb's Quarters". <http://wildfoodshomegarden.com/LambsQuarters.html>
- Mixph. 2014. "Production and Growing of Saluyot (Jute). Agri. <http://www.mixph.com/production-guide-and-growing-of-saluyot-jute/>
- My Kitchen Garden. 2014. "How to Grow and Care Bottle Gourd". <http://www.mykitchengarden.info/2014/06/how-to-grow-bottle-gourd.html>
- Sheahan, Christopher. September, 2012. "Plant Guide: Lablab bean". USDA National Resource Conservancy Service. [https://plants.usda.gov/plantguide/pdf/pg\\_lapu6.pdf](https://plants.usda.gov/plantguide/pdf/pg_lapu6.pdf)
- Stephens, James. "Winged Beans". College of Tropical Agriculture and Human Resources, University of Hawaii at Manoa. <http://www.ctahr.hawaii.edu/new/fjgi/pdf/WingedNL.pdf>

## PHOTO CREDITS:

- Weaver, William. 2007. "Introducing the Hunan Winged Bean". <http://www.motherearthnews.com/real-food/hunan-winged-bean-zmaz07jjzsel>
- Albert, Steve. 2010. "How to Grow Taro". <http://www.harvesttotable.com/2010/03/taro/>
- Gardenate. "Growing Taro, also dasheen, cocoyam". <http://www.gardenate.com/plant/Taro>
- International Jute Study Group. 2003. [http://jute.org/prod\\_gallery.html](http://jute.org/prod_gallery.html)
- Kalash Seeds. "Health Benefits of Snake Gourd". [http://www.kalashseedsonline.com/index.php?route=product/category&path=183\\_222](http://www.kalashseedsonline.com/index.php?route=product/category&path=183_222)  
<http://www.stylecraze.com/articles/health-benefits-of-snake-gourd/#gref>
- Teicu, Ada. "Your Luffa Sponge Paved the way to Modern 3D acoustic tiles". <http://freshome.com/2014/10/09/your-luffa-sponge-paved-the-way-to-modern-3d-acoustic-tiles/>