



Vegetable Seed Catalog 2016



*Results from SPI seed, with other produce. Central African Republic.
Partners: Assomesca, Child First Meds.*

Sow Seeds to Fight Hunger

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 14 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.



Bean (*Phaseolus Vulgaris*)

SPI carries green bean seed for fresh use and black bean seed for dry bean use. Beans are open-pollinated.

Bean C. Typical green bush bean to eat as a fresh green vegetable. High-yielding modern improved commercial variety with disease resistances. Straight, uniform pods. This is treated seed (to resist fungal and bacterial diseases).

Dry Bean B. Black bean for dry bean use, new type for SPI since 2013. Upright short vines, resistant to rust and mosaic virus. This is treated seed and labeled as such.

Dry Bean D. White bean for dry bean use, new type for SPI in 2016. Upright short vines, resistant to mosaic and curly top virus. Similar to a navy bean. 91 days to maturity. This is also treated seed and labeled as such.

Beet

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 A. Open-pollinated Detroit type, distributed periodically since 1998. Standard round red beet, mid-sized, versatile. Positive reports from aid/development use on the east coast of Madagascar, in South Africa, and in North Korea where our partner reports that the crop was unfamiliar yet much enjoyed.

Broccoli

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 A. Hybrid, distributed by SPI since 2008. Blue-green broccoli, heat and downy mildew resistant.

Broccoli B. Open-pollinated, Italian heirloom new to SPI in 2015. Lighter green, smaller heads with many side-shoots compared with Broccoli A.

Cabbage

SPI carries two varieties, one each OP and Hybrid. 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. *Cabbage A out of stock October 2016, inquire about availability.*

Green Cabbage C. Hybrid, Medium-sized, green cabbage, fairly tight head, mid-season. Resistant to Fusarium yellows race 1 and tolerant to tip burn. For this lot of seed, about 10% of the crop will be ready for harvest 1-2 weeks later than the rest. Stores well. Positive results in 2014-15 from Armenia, Tanzania, and Liberia.

Nutritional information printed in italics throughout is paraphrased from the George Mateljan Foundation website (whfoods.com) and other sources. Please consult your own sources of nutrition expertise to supplement the ideas provided in this text.



Beet A, Madagascar

Vitamin A is actually a group of compounds. It is key to eye health, immune support, and cell growth. Recent research has focused on the vitamins' role in genetic events and may point to birth defect prevention. The carotenes (alpha- and beta-) are a type of Vitamin A and are necessary to prevent deficiency. **8 of the top 10 Vitamin A common vegetable sources are found in this catalog.**

Carrot

Direct seed, keep watered, and weed. Carrot seed is among the more short-lived, order it close to when you'll use it. *Where carrots can be grown, they are an ideal combination of calorie production per acre, micronutrient value, and market value.*

Carrot D. Hybrid variety of a class offered by SPI since 2010. Dark orange Emperor type (long roots). Bred for strong tops (to pull out of heavy soils without breaking). It is more heat-tolerant than typical home garden varieties. Positive reports/reorders from C. African Republic, Cote d'Ivoire, Liberia, Tanzania, Haiti, Honduras.

Carrot F. Open-pollinated Chantenay type. Thick, blunt-end, reddish-orange roots, ideal for heavy, sandy, or shallow soils, Up to 3 inches wide. Treated seed and labeled as such.

Chinese Cabbage

Chinese cabbage is less heat-tolerant than cabbage and requires a moderate climate. One of the fastest vegetable crops to germinate and to harvest.

Chinese Cabbage B. Napa type, not bok choy. Open-pollinated, distributed by SPI since 2011. A dense head of soft, crinkled leaves with a flat rib, pale green/white. Good raw or cooked.

Collard

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 B. Hybrid, Georgia type (smooth, broad green leaves). Slow to bolt in heat.

Cowpea (*Vigna unguiculata*)

Cowpeas are a heat-tolerant legume grown in tropical, subtropical, and hotter temperate regions. They are used as a green leaf, young pod, fresh pea, and dried pea, as well as for animal feed. Tolerates semi-arid conditions; often grown with other crops in light shade.

Cowpea A. Open-pollinated, small cream-colored type. The dry pea cooks to a soft, creamy texture. Acquisition from the southern US, not yet trialed by SPI in tropical countries. Use in test-plot conditions before distributing for humanitarian aid. 100 packets free to any partner, just tell us how it does for you.

Cucumber

SPI offers a hybrid pickler type and an open-pollinated slicer. Pollinator seed added when needed to ensure excellent pollination. Cucumbers are the fourth most-grown vegetable in the world, enjoyed on every continent.

Cucumber D. Open-pollinated typical green slicer.

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.

Eggplant

Eggplant is Asian in cultivated origin, spreading to Africa before the middle ages. It loves hot days & nights. A good choice for transplanting as opposed to direct-seeding.

Eggplant B. Hybrid. Birgah type (flattened, fluted globe shape). Reorders after one year trial by NGOs in Haiti and Uganda. Positive results from 2015 use in Liberia.

Kale

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."



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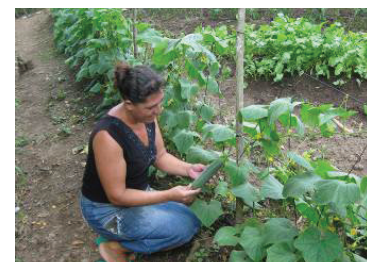


Carrot F is a short type suitable for shallow soils.

Vegetables are thought of primarily as a source of nutrients, but could also be important in supplying calories. Studies using world average yields have shown that carrots produce slightly more edible calories per hectare per day than maize, potatoes, and sweet potatoes, and that cabbage and onions are comparable to wheat and rice. Grains are much less perishable and easier to ship than vegetables, but if locally produced, vegetables can be a good source of total nutrition.



Typical appearance of Georgia-type collard greens.



Cucumber D, Honduras

Lettuce

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 E. Hybrid. Butterhead, medium sized, green. Flattened, loosely-heading shape. Thick, soft, rounded leaves.

Lettuce F. Hybrid romaine type, large crisp leaves. This is a dark green, large romaine with resistance to downy mildew and lettuce aphid.

Melon

Cantaloupe prefers warm nights and generally sandy soils. Not a best choice for high-altitude areas. *Beta-carotene content about 30x higher than fresh oranges, and about 40% that of carrots. One cup has about 100% the RDA for Vitamins A and C.*

Honeydew melon has smooth, pale rind, and green flesh. Nutrition is not as strong as cantaloupe but lack of netting helps reduce disease in wet conditions.

Cantaloupe A. Hybrid, typical orange-flesh melons, round to oval, netted. Developed for similar production conditions and interchangeable.

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

Mustard Greens

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.

Okra

This crop is in the hibiscus family and originated in Africa. Grow okra by direct-seeding. 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 A. Open-pollinated, well-known Clemson type.

Okra B. Shorter plants with longer pods than Okra A. Open-pollinated.

Onions

SPI offers red and a yellow types. Both 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.* Nutrition and growth habit are similar between the colors so selection should be made based on cultural preference.

Onion-Red

Onion-Red E. Violet de Galmi-type – originated in the village of Galmi in the Ader Valley of southeastern Niger, so well adapted for tropical conditions. Thick-flat to conical violet red bulbs, good quality, pungent, store well, 105-110 day maturity.

Some of our partners look beyond feeding the household to providing seed for small farming businesses. In addition to vegetables, SPI offers a couple of types of flower seed for microenterprise use.



Lettuce can be produced in tropical climates if watering is steady. This is a romaine type grown in Central Africa.

Need something that's not here? SPI can use our connections with the seed trade to attempt to custom-source the seed you need.

Unsure what to order? We would be glad to help select vegetables based on the climate, culture, and conditions where your project is located.

Vitamin K is a family of substances. It is essential for bloodclotting and as a result is indicated to prevent easy bruising, gum bleeding, and inflammation. Bone density loss and breakage can be caused by Vitamin K deficiency. The top sources are all green vegetables.



Okra B Harvest, Liberia

Onion-Yellow

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-Yellow D. Hybrid, smooth round medium-sized short-day onion. Pungent, tight skin, high yield, slow to bolt, medium early. Tolerance to botrytis and downy mildew. Can be grown in tropical areas and also suitable for growing over winter.

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. *Nutritionally, 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.

Pepper

SPI offers one bell and two hot peppers, all open-pollinated. Peppers love heat up to about 90F and can produce in relatively dry conditions compared with most annual vegetables. *All peppers contain high levels of vitamins A, C, and others, more so when ripe. Capsaicin in hot peppers is studied for its role in preventing ulcers and all inflammatory response, for antibacterial qualities, and cardiovascular benefits.*

Bell Pepper B. Open-pollinated green-to-red bell pepper. Sturdy, upright plants with smooth, blocky fruits.

Hot Pepper B. Cayenne type. Thin spicy pepper, ripens green to red.

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.

Radish

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 A. Hybrid uniform round red, white flesh, good quality. Offered by SPI since 2007. Fast-growing and generous but prefer cooler weather and some moisture.

Daikon B. Hybrid minowase type. Traditional Asian vegetable. Also used by no-till farmers to break up heavy ground and draw nutrients from deep in the soil.

Spinach

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. "Recent research has shown that glycolipids from spinach can help protect the digestive tract lining from damage — especially related to unwanted inflammation."*

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.

Why don't you say the variety names? Our seed is donated to us in bulk by some of the small and large seed producers who supply farmers and gardeners worldwide. We are able to receive these donations of good, tested, bulk seed by promising donor and variety name anonymity.



Violet de Galmi (Onion E)



Butternut (Winter Squash C)

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: bell peppers, broccoli, brussels sprouts, cauliflower, and parsley.
- George Mateljan Foundation



Hot Pepper C can be enjoyed at several stages of ripeness from 55 to 80 days

Squash

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

Summer (Soft) Squash C. Hybrid zucchini type, known as “grey” by seedsmen but more light-green in color. Prolific, open plants.

Winter (Hard) Squash C: This lot of seed is a mix of butternut types (*Cucurbita moschata*) which is the most tropically-adapted of the hard squashes. If saving seed from these plantings, expect some variable traits in the results.

Swiss Chard

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

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 B. Open-pollinated large plum-shaped type bred for processing but still tasty fresh. Reordered by NGOs in Madagascar, Uganda, Haiti, and North Korea, where this tomato was grown both outdoors and in greenhouses.

Tomato D. Round hybrid tomato, determinate, high in solids, highly productive, multiple disease resistances.

Watermelon

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

Watermelon A. Open-Pollinated - *failed germination testing, seeking donation.*

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. 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.



Soil improvement can be essential.



Summer Squash C, Madagascar

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.



Tomato B, North Korea

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 828-458-5288 or naima.dido@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.

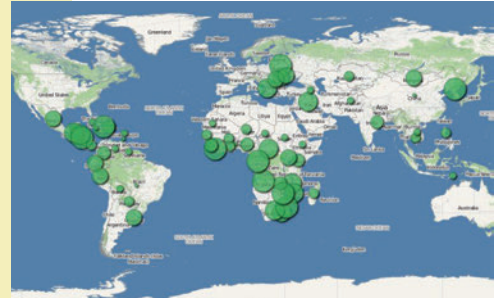
Why do you only carry one to three varieties of each?

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 President/CEO Peter Marks at 828-707-1640, or peter.marks@seedprograms.org.



SPI Seed Distribution, 1998-2015



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www.seedprograms.org

828-458-5288



QUICK GUIDE TO SPI SEED

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

Quantity	Price	Note
100-1,200	.40	100 pkt. min./type
1,200-2,800	.25	\$350/box of 1400
2,800-16,800	.20	
16,800-42,000	.16	this qty.=one pallet
42,000-84,000	.14	
84,000+	.12	

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

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