Results from SPI seed, with other produce. Central African Republic. Partners: Assomesca, Caritas Bouar, Child First Meds.
ABOUT SPI Welcome to the seed catalog for Seed Programs International. We provide seed for humanitarian aid use, primarily outside of the United States and Canada. Since 1998, we’ve shipped more than 15 million packets of seed for use in 75 countries. Uses of SPI seed range from simple family distribution, to community gardens, to farming microenterprises. Many people in both crisis and in chronic poverty situations have no access to the nutrients and calories that vegetables can provide. Our work is based on the premise that with your help, hungry people can grow some of the food they need.

In situations where dietary choices are limited, or when immune systems are compromised, vegetable consumption may make the difference between normal health and life-threatening disease.

We do not offer any genetically modified seed.
For answers to more frequently asked questions, please view the end of this document.

Amaranth (Amaranthus tricolor) - Available in packets starting April 2019
Amaranth is a tropical leafy green that loves hot weather but also should be kept well-watered. It is eaten in many countries in stewed dishes, like “callaloo” in the Caribbean, and can also be eaten uncooked. It is very nutritious, containing not only micronutrients like vitamins A, C, and folate, but also more calcium and protein than most greens. 
**Amaranth A**, Oval-heart shaped leaves, medium green. Baby leaves can be harvested in 25-30 days, with a larger harvest later on from tall plants.

Bean (Phaseolus Vulgaris)
SPI carries garden bean seed for fresh use as a green vegetable and white bean seed for dry bean use. Beans are open-pollinated.
**Bean C**, For eating young pods as a fresh green vegetable. Small bush type, maturing quickly (55 days) to form thin, stringless beans, known as filet beans or haricot vert. Resistant to anthracnose and common bean mosaic virus, tolerates tropical heat. Good nutritious household food or fancy marketing item. 
**Dry Bean D**, White bean for dry bean use. Upright short vines, resistant to mosaic and curly top virus. 91 days to maturity. Treated. Low in stock, call first.

Beet (Beta vulgaris, Crassa Group) - Available in packets starting April 2019
Beets are generally a cool-season crop. In addition to being a strong source of Vitamin C, beet greens are an especially generous source of lutein/zeaxanthin which is identified as a factor in eye health. Beet roots have more folate and iron than most vegetables. 
**Beet B**, Well-known open-pollinated Ruby Queen type, new to SPI in 2017. Small round beet, small green tops, uniform shape and quality. Tolerates wet weather but may underperform Detroit type in very hot, dry conditions.

Broccoli (Brassica oleracea, Italica Group)
Broccoli is generally a cool-season crop but the variety offered by SPI is bred for superior heat-tolerance. Broccoli has an unusually strong combination of both vitamin A (in the form of beta-carotene) and vitamin K. 
**Broccoli B**, OP Italian heirloom new to SPI and not yet packaged (ask if interested). Lighter green, small heads with many side-shoots.

Cabbage (Brassica olerace, Capitata Group)
SPI carries one OP variety at this time. Cabbage is one of the more heat-tolerant leafy green vegetables. One cup of cabbage provides 66.5% of the RDA for Vitamin K and 42.7% for Vitamin C. 
**Green Cabbage A**, Open-pollinated, Copenhagen Market type. Well-known early type. In tropical areas, grows best in the coolest season, not too wet.
Don’t see what you want in the catalog? SPI can use our extensive seed industry contacts to custom-source seeds exactly for your needs. Prices will not be as low, but we will pass along any savings we are able to leverage on your behalf.

**Carrot** *(Daucus carota)*
Direct seed, keep watered, and weed. Carrot seed is among the more short-lived, order it close to when you’ll use it. This is treated seed, which can help improve germination by preventing rot—but store out of reach of children, and wash hands after planting. **Carrot G**, Hybrid Chantenay type. Thick, blunt-end, reddish-orange roots, ideal for heavy, sandy, or shallow soils. This variety is thought to store well.

**Chinese Cabbage** *(Brassica rapa, Pekinensis Group)*

**Collard** *(Brassica oleracea, Acephala Group)*
Collard is a more heat-tolerant leafy green. *One cup cooked provides 308% of the RDA for Vitamin A, and ten times the daily Vitamin K requirement.* **Collard C**, Open-pollinated “heading” type. Large, dark-green leaves form loose heads when mature. Not tight heads like cabbage. Starts to mature around 45 days. With even moisture, young leaves have a softer texture and a sweeter taste; older leaves are large with a glossy or waxy feel; best in a long-cooked savory stew.

**Coriander/Cilantro** *(Coriandrum sativum)* - **In packets starting April 2019**
Coriander (also known as cilantro in Spanish) is a popular green herb, often added to curries, chutneys, or salads in many parts of the world. Good market value for many SPI partners in terms of income potential from a small garden. **Coriander A**, Bred for large, flavorful leaves, that are a little slower to bolt (go to seed) in hot weather. New to SPI in 2019.

**Cucumber** *(Cucumis sativus)*
SPI offers a a hybrid pickler type and an open-pollinated slicer. Cucumbers are the fourth most-grown vegetable in the world, enjoyed on every continent. **Cucumber E**, Hybrid pickler type. This does not mean you can only use it for pickles. Fruits are smaller and not as smooth as slicers, but with many more fruits per vine. Early maturity, straight and blocky in shape. **Cucumber F**, Open-pollinated typical green slicer.

**Eggplant** *(Solanum melongena)* - **Sorry, out of stock**

**Kale** *(Brassica oleracea, Acephala Group)*
Kale is considered a cool-season green but we have had contact with partners in East Africa in riverine or wet-highland areas who grow the crop with good success. **Kale C**, A dwarf Siberian type, low-growing with thick leaves. Good cold-tolerance, needs water in hotter climates. About 60 days to full size. “Researchers now identify over 45 different flavonoids in kale. Flavonoids ... provide a leading dietary role with respect to avoidance of chronic inflammation and oxidative stress.”
Lettuce (Lattuca sativa)
Generally a cool-weather crop but growable where soil temps are not extreme and some moisture is available. Among the vegetables, lettuce is a strong Folic Acid source as well as providing vitamins A, C, and K.

**Lettuce G.** Open-pollinated romaine lettuce of the common 'Parris Island' type which is considered heat-resistant for a lettuce. Pick baby leaves at 28 days or large, upright, uniform heads at 55 days. Resists tip burn and mosaic virus.

**Lettuce J.** Open-pollinated butterhead loose-leaf type. Dark green variety bred to tolerate heat and resist tip burn, bolting, mildew, and mosaic virus.

Melon (Cucumis melo)
Honeydew melon has smooth, pale rind. Similar to cantaloupe but lack of netting helps reduce disease in wet conditions.

**Honeydew Melon A.** Open-pollinated, standard honeydew melon (green flesh). His variety needs about 110 days to maturity but is very sweet and keeps well.

**Honeydew Melon C.** Hybrid honeydew melon with orange-colored flesh. About 80 days to maturity. Orange flesh is higher in Vitamin C and beta-carotene.

Mustard Greens (Brassica juncea)  Germinating at 77% per Nov 2018 test, 2900 packets remaining, buy 1 get 2 - plant thickly.
Like all brassica family crops, mustards prefer cooler weather and do not thrive in overly dry conditions. However, most mustard greens are more heat-tolerant than kale or spinach. **Mustards have the highest folate levels of all the cruciferous (cabbage-family) plants with the exception of turnip greens.**

**Mustard Greens B.** Early-maturing, dark green smooth leaves. Open-pollinated.

New Zealand Spinach (Tetragonia tetragonioides) 1100 packets remain in stock, then no more (replacing with Amaranth).
New Zealand spinach has similar nutrition and use as European spinach, but with much higher tolerance to heat and salinity. Few pests or diseases. The seeds are slow to germinate (15-20 days): try soaking in water first. Produces seed capsules while vines are still growing, and these seeds can easily be collected for future planting.

**New Zealand Spinach D.** Common unnamed type sold by seed companies worldwide. Spreads as it grows, so plant farther apart than European spinach.

Okra (Abelmoschus esculentus)
This crop is in the hibiscus family and originated in Africa. Okra loves heat and moderate water. In these conditions, Okra is easy to grow, relatively pest-free and a generous producer if picked regularly when pods are small.

**Okra B.** Shorter plants with longer pods than the ‘Clemson’ variety. Open-pollinated.

Pea, English (Pisum sativum)
Garden peas are a cooler-weather crop. All peas and beans fix nitrogen in soil and, once picked, what remains of the plant easily breaks down for soil improvement. Nutritional. *in addition to providing a hunger-fighting trifecta of protein, sugars, and starches, green peas hold multiple vitamins and phytonutrients.***

**Pea B.** English pea producing many tendrils (Afila type), self-supporting when densely planted, 22-24” height, small to medium-sized peas, late maturity, bean leaf roll tolerance and powdery mildew resistance.
Onion (Allium cepa)
SPI offers red and yellow types. Nutrition and growth habit are similar so selection should be made based on cultural preference. SPI selections are short-day onions, which makes them suitable for tropical and subtropical use, unlike the onions grown by gardeners and farmers in most of US and Europe. Research shows onion can help increase bone density. Sulphur in onions supports connective tissue health. Some studies show antibacterial properties as well.

**Onion-Yellow C.** Open pollinated, yellow, short-day, onion, with a top-heavy round shape. Bred for sweeter, less sharp flavor. Not recommended for long-term storage. Resistant to pinkroot and bolting.

**Onion-Red E.** Violet de Galmi-type – originated in the village of Galmi in the Ader Valley of southeastern Niger, well adapted for tropical conditions. Hybrid. Thick-flat to conical violet red bulbs, good quality, pungent, store well, 105 day maturity.

Pepper (Capsicum annuum var. annuum)
SPI offers one bell and two hot peppers, all open-pollinated. Peppers love heat up to about 90°F and can produce in relatively dry conditions compared with most annual vegetables. **Peppers have high levels of vitamins A, C, and others, more so when ripe. Hot peppers are antibacterial and have cardiovascular benefits.**

**Bell Pepper C.** Hybrid green-to-red bell pepper. Sturdy, upright plants with smooth, blocky fruits and good disease resistance.

**Hot Pepper C.** Hungarian wax type. Large thick-fleshed tapering shape, turns yellow early, orange then red later. Widely adapted to both colder and hotter climates.

**Hot Pepper D.** Jalapeno type. Ripens green to red, thick-walled, short, stubby. This hybrid type is early (65-70 days), high yielding in good conditions, and large for a jalapeno.

Radish (Raphanus sativus)
SPI offers a small round red type and a Daikon type. Radishes are fast-growing and generous but prefer cooler weather and some moisture.

**Radish D.** Open pollinated typical round red radish, white flesh, good quality.

**Daiikon C.** Open pollinate minowase type. Traditional Asian vegetable, long white roots can be boiled, pickled, or eaten raw. **Short supply - last chance!**

Spinach (Spinacea oleracea)
Among greens, spinach may be the most cold-friendly and least heat- and drought-tolerant. If temperature and moisture are right, spinach can be more free of pest damage than most other greens. #1 Vitamin K source among all foods.

**Spinach C.** Hybrid. Dark green, smooth, thick leaves. Good for growing at close spacing to baby-leaf size for super-fast harvest, or to full maturity. Seed is treated and labeled as such.

Squash (Cucurbita)
SPI offers two summer squash and one winter squash variety. Squash likes hot weather and is a famously generous producer.

**Summer (Soft) Squash D.** (Cucurbita pepo) Open-pollinated typical dark green zucchini squash. Prolific open plants.

**Winter (Hard) Squash C:** (Cucurbita moschata) This is a mix of hybrid butternut types. If saving seed from these plantings, expect some variable traits in the results. 77% germination: buy one, get two, plant thickly.

**Winter (Hard) Squash D:** (Cucurbita moschata) The common open-pollinated Waltham variety of butternut squash. Seed saved will come true if flowers are isolated from cross-pollination. **Short supply, contact before ordering.**

Vitamin C deficiency is called scurvy and includes bleeding gums and skin discoloration. Lack of C also causes poor wound healing, weak immune function, and susceptibility to infections. Because of 25-50% loss through cooking, C-rich foods are best consumed in raw, fresh form if possible. The top five sources of Vitamin C are all vegetables: peppers, broccoli, brussels sprouts, cauliflower, and parsley.

- George Mateljan Foundation
**Swiss Chard** (*Beta vulgaris, Cicla Group*)
Same species as beet but grown only for consumption of leaves which have a thick celery-like rib. Withstands light frost. Holds well after cutting. Swiss chard and beets are among the vegetables most tolerant of soil that has become a little salty.

**Swiss Chard C.** Green open-pollinated swiss chard with large crumpled leaves with a wide white rib. Heat tolerant, productive.

**Tomato** (*Lycopersicon esculentum*)
SPI offers one open-pollinated tomato and one hybrid. We favor processing types for most aid and development situations because they have a little thicker skin and tend to be most reliably productive. Tomatoes are tropical in origin and like heat, but do stop flowering after about 90 degrees F. Tomatoes are most often grown by transplanting, but direct-seeding can be used.

**Tomato A.** Blocky oval-shaped tomato, considered a “saladette” type. Hybrid, determinate (tends to produce a large crop all at once). Strong resistance to Fusarium 1 and 2, moderate resistance to Tomato Spotted Wilt Virus and Tomato Yellow Leaf Curl Virus.

**Tomato C.** Open-pollinated squarish plum-shaped type bred for processing but still tasty fresh. Persists through hot days and cold nights. Resists Verticillium and Fusarium wilt. About 80 days from transplant to harvest; fruits average 100 grams.

**Watermelon** (*Citrullus lanatus*)
Watermelon likes heat and needs space to grow. Watermelon seed transport restrictions are among the most specific due to disease concerns.

**Watermelon B.** Hybrid, sweet red-flesh watermelon, smaller round fruits (about 8kg). Thick rind with dark green exterior. Vigorous plant with heavy foliage and good disease resistance.

**Flower**
Some of our partners like to supply flower seeds for one of several purposes: market sales, attracting beneficial insects, and adding beauty and appeal to gardens.

**Flower A.** Marigold. (*Tagetes patula*) A mix of orange to yellow types. Shown to suppress nematode pests in vegetable garden soil while attracting beneficials. Low spreading habit can help prevent weeds around vegetables as well. Surprisingly drought-resistant. Add to layer hen feed to give nutrition and brighten yolks.

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Folic Acid (folate) is a B vitamin that prevents birth defects. Folate works by supporting red blood cell circulation and the nervous system. Low levels are also associated with cognitive impairment in children, and early dementia in adults.
Frequently Asked Questions

How much does it cost, and how do I begin the ordering process? We charge a service fee to cover some of our cost of operations. The price is .12 to .40 US$ per packet, depending on quantity ordered. A box of 1400 seed packets (which can grow five tons of food based on 25% of good US yield), if ordered alone, costs $350 plus shipping and phytosanitary certificate cost. All logistics questions are handled in much more depth at seedprograms.org/work-with-us/become-an-spi-partner, or by contacting our office at 828-707-1640 or peter@seedprograms.org. On the website you will find a link to our request for seed form.

What is hybrid seed? Hybridization is not the same as genetic modification (GMO). Hybrid seed is simply saved from a plant that was crossed with another plant by moving pollen from one to the other, as happens in nature every day. Some of our partners prefer hybrids because they can be more vigorous and disease-resistant.

Is seed saving something I should consider? In general, open-pollinated seed can be saved and grown to replicate the traits of the parent plant, and hybrid seed cannot. If you are interested in seed saving, you will see that half or more of our catalog is currently open-pollinated. Keep in mind, though, that vegetable seed saving is a bit technical and can be hard to implement successfully. Contact SPI to discuss your needs and to see if seed saving is appropriate for your climate.

Why do you only carry one to three varieties of each? We seek varieties that can be successfully grown in the conditions where hunger is most prevalent. Field reports confirm that the seed we offer is widely adaptable and can withstand many locally-specific conditions and differences.

How long does it take to receive seed? SPI strives to keep a strong supply of packaged inventory in our warehouse. We have a strong track record of providing rush turnaround when needed, within the bounds of what is already in our packaged inventory. We suggest that you begin the process of placing orders that are large or include custom sourcing or printing at least 60 days before your ship date.

Can SPI help us assess our needs? Yes, we can. SPI's services include seed assessment, training coordination, and/or efforts to figure out how aid-supplied seed may or may not have a role in supplementing or working with the local seed supply.

To discuss our role in your vegetable seed project, contact Peter Marks at 828-707-1640, or peter@seedprograms.org.
About 25 types of vegetable are kept in stock, some hybrid and some open-pollinated. With advance notice, we can source to your requests. Seed is available in garden-size packets, in sealed units of 100 packets of each kind. Packets give planting instructions in one or more of 12 languages. Our standard carton holds ~1800 packets, weighs about 10 kilos/22 lb., and can be checked baggage with no surcharge.

**Pricing per Packet, USD**

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Yield per carton estimated at five tons of food assuming 25% of good US yield. Prices do not include shipping or phytosanitary inspection. We arrange both and bill you at cost. We can arrange shipment to your final destination or to you, as you prefer. For larger orders, we can label seed packets with your organization’s brand identity at a charge of .01/pkt. SPI is interested in collaborating on seed assessment and program planning. Contact us to learn more.

Find an order form at seedprograms.org/work-with-us/order-seeds

828-707-1640 · peter.marks@seedprograms.org