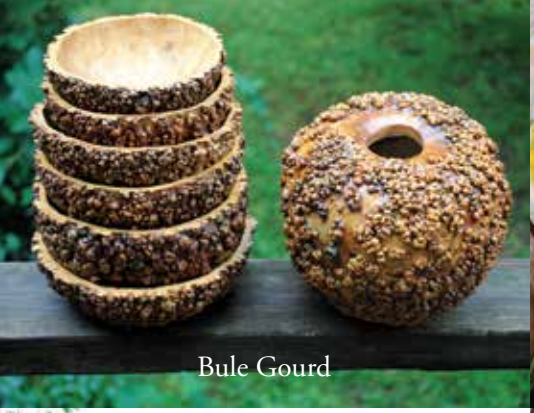
COMMON WEALTH SEED GROWERS

2015 Seed Catalog

Farmer Direct Seeds from Virginia



Bule Gourd

Thai Kang Kob

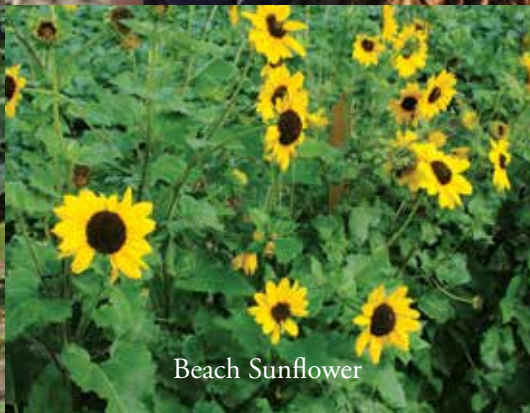
Rosa enjoying OrangeGlo.

Lyndsey with Bradshaw's Birdhouse Gourd

Bloody Butcher

Sapphyre with Zucca Gourd

Waltham foreground;
Seminole x Waltham F3 Behind



Beach Sunflower

Welcome to our first catalog! It has been only one year since we started Common Wealth Seed Growers, and it has been a busy and exciting time. While we are experienced seed growers, we've discovered that we have a lot to learn about retailing seeds. We need your support and enthusiasm and some of your faith as we get started.

We are a cooperative seed company entirely rooted in the growing, trialing, selecting and breeding of seeds for our region. We believe that our vision holds a lot of promise and will be as compelling to some of you as it is to us. It is also our goal to attract and keep customers solely because of the quality and performance of our seeds.

This is not a full service vegetable seed catalog. We don't have any carrots, because none of us have experience growing carrot seeds. Or beets, lettuce, cabbage or spinach. We only sell what we ourselves have grown, and we don't buy these items in from somewhere else to round out the catalog. What we do have are some of the most Downy Mildew resistant cucumber, melon and squash seeds available in the U.S. (see pages 14-16 for more about Downy Mildew and about our Downy Mildew research trials). We do have notable and regionally adapted varieties of pepper, tomato, gourd, corn, okra, eggplant, sunflower, rutabaga and collard greens. We have plans to grow, as a company, as a cooperative, and as part of a bigger movement of farmers and gardeners who are retaking control of our seed supply.

In the 2015 growing season we are excited to grow many of the standout varieties that we identified in trials this year at Twin Oaks Seed Farm and Living Energy Farm (see pages 14-16). We look forward to working with new crop types, including lettuce, sweet corn and lima beans.

Thank you Sapphyre, William, Debbie and Lyndsey for your involvement and your work growing the seeds. Thank you to the Twin Oaks Seeds crew for your hard work and for dealing with me this hectic season. Thank you Sapphyre for working with me on the conferences, marketing, accounting, website, seed packing and everything else. Thank you to Micaela Colley, Michael Mazourek, Ira Wallace, Rowen White and others in the organic, open-pollinated seed movement for your ideas, support and inspiration. Thanks to our new customers (which is all our customers) for your support and your engagement in this different kind of seed company.

Edmund Frost, Director, Common Wealth Seed Growers

How to Order

ALL PACKETS COST $3.50. SEE DESCRIPTIONS FOR BULK SIZE PRICES.

Order online at www.commonwealthseeds.com. Our website has color pictures for all varieties, as well as planting information, variety trials reports, seed saving information, farm pictures and more.
Order by mail using the instructions on page 20 of this catalog.
Mail to: Common Wealth Seed Growers; 138 Twin Oaks Road; Louisa, VA 23093
Email us at commonwealthseeds@gmail.com or leave a message at 540-223-5861 with any questions you may have. We do not have regular phone hours, but will get back to you in one to two business days.

Front Cover Photos: Cucumber and melon variety trials at Twin Oaks Seed Farm; Edmund hand pollinating squash. Back Cover Photo: Seminole Pumpkin harvest at Living Energy Farm.

About Us

Common Wealth Seed Growers is a new retail seed company and seed growers co-operative based in Central Virginia. We grow and sell regionally-adapted, regionally trialed, open-pollinated, organic seeds for a limited number of outstanding varieties.

Farmer Direct: We grow all the seeds we sell, and we only sell what grows well here. We are committed to full seed source transparency. All our seeds are labeled with the name of the farm where they were grown.

Open-Pollinated and Regionally Adapted: Open-pollinated seeds keep farmers and gardeners in control of what they grow. Unlike hybrids, they can be adapted to regional and even farm-specific conditions. We have been selecting and adapting many of our varieties for several years, for disease resistance, productivity, appearance and flavor in our conditions. Part of our mission is to encourage and support other growers to do the same.

Variety Trials and Breeding: We are committed to ongoing variety trials to identify outstanding open-pollinated seedstocks from many sources. Read more on pages 14-16 and on our website. We are also engaged in breeding work. Our cucumber, melon and squash breeding projects focus on Downy Mildew resistance, productivity, flavor and fruit quality.

Organically Grown: Disease and insect resistant varieties are especially important for organic farmers and gardeners because our options for disease and insect control are limited. Our seeds are chosen and selected for good performance in low-input organic conditions. All our seeds are grown organically – most are certified organic. Some seed lots are produced in our home gardens, which aren't certified. Labels and variety listings indicate which varieties are certified organic. All our seeds are untreated and non-GMO.

Germination Testing: All our seed lots are tested according to Association of Official Seed Analysts procedures, and found to exceed federal germination standards. Contact us if you need germination results on a particular seed lot.

Non-GMO: We GMO test all our corn. All corn seedstocks we sell tested negative for GMOs in a PCR Qualitative Analysis test at Genetic ID labs in Iowa. We also support the Safe Seed Pledge, which you can read at councilforresponsiblegenetics.org/help/takeaction.aspx.

Bulk and packet sizes: We offer bulk sizes for most varieties, as it is our goal to serve both commercial growers and gardeners. All packets cost $3.50. Bulk prices vary by variety. See variety descriptions for bulk prices and quantities, and for packet weights. We use grams as well as ounces for measurement. There are 28 grams in an ounce.

Planting Information and Seed Saving Information: Please visit our website for planting information and seed saving information on each of the crop types we offer. For more information on seed saving we recommend Jeff McCormack's online seed saving guides for the mid-Atlantic and Southeast, which can be found at savingourseeds.org. Organic Seed Alliance is also a great resource: seedalliance.org.

Variety Descriptions: These are mostly written by Edmund Frost. Days to maturity are based on our experience, but we consider them a relative and approximate measure. Listed seed counts are based on 100-seed weights, and are not exact.

Cucurbit Seed Needs Survey: Twin Oaks Seed Farm is conducting a survey of cucurbit growers to better assess cucurbit seed needs. Visit tinyurl.com/cucurbitsurvey for the online version, or contact us to request a paper copy. This is part of Twin Oaks' SARE grant projectcalled "Identifying and Marketing Quality Open-Pollinated and Organic Cucurbit Seedstocks for Virginia". Read about the variety trials part of the project on page 14.

Liability: As is customary in the seed trade, we limit our liability to the purchase price of seeds. Let us know if you encounter a problem with seed quality and we'll do our best to make it right.

Feedback: We want your feedback! We want to know what works well for you and why; and we want to know if you have problems with any of our seed lots so we can address them as soon as possible.

Meet the Growers!

Edmund Frost has managed Twin Oaks Seed Farm since 2008, producing certified organic vegetable seeds on six acres in Louisa County, Virginia. Cucurbit seed and produce crops (cucumber, melon, squash, watermelon and gourd) are a central focus of the farm, in addition to cucurbit variety trials. Edmund also grows and experiments with home garden seed crops. Seed growing is one of several businesses that sustain Twin Oaks intentional community. Edmund has worked as an anti-GMO activist and is committed to building functional alternatives to corporate control of our food, farms and seeds.

William Hale owns and operates All-Farm Organics farm in Louisa County, Virginia. He has 22 years of experience growing organic grains, and for the past several years has been producing certified organic popcorn and cover crop seed. William also runs a commercial composting operation on the farm. He is the current board president of Virginia Association for Biological Farming (VABF).

Debbie Piesen has managed seed growing at Living Energy Farm since 2010, growing seeds and produce on three acres of certified organic land just outside of Louisa, Virginia. LEF is a project to build a self-sufficient farm, community and education center that uses no fossil fuels or grid electricity. She is passionate about identifying and stewarding varieties that really work well for homesteaders and gardeners who grow most of their own food, as well as for market growers.

Sapphyre Miria lives at Twin Oaks Community in Louisa, Virginia, and has worked in the seed growing business there for three years. She believes that it is essential for farmers, gardeners and eaters to control food and seed systems, rather than corporations like Monsanto. She also grows seeds in her home gardens. Her favorite crops are corn, gourds and squash. She bottom-lines IT, accounting, germination testing, and order fulfillment for CWSG.

Lyndsey Walker is our newest member. She worked for several years on the seed growing crew at Twin Oaks and is now farming in Buckingham County, Virginia. She is growing seeds and produce crops. She is new in the area and excited to meet other farmers who share similar values.

Common Wealth Seed Growers will be exhibiting at the VABF, SSAWG and PASA conferences this winter; as well as Organic Growers School and Mother Earth News Fair in Asheville this spring. Come say hi! Edmund is also presenting variety trials results at SSAWG, PASA and VABF.

Collards

Even'Star Landrace Collards *Brassica oleracea var. acephala (*Living Energy Farm, Certified Organic by QCS) Bred for tenderness and cold tolerance. Does very well planted in early September for a winter/spring crop. These came through the cold winter of 2013/2014 uncovered with no trouble and looking healthy and good to eat. Then they set a healthy seed crop (we often have trouble with mold on collard seed crops). To have a healthy regional seed system, we need varieties like this one that not only grow well to eating stage here, but produce a good seed crop in our humid climate. Bred at Even'Star farm in Maryland. 215 seeds/g.
2g packet; 14g $10

Corn

All our corn has tested negative for GMO contamination.

Bloody Butcher Dent Corn *Zea mays (*All-Farm Organics, Certified Organic by QCS) Traces to 19th Century Virginia. Large deep red ears on productive 14 foot stalks. Kernels resemble pomegranate seeds. Occasional yellow/blue ears. Great tasting cornmeal and grits. Taste testers on corn muffins say no equal. Old timers highly regarded this corn for its feed quality. Tested free of GMOs in a 10,000 kernel PCR qualitative test (accurate to 99.99%). 120 days. 75 seeds/oz. **1.5 oz packet; 8 oz $12; 5 lb $90; 25+ lb: $15/lb.**

Tennessee Red Cob Dent Corn *Zea mays* (Twin Oaks Seed Farm, Certified Organic by QCS) Sturdy plants produce medium-large ears with white kernels. Ears fill out well. Debbie of Living Energy Farm says it makes good cornbread, good hominy, and very good grits. A 120-day, long-season dent corn. Lodging has not been a problem for us. We've been growing and selecting this for three years and continue to be impressed with its productivity in both wet and dry conditions. Tested free of GMOs in a 10,000 kernel PCR qualitative test (accurate to 99.99%). 120 days. 75 seeds/oz. **1.5 oz. packet; 8 oz $12; 5 lb $90; 25+ lb: $15/lb.**

Glass Gem Popcorn *Zea mays* (Sapphyre Miria, Home Garden)
Do you love opening presents? Then you will love this corn! Each ear is a surprise, waiting to be adored. The colors will never cease to amaze, ranging from deep blues, greens and purples to light, translucent shades of pearl, pink and grey. This is the first generation grown from stock obtained at Native Seed SEARCH. This variety was bred by Carl Barnes, a part-Cherokee farmer and breeder from Oklahoma. Glass gem is a popcorn, with wide variation in ear size, ranging from 3 to 8 inches in length. Can be ground into a delicious cornmeal. 7-8 foot stalks, 2 ears per stalk. Tested free of GMOs in a 3000 kernel PCR qualitative test (accurate to 99.9%). 100 days. 185 seeds/oz. **7g packet; 1.5 oz $15**

Pennsylvania Dutch Butter Flavored Popcorn *Zea mays* (All-Farm Organics Certified Organic by QCS) Old fashioned large white popcorn. 8-foot plants bear two ears each in moderately fertile ground. Selected for nearly a decade for good standing quality. Pops well and grows well. Tested free of GMOs in a 10,000 kernel PCR qualitative test (accurate to 99.99%). 100 days. 195 seeds/oz **¾ oz packet; 8 oz $13; 5 lb $105; 25+ lb: $18/lb.**

Floriani Red Flint Corn *Zea mays* (Living Energy Farm, Certified Organic by QCS) Italian heirloom corn that William Woys Weaver made famous with an article in Mother Earth News. The beautiful red ears have slightly pointed kernels. They make a light pink cornmeal that has rich flavor and high protein content. Good production for an early flint corn. Tassels quickly, making this variety a good candidate for time isolation to prevent GMO contamination. Tested free of GMOs in a 10,000 kernel PCR qualitative test (accurate to 99.99 %). 100 days.
100 seeds/oz. **1.5 oz packet**

Cucumber

Twin Oaks Seed Farm conducted extensive cucumber variety trials in 2013 and 2014, with a focus on evaluating Downy Mildew resistance. The following varieties have demonstrated good to excellent Downy Mildew resistance. See pages 14-16 for more information on the trials and about Downy Mildew. See www.commonwealthseeds.com for full trial results. Next year we will be growing and offering seed from several additional cucumber varieties that stood out in the 2014 trial. In the meantime, check out these outstanding varieties!

DMR-264 *Cucumis sativus* (Twin Oaks Seed Farm, Certified Organic by QCS) Excellent Downy Mildew resistance, surpassing any other green slicing cucumber that we know of. A new release from Cornell University. Bred by Michael Mazourek, whose breeding program at Cornell focuses on breeding for organic conditons. DMR-264 has been a top performer in Twin Oaks' Downy Mildew trials, yielding three times more than Marketmore 76 under conditions of heavy DM pressure. 10 days later than Marketmore 76. This variety makes cucumber production possible in August, September and October when other varieties die from Downy Mildew. These are smaller than a standard slicer and should be picked at 5 inches. 67 days. 35 seeds/g. **1.5g packet; 14g $15**

Luzon #15 (PI 426170) *Cucumis sativus* (Edmund Frost, Home Garden) A pickling cucumber that showed moderate to good Downy Mildew resistance in Twin Oaks' 2014 trial, producing significantly better than the two standard "resistant" picklers we trialed (Homemade Pickles and WI 2238). Handsome green and white fruits that make crisp pickles (some plants have green fruits and some white). Stem ends are bitter for a majority of the fruits, a trait we will work to select out. Cut off the stem end before you eat it. Very productive, with a high percentage of female flowers. From the Philippine province of Luzon, via the USDA's North Central Regional Plant Introduction Station in Ames, Iowa. 50 days.
1g packet (32 seeds)

Suyo Long *Cucumis sativus* (Twin Oaks Seed Farm, Certified Organic by QCS) We've been growing this at Twin Oaks for several years, selecting for fruits that don't have skinny necks. Productive with moderate to good Downy Mildew resistance in our trials. Fruits are sweet and tender up to 15 inches long, and usually curved. Good as a slicing cucumber, or for pickling if picked small. We used to think this was top of the line for Downy Mildew resistance. In Twin Oaks' 2014 DM trial it yielded about twice as much as Marketmore 76, but other varieties yielded up to 4 times as much. 61 days. 35 seeds/g. **2g packet; 14g $9**

Mouse Melon (Mexican Sour Gherkin) *Melothria scabra* (Twin Oaks Seed Farm, Certified Organic by QCS) Free of Downy Mildew in our garden. The fruits look like tiny watermelons, and are about the size and shape of grapes. They taste like cucumbers but with some tartness - like a cross between a cucumber and a gooseberry (don't try it Monsanto!). Native to Mexico and Central America. Sold by the pint at farmers markets. We grew them on the flat in 2014 but would recommend using a trellis for ease of harvest. The seeds are small, so the vines start small, but then grow vigorously. 75 days. 365 seeds/g. **.4g packet; 3.5g $12**

Eggplant

Ping Tung Long Eggplant *Solanum melongena* (Twin Oaks Seed Farm and Living Energy Farm, Certified Organic by QCS) A productive eggplant originally from Taiwan. Purple fruits are narrow and grow to a foot long or more. If picked when dark purple they do not need peeling - the skin is tender and delicious. Debbie of Living Energy Farm says the flavor is superior to traditional eggplant. Good sliced in half, coated with oil and tamari and baked. 65 days. 230 seeds/g. **.5g packet; 3.5g $11; 14g $32**

Gourds

Gourd Processing: Harvest at frost (some frost is ok for fruits) and cure for 1-3 months in a garage or basement, in a single layer, possibly with a fan blowing on them to prevent excessive mold. A bit of heat makes them cure faster. They are ready when they have mostly lost their green coloring, or when the seeds rattle when shaken vigorously (doesn't work for all varieties). Some mold is okay. If you plan to save the seeds, do not wait until the inside is completely dried out. Use a hole saw to drill holes for birdhouses. Or use a hand saw to cut off tops or to cut in half etc. With patience and innovative use of kitchen utensils seeds and pulp can be removed through small openings. Putting water in the gourd and shaking can help.

Chickasaw Bogue *Lagenaria siceraria* (Edmund Frost, Home Garden)
Elongated birdhouse gourds (or short dipper gourds) with tapered, slightly curved necks. Fruits are light green on the plant, and dry to light brown. Excellent for making sturdy bottles and containers. Vines are productive and vigorous, and held up to Downy Mildew in 2014. I got these from Charlotte Hagood, who runs Sand Mountain Seed Bank in Alabama. She got them from Bill Skinner of Marengo County, Alabama. Gourd dimensions vary but are approximately 8"x18". 125 days. 190 seeds/oz. **3.5g packet; 1 oz $12**

Bule *Lagenaria sicereria* (Edmund Frost, Home Garden)
Good production of volleyball-sized gourds on vigorous vines that are very resistant to Downy Mildew. Other gourds we grew in 2013 were completely killed by Downy Mildew but these were barely affected. It also grew and produced well in 2014. These are covered with warts like an Osage Orange fruit; when dried and washed they turn an attractive chestnut brown. The shell is exceptionally thick and is good for making sturdy wooden-like bowls. We used a band saw to cut them in half, but you can also use a hand saw. The contrast of the smooth inside and the warty outside is striking. They also make nice vases and containers. Takes a long time to cure – most aren't ready till January or February. Original seedstock came from Seed Savers Exchange. 140 days. 110 seeds/oz. **3.5g packet; 14g $8**

Bradshaw's Birdhouse Gourd *Lagenaria siceraria* (Lyndsey Walker)
Birdhouse gourds with short necks. Vigorous and productive plants that have held up to Downy Mildew in our gardens. Selected over many years by David Bradshaw for use as Purple Martin birdhouses. Size is variable and some will be better for smaller birds. Good for containers, luminaires and other crafts. 135 days.
3.5g packet; 1 oz $13

Zucca *Lagenaria sicereria* (Twin Oaks Seed Farm, Certified Organic by QCS)
These are huge, maybe as big as you! Plants held up acceptably well to Downy Mildew in 2014 and produced well. Gourds are three feet long and vase-shaped. We are making containers and/or drums out of all of them, save a few that didn't reach full maturity. Shells are not thick but are thick enough to make good containers. 130 days. **3g packet (10 seeds)**

Melon

Twin Oaks Seed Farm conducted extensive melon variety trials in 2013 and 2014, with a focus on evaluating Downy Mildew resistance. The following varieties demonstrated good to excellent DM resistance. See pages 14-16 for more information on the trials and about Downy Mildew. See commonwealthseeds.com for full trial results. Next year we will be growing and offering seed from other melon varieties that stood out in the 2014 trial.

Trifecta *Cucumis melo* (Twin Oaks Seed Farm, Certified Organic by QCS)
A new release from Cornell, Trifecta combines sweetness, keeping quality and disease resistance. Firm, aromatic, deep orange interior is excellent for fruit salads. One of the sweetest and best in Twin Oaks' 2014 Downy Mildew trials. Uniform fruits are moderately ribbed and have light tan exterior with light netting. Bred by Michael Mazourek, whose breeding program at Cornell focuses on breeding for organic conditons. Sapphyre's favorite melon. 83 days. 34 seeds/g.
1.5g packet; 14g $15

Edisto 47 *Cucumis melo* (Twin Oaks Seed Farm, Certified Organic by QCS)
Fruits average three pounds, with very sweet medium-orange interior. Keeps well and holds up well in the field. The standout in Twin Oaks' 2013 Downy Mildew melon trial; in the 2014 trial we found varieties with more resistance, but Edisto 47 still did well. Some fruits have irregular netting, which we're working on selecting out. We've been growing this variety at Twin Oaks for three years, selecting for sweetness and good appearance. Longer season than many melons. From Clemson, 1965. 88 days. 33 seeds/g. **2g packet; 14g $9; 1 oz $15**

Oats

Hulless Oats *Avena nuda* (All Farm Organics, Certified Organic by QCS)
Good for homesteaders as a food or feed crop. Hulls can be mostly removed by threshing and winnowing, making them much easier to clean than regular oats, which require industrial equipment for de-hulling. Soak to remove any remaining hulls, which will float. Popular for its high feed value. Higher protein content than regular oats, though also lower yielding. **5 lb $17; 25+ lb: $2.50/lb.**

Okra

Cajun Jewel *Abelmoschus esculentus* (Living Energy Farm, Certified Organic by QCS) Dwarf 3'-4' tall plants are a good choice for small gardens, or market production. Productive and early. Pods are intermediate between slender and stocky, and can be picked up to 7 inches long. Good flavor and texture. Introduced by Southern Exposure Seed Exchange in 1989. 53 days. 15 seeds/g.
5g packet; 1 oz $8; 8 oz $33

Burmese Okra *Abelmoschus esculentus* (Living Energy Farm, Certified Organic by QCS) We like this one because it's sweet for an okra and good to eat raw in the field as a snack. A somewhat variable population – some plants have longer and more curved fruits than others, though none are stocky. Plants don't make as many leaves as most full size okras, which makes picking more pleasant. Tender up to 7 inches. 55 days. 14 seeds/g. **5g packet; 1 oz $8**

Sweet Peppers

Super Shepherd *Capsicum annuum* (Living Energy Farm, Certified Organic by QCS) Produces good yields of medium sized (4-6 inches long) red peppers with very good flavor and sweetness. Thick walls are great for quickly filling up a dish. Resists mold in the seed cavity that is often a problem in bell peppers. Triangular shape. Earliest fruits sometimes get sun scald, but later fruits are beautiful and defect-free. We have grown this for seed for three years, selecting for appearance, flavor and productivity. 70 days. 180 seeds/g. **.5g packet; 3.5g $13; 14g $32**

Sweet Bullnose *Capsicum annuum* (Twin Oaks Seed Farm, Certified Organic by QCS) A red bell pepper that is consistently sweet and citrusy, but not at the expense of productivity, appearance, keeping quality or size. Twin Oaks Seed Farm has been selecting stock seed for three years with noticeable improvement for our conditions. Original seed from Baker Creek. This is the best-tasting red bell pepper we have found. 88 days. 115 seeds/g. **.5g packet; 3.5g $15; 14g $39**

Midas Touch *Capsicum annuum* (Twin Oaks Seed Farm, Certified Organic by QCS) A slightly elongated, medium-sized bright yellow bell pepper that holds up well in the field and keeps well. Productive and attractive. Bred by North Carolina pepper breeder Doug Jones. He says it is sweet but not his sweetest. 83 days. 125 seeds/g. **.5g packet; 3.5g $16**

Corona *Capsicum annuum* (Twin Oaks Seed Farm, Certified Organic by QCS) An orange bell pepper that holds up much better in the field and keeps better than Orange Bell or Kevin's Early Orange. Good productivity, with mild and sweet flavor. 80 days. 112 seeds/g. **.5g packet; 3.5g $15; 14g $39**

Sweet Banana *Capsicum annuum (*Twin Oaks Seed Farm, Certified Organic by QCS) These have more flavor than most peppers, though are not particularly sweet. Very early, hardy, prolific and capable of handling water stress. Its rare to see anything wrong with one of these peppers. Generally picked green (light green) though you can also wait till they ripen to a light red. 5-7 inches long and 1 inch wide. Good for pickling. 55 days (for green peppers). 150 seeds/g.
.5g packet; 3.5g $12; 14g $32

Sweet Chocolate *Capsicum annuum* (Living Energy Farm, Certified Organic by QCS) Chocolate colored peppers with a tinge of red. These are early, productive and sweet; though slightly thin-walled. Elongated (4-5 inches long) and somewhat tapered small bell peppers. 70 days. 170 seeds/g. **.5g packet; 3.5g $13**

Hot Peppers

Beaver Dam *Capsicum annuum* (Edmund Frost, Home Garden)
Bright red peppers with mild to medium heat. 5-7 inches long and tapered. These didn't get a drop of irrigation water in 2014. They produced through the dry weeks without shriveling or damage - unusual for a pepper in Virginia. Very sweet in addition to being hot, and mild enough that you can use a lot of it without overpowering the dish. Good in scrambled eggs. I heard about this pepper from Mike Levine of Nature and Nurture Seeds, and then got seeds from Christopher Hoetschl, through the Seed Savers Exchange yearbook. 75 days. 125 seeds/g.
.5g packet; 3.5g $15

Chinese Five Color *Capsicum annuum* (Twin Oaks Seed Farm, Certified Organic by QCS) Fully ripe peppers are red, and peppers in other stages are orange, yellow, white and purple. Very productive, healthy and attractive plants grow to about four feet. Peppers are small (inch-long) and oblong to triangular in shape. These are hot, somewhere between a Habanero and a Jalapeno. 72 days. 180 seeds/g.
.5g packet; 3.5g $12; 14g $32

Spice Peppers

Brazilian Orchid *Capsicum baccatum* (Edmund Frost, Home Garden)
These spectacularly shaped red peppers are very sweet and crisp, with just a little spice near the seeds (spiciness varies a bit between plants, but all are mild). 4-5 foot plants need most of the growing season here in Virginia. I planted a little late (early June) and started harvest in late September. I got seeds from Tom Frothingham, who had them at a seed swap at the 2013 SSAWG conference in Little Rock. 115 days. **.3g (33 seeds)**

Aji Dulce *Capsicum chinense* (Twin Oaks Seed Farm, Certified Organic by QCS)
These look like habanero peppers but with only a touch of heat. They have a similar fruity and aromatic smell and taste to habaneros and are similar in size (about 1 by 1.5 inches). We like them pickled. Productive 3-4 foot plants require a long season, growing slowly at first but catching up in the summer. Seed stock from Southern Exposure Seed Exchange, originally from Venezuela. 85 days. 235 seeds/g.
.5g packet; 3.5g $12; 14g $30

Rutabaga

Gilfeather Turnip (Rutabaga) *Brassica napus var. napobrassica* (Twin Oaks Seed Farm, Certified Organic by QCS) Attractive rutabagas with green shoulders instead of the usual purple. Sweet, good textured and cold tolerant. Uniform rutabaga shape. Plant in late August for winter harvest. Overwinters in the ground in Virginia. Stock seed from Frank Morton of Oregon; the variety is originally from Vermont. 270 seeds/g. **2g packet; 14g $10**

Winter Squash and Pumpkins

Twin Oaks Seed Farm conducted an extensive winter squash variety trial in 2014, with a focus on evaluating Downy Mildew resistance. We included many varieties from tropical and subtropical areas where Downy Mildew is endemic. While Waltham butternut was nearly defoliated by late August, many of these varieties grew vigorously till frost. The varieties we are offering have demonstrated good to excellent Downy Mildew resistance. See pages 14-16 for more information on the trials and about Downy Mildew. See commonwealthseeds.com for full trial results. Next year we will be growing and offering seed from several more varieties that stood out in the trial.

Seminole Pumpkin *Cucurbita moschata* (Living Energy Farm and Twin Oaks Seed Farm, Certified Organic by QCS) Small tan pumpkins on Downy Mildew resistant vines. Sweet flavor and deep orange interior, though with a rather large seed cavity. The exterior ripens to a deep tan color, but they taste good and sweet when still partially green. Good keepers. Good as summer squash when picked light green. 4 years of selection for sweetness and keeping quality. Average 3 pounds. 105 days. 280 seeds/oz. **3.5g packet; 1 oz $10; 4 oz $30**

Seminole x Waltham F3 *Cucurbita moschata* (Edmund Frost, Home Garden) This is seed from an ongoing breeding project – my goal is a butternut variety with the Downy Mildew resistance of Seminole pumpkin. In the F2 generation I selected for productivity, butternut shape, good flavor and vines that lived till frost. The F3 is productive and tasty, with 50-60% of fruits marketable as butternut. In Twin Oaks' 2014 trial these had DM resistance comparable to Seminole, yields about 60% higher than Waltham and 20% higher than Seminole. Also resists Black Rot (which shows up on butternut as grey scabs) and keeps well. 105 days.
2g packet (19 seeds)

Chinese Tropical Pumpkin *Cucurbita moschata* (Twin Oaks Seed Farm, Certified Organic by QCS) 4-8 pound pumpkins with deep ribs. Fine textured, bright orange and very sweet interior is of excellent quality. Downy Mildew resistant and productive in Twin Oaks' 2014 Downy Mildew trial. Exterior is mottled orange and dark green, though some ripen to a dark tan. We got seeds from Glen Teves of Molokai, Hawaii. I think this will become a market favorite, especially in the mid-Atlantic and Southeast. Hand Pollinated. 115 days. Quantity is limited; we plan to have regular quantities available after next growing season. **8 seeds/packet**

Thai Kang Kob Pumpkin *Cucurbita moschata* (Edmund Frost, Home Garden) A Thai variety with good Downy Mildew resistance. 4-8 pound pumpkins are circular and flattened, with deep ribs and bumpy skin. Color ranges from tan to speckled green. A LOT of pumpkin flavor, and also sweet. These are good cut in half, baked and then cut up like a pie. The flavor is so rich it feels like you're eating pumpkin pie without the work (or the sugar, gluten, dairy etc)! Not high yielding. 115 days.
3g packet (23 seeds)

Summer Squash

Golden Bush Scallop *Cucurbita pepo* (Twin Oaks Seed Farm, Certified Organic by QCS) These yellow patty-pan squashes are sweet and flavorful. Pick at 3-4 inches for best eating quality and production. Doesn't seem to be as affected by wilting diseases or vine borers as other summer squashes. In 2013, Downy Mildew arrived here in June and the characteristic angular leaf yellowing showed up on the Golden Bush Scallop plants. But the symptoms never progressed and didn't kill the leaves – the plants went on to make a great crop. 62 days. 370 seeds/oz.
3.5g packet; 1 oz $12

Choctaw Sweet Potato *Cucurbita moschata* (Edmund Frost, Home Garden) These caught my attention in Twin Oaks' 2013 observation trials because of their ability to resist Downy Mildew. As a moschata variety, they also resist vine borers and wilt. A vigorous vining variety. Fruits are oblong in shape, and have a dark green exterior with some lighter green dots. Pick at 6-8 inches. Very good and sweet flavor. Can also be used as a winter squash: 10-20 pounds, bright orange inside and usually sweet, but with low dry matter content. A family heirloom from Randy Baker in Mississippi, whose family has grown it for a long time. I got seeds from Charlotte Hagood of Sand Mountain Seed Bank. 75 days. 220 seeds/oz.
3.5g packet; 1 oz $14

Choctaw Round *Cucurbita moschata* (Twin Oaks Seed Farm, Certified Organic by QCS) A selection from Choctaw Sweet Potato squash made by Charlotte Hagood of Sand Mountain Seed Bank. These start setting a little earlier than Choctaw Sweet Potato. Vigorous vines are resistant to Downy Mildew and wilt. Vine borer resistant. Fruits are dark green with lighter green dots, and are round to slightly oblong. Pick when 5 inches in diameter. Sweet and flavorful. Hand pollinated. 70 days. **2.5g packet (15 seeds)**

Tomatoes

Barnes Mountain Orange *Solanum lycopersicum* (Twin Oaks Seed Farm, Certified Organic by QCS) Rich, sweet flavor and beautiful orange color in large beefsteak tomatoes. Very little cracking and splitting, and only very slight green shoulders. Small seed locules make it good for slicing. Great on a sandwich. Edmund's favorite tomato. 75 days. 280 seeds/g. **.2g packet; 2g $10; 10g $30**

Rosella Purple *Solanum lycopersicum* (Edmund Frost, Home Garden)
Purple beefsteak tomatoes on dwarf plants that grow to about 2.5 feet, making this a good choice for container gardens. Very good flavor – especially for slicing and sandwiches. Tomatoes look and taste similar to Cherokee Purple but with less cracking and less green shoulders. Released in 2011 by the Dwarf Tomato Project, a collaborative breeding program between farmers in Australia and the U.S. We got the seed from Craig LaHollier. 65 days. **.12g packet (35 seeds)**

Cherokee Purple *Solanum lycopersicum* (Twin Oaks Seed Farm, Certified Organic by QCS) Purple tomatoes with flavor that helped launch the heirloom tomato boom. Original seed came from John Green of Sevierville, Tennessee through Craig LaHollier and then Southern Exposure Seed Exchange. We got original 1990 seed stock from Southern Exposure Seed Exchange and have been growing from that for three years. Plants are shorter than most heirlooms. Very productive, but there will be cracking, splitting and green shoulders. Small seed locules make it good for slicing and putting on sandwiches. 70 days. 270 seeds/g. **.2g packet; 2g $10; 10g $30**

Cherokee Green *Solanum lycopersicum* (Twin Oaks Seed Farm, Certified Organic by QCS) Selected by Craig LaHollier from Cherokee Purple, this is a green-when-ripe beefsteak tomato. Very good flavor. Sapphyre's favorite tomato in the 2013 season. 70 days. **.2g packet (60 seeds)**

Abe Lincoln (Early Abe Lincoln) *Solanum lycopersicum* (Living Energy Farm, Certified Organic by QCS) Medium sized red round slicers with good flavor. Stood out in 2013 for holding up to foliage disease (Septoria and Early Blight). In LEF's 2014 tomato trial it scored well for disease resistance but moderate for yields. Resists splitting. Abraham Lincoln was introduced in the 1920s. Our seed is from a line selected for earliness; it is smaller and about 10 days earlier than the original. 70 days. 365 seeds/g. **.2g packet; 2g $10**

Matt's Wild Cherry *Solanum lycopersicum var. cerasiforme* (Twin Oaks Seed Farm, Certified Organic by QCS) If you want a plant that stays healthy and productive right up to frost, this is the one. Resists foliage diseases including Early Blight, Septoria and Late Blight. Sweet, flavorful ½ inch diameter cherry tomatoes in clusters on vigorous and very disease resistant plants. Great for snacking, especially for kids. Tomatoes will not keep when detached from the stem, so harvest by clipping ripe clusters or picking individually with stems on (unless you're eating right away). Readily self sows. 58 days. 980seeds/g. **.2g packet; 2g $9; 10g $25**

Garden Peach *Solanum lycopersicum* (Twin Oaks Seed Farm, Certified Organic by QCS) With only a little imagination these really do look and feel like small peaches. The yellow fruits have fuzzy skin and blush pink when ripe. Surprisingly rich flavor. Resistant to splitting and can be left on the plants a long time. Plants had the second most disease resistant foliage in the Twin Oaks seed garden in 2014 (after Matt's Wild Cherry). 70 days. 610 seeds/g. **.2g packet; 2g $9; 10g $25**

Watermelon

There are many strains of Cucurbit Downy Mildew and most don't affect watermelon. Our experience in Central Virginia has been that watermelon DM is less of a problem than with other cucurbits. That said, we still get it – it just shows up late, giving May-planted watermelon crops time for full development and production. In Twin Oaks' 2014 late-planted watermelon observation trial however, we found that many of the varieties we've been working with don't resist Downy Mildew very well. This includes Amish Moon and Stars, Yellow Moon and Stars and Orangeglo. Starting next growing season we will be focusing more on the varieties that have some DM resistance.

Amish Moon and Stars *Citrullus lanatus* (Living Energy Farm, Certified Organic by QCS) Produced the best watermelon crop of all of our farms in 2013, a cool and wet year. Oblong fruits are medium to large (15-20 pounds) with sweet red flesh. Most are covered in attractive moons and stars, some fruits more than others. We've been selecting this melon for sweetness, for more stars, for good size and oval shape for three years. Does best when planted on the early side as it is not resistant to Downy Mildew. Introduced by Southern Exposure Seed Exchange in 1987. 90 days. 215 seeds/oz. **3.5g packet; 1 oz $8; 4 oz $25**

Yellow Moon and Stars *Citrullus lanatus* (Lyndsey Walker)
These watermelons are like large, magical dinosaur eggs. Lots of stars and moons, overlaid on a faint netting. Inside color ranges from light yellow to bright orange. Seeds are white. 20-25 pound oblong fruits. Not Downy Mildew resistant so plant on the early side. 90 days. 230 seeds/oz. **3.5g packet; 1 oz $10**

OrangeGlo *Citrullus lanatus* (Living Energy Farm, Certified Organic by QCS) Exceptional color, sweetness and flavor, "like orange soda without the chemical weirdness," says one of the workers at Living Energy Farm. Early and productive with 15 pound fruits. Not a storage melon; larger fruits often have hollow cores, a trait we are working to select out. Not DM resistant so plant on the early side. The first variety to ripen in Twin Oaks' 2014 watermelon observation trial. 75 days. 215 seeds/oz. **3.5g packet; 1 oz $10**

Sunflower

Beach Sunflower *Helianthus debilis cucumerifolius* (Twin Oaks Seed Farm, Certified Organic by QCS) This is a wild sunflower that grows along the Gulf and Atlantic coasts in the Southeast US. Hardy 6-foot plants with 3-inch flowers on multiple branches that keep blooming until frost. Birds, especially Goldfinches, prefer the seeds over other sunflowers. Also known as Cucumber Leaf Sunflower, this is a different species from most sunflowers and in our experience does not cross with them. 56 days. 170 seeds/g. **1g packet; 14g $12**

Variety Trials at Twin Oaks Seed Farm

In 2014 Twin Oaks Seed Farm received a SARE grant for replicated cucumber, melon and winter squash variety trials. The primary goals were to evaluate resistance to Cucurbit Downy Mildew, and to identify resistant seedstocks. We also looked at eating quality and productivity. Downy Mildew has been the number one limiting factor in cucurbit production on our farm, affecting seed crops as well as market crops of cucumber, squash, melon, gourd and watermelon. We want to find varieties that will do better, and to share the results. Some of what we find will be useful as is, and some will be useful in future breeding projects. For a complete report, visit commonwealthseeds.com or twinoaks.org/seeds.

Cucumbers: The results from the cucumber trial are dramatic. Straight Eights, a susceptible variety, yielded on average 2.1 pounds from five plants. Several of the resistant varieties yielded over 35 pounds per 5 plants– that's 16 times as much! Marketmore 76, a standard with intermediate resistance, yielded an average of 11.2 pounds from each 5 plant entry. Ashley, another standard "resistant" variety yielded an average of 12.7 pounds. We've found 17 varieties that have so far yielded twice as much as these standards. Several of these standouts are Chinese trellising cucumbers that we got from the USDA Plant Introductions program (specifically the North Central Regional Plant Introduction Station in Ames, Iowa). Other standouts: Cornell's DMR-264 (a green slicer that we offer) and DMR-261 (a white slicer); Ivory Queen, a white slicer from Cook's Garden; Shintokiwa Long from Turtle Tree Seeds; White Emerald from Baker Creek (though only some of the plants have white cucumbers).

Melons: Downy Mildew in the melon trial was also severe. We found a good correlation between Downy Mildew foliage ratings and sugar content of the fruit (brix readings). The three sweetest varieties were Seminole, Tai Nang, and Trifecta, with brix averages of 9.7, 10.9 and 10.3 respectively. Keep in mind that this is in a late-planted trial under very heavy Downy Mildew pressure. As a reference point, Hales Best averaged 5.6 brix; Delicious 51 averaged 6.8 brix. Several varieties had moderate sweetness and foliage resistance, including Hannah's Choice, Edisto 47 and Sivan. We are offering Trifecta and Edisto 47 in this year's catalog.

Winter Squash: In the winter squash trial, we saw almost complete dieback of the Waltham butternut plants in late August. Quite a few varieties showed good Downy Mildew resistance, especially the tropical pumpkins. We included tropical pumpkins from Puerto Rico, Cuba, Jamaica, Thailand, China and Panama, and many of these proved to be very DM resistant. There was decent fruit set on the Waltham, and many of the fruits were marketable; however DM significantly lowered quality and yield. An F3 cross between Seminole pumpkin and Waltham did well in the trial, with DM foliage ratings similar to Seminole and yields 60%higher than Waltham. Some of the caribbean tropical pumpkins showed huge yields, though fruit quality was variable in several of the seedstocks, or poor in some cases. Most but not all of the tropical pumpkins made it to maturity. Tropical pumpkin fruits tend to be very large, which is often not desirable with market growers. Two Thai varieties, Thai Kang Kob and Thai Rai Kaw Tok, showed good DM resistance and exceptional eating quality, though were not high yielding. A Chinese tropical pumpkin (it came to us without a name) showed very good eating quality, good productivity, good foliage resistance, good keeping quality and attractive medium-sized fruits. It has potential to become a popular market variety in our region; we're offering sample packets this year and plan to grow more seeds this summer.

Watermelon: This was an observation trial, not funded by SARE. We planted late to expose plants to some Downy Mildew. Standouts for Downy Mildew resistance, sweetness and productivity were Oh So Sweet, Georgia Rattlesnake, Crimson Sweet and Texas Golden. We plan to produce seeds for some of these varieties next year.

Variety Trials at Living Energy Farm

Living Energy Farm conducted two observation trials in 2014 funded by Southern Exposure Seed Exchange and Sow True Seeds. In our tomato trial, we grew 20 varieties described as disease resistant and measured the yield marketable yield, and resistance to foliar disease (mainly early blight and Septoria leaf spot). Stand out varieties for disease resistance were Homestead 24, Marglobe VF, Ozark Pink, and Tropic VFN. Stand out varieties for production of quality (marketable) fruits were Quadro, Homestead 24, Ozark Pink, and Defiant. CWSG will be producing and offering some of these varieties next year.

In our sweet corn trial we observed 20 varieties of open pollinated and hybrid sweet corn, both normal sugar types and sugar enhanced. The best performers for yield were Kandy Korn (hybrid), Buhl (OP), Golden Bantam 8-row (OP), Silver Queen (hybrid), and Top Hat (OP). Standout varieties for ear quality and tenderness were Kandy Korn, Silver Queen, Top Hat, and Texas Honey June. Top Hat is an exciting new sugar enhanced open pollinated variety bred by Jonathan Spero in Oregon. We'd like to grow it and offer seed through CWSG in the coming years.

Downy Mildew Basics: Cucurbit Downy Mildew is a fungus-like disease that affects the leaves of cucumber, melon, squash, gourd and watermelon plants. It starts with yellow spots that turn brown and often kill affected leaves within a few days. Spores reproduce and spread from infected leaves. It often kills entire plants of susceptible varieties.

Downy Mildew does not survive freezing temperatures, but blows north on the wind each year from South Florida and Mexico to infect cucurbit fields throughout the Southeast, mid-Atlantic and often much of the Midwest and Northeast as well. It has become a bigger problem recently. The DM resistance of many varieties has been overcome in the last 15 years due to mutations in the pathogen. DM is also spreading over a wider area. DM is not a problem in the western US.

Identifying and breeding DM resistant cucurbit varieties is a priority for Common Wealth Seed Growers. We have some of the most resistant cucumber, melon, squash and gourd varieties available, and several that can't be found elsewhere.

Powdery Mildew, which shows up on leaves as a grey or white powder, is a different disease, and one that we have had much less of a problem with here in Central Virginia.

There are other forms of Downy Mildew that infect basil, lettuce, hops and impatients. These organisms are related to Cucurbit Downy Mildew, but do not affect cucurbit plants and vise versa.

Why Farmer Direct Seeds?

Thanks to a growing consciousness about food production and increasing media coverage in movies and books like *Food, Inc.* and *The Omnivore's Dilemma*, many people are thinking about how and where their food is grown. People are recognizing that convenience and low cost of manufactured food products come at a high price: rising obesity and diabetes rates, exploding health care costs, loss of diversity in the produce section, etc. The local food movement has grown by leaps and bounds in the last decades as a result of rising consumer consciousness. People flock to locally produced food for a variety of reasons: exceptionally tasting, fresh and nutritious produce rather than produce raised for its ability to ship long distances; a desire to strengthen the local economy by choosing to support endangered family farmers rather than large corporations; a drive to steward the land in healthier ways by choosing local organic farming systems thus reducing fossil fuel consumption and pollution. There really isn't a good reason not to participate in a localized food system. Out of all of the discussions regarding a local food system, there appears to be one element missing. How strong is a local food system if there isn't a local seed system? In other words, why does farmer direct, regionally adapted seed matter?

Preserving seed for the next season has been a fundamental rule of survival in human history. Almost all seed prior to the 1930's was organic, regionally adapted and open-pollinated. Farmers and gardeners knew how to save seed, and they traded and shared these seeds with their neighbors. A variety stewarded in this way has a genetic makeup that gears it towards optimal survival within local and bioregional growing conditions. This regional adaptation of seed stocks allowed for a diverse, secure food supply for any particular bioregion. This began to change with the advent of hybrid corn varieties in the 1930's. Farmers started trading in their ability to save next season's seed, adapted to their growing conditions, for seed purchased from the seed company. In the years since, using hybrids became standard practice even for plant types that don't benefit from hybrid vigor (which is most of them); farmers and gardeners continued to lose their seed-saving knowledge and stewarded varieties; industrial food systems replaced local food systems and industrial seed systems replaced localized seed systems.

Throughout this process, seed has moved away from being the common wealth of humankind and joined the long list of public resources appropriated by the private sector. The results have been devastating. Most of farming in the United States today relies on proprietary seed stocks, whether they be hybrid (F1), plant variety protected (PVP - a limited patent for open pollinated (OP) varieties), or genetically modified (GMO), the most extreme form of seed privatization. According to *Organic Seed Alliance's State of Organic Seed 2011* report, the seed industry is now dominated by a handful of transnational biotechnology/chemical firms with 60% of the world's commercial seed owned by 5 companies. What's worse is that these corporations have no interest in supporting sustainable organic agriculture or organic crop breeding as their profits rest on breeding crops that rely on agricultural chemicals (which they also sell). They have everything to gain by commandeering the seed supply through market consolidation, discontinuing more seed varieties

with each corporate merger and leaving fewer varieties available to organic farmers. These giant agricorps will pursue all means to secure their profits: the draft for the Intellectual Property section of the proposed Trans Pacific Partnership (think NAFTA on steroids) is literally written by and for Monsanto. *The Manifesto on the Future of Seeds* (written in 2006 by the International Commission on the Future of Food and Agriculture in) aptly points out: "The global seed industry misuses the concept of "common heritage of mankind" to freely appropriate farmers' varieties, convert them into proprietary commodities and then sell them back to the same farming communities at high costs and heavy royalties. Such privatization through patents and intellectual property violates the rights of farming communities and leads to debt, impoverishment and dispossession of small farmers."

A consequence of this privatization and increased reliance on hybrid seed stocks has been not only a loss in the amount of open pollinated varieties available but also a loss of quality,suitability and traceability in OP varieties. Most of commercial dry seed production takes place where the climate suits the seed production, like the Pacific Northwest and Israel. That's great in some ways, but how will those varieties grow in an opposite climate like the southeastern United States? Colorado is a good place to produce cucurbit seed without much of the disease pressure experienced in more humid climates. But over the long run how will those seed stocks hold up to Downy Mildew and Bacterial Wilt? Seed producers are incentivized towards quantity of seed rather than quality. Plant breeding and selection- working towards varieties that are disease resistant, pest resistant and regionally adapted - is discouraged by this system and rarely prioritized. So, what's the local organic farmer to do? Take a chance on poorly stewarded OP's and potentially lose income? Turn towards a better stewarded yet proprietary hybrid variety that also may not be well suited to their climate and that could disappear at the whim of a far-off company? Herein lays the greatest insecurity to our local food system: dependence on commercially-sourced, commodified seed.

The political landscape surrounding seed is dire and reveals the vulnerability in our local food systems. Yet, there exist many beautiful seeds of potential to turn the tide of corporate control over our food supply and return food sovereignty to the hands of the people. It is at the local level that the new paradigm of seed is being formed. Communities that prioritize local spending, farmer co-operatives, food hubs, farmers' markets and CSAs are also becoming the breeding grounds for a new local, organic, open-pollinated seed movement. We're excited to be a part of it! We at Common Wealth Seed Growers are all farmers, working together to revitalize and rebuild a localized seed system in Virginia and in the greater Southeast and mid-Atlantic regions. We grow, save, clean and pack all the seed we sell. We test new and old varieties in our trials. We practice ongoing selection and adaptation, under organic conditions, as we work with varieties over time. We have several breeding projects in progress. Our new seed growers' cooperative is actively building a local and regional network of skilled organic seed producers, and developing educational programming on seed saving. We believe that organic farmers and the communities in which they exist are best served when they have access to well stewarded, 100% source-transparent, regionally adapted, GMO-free, organic, open-pollinated seed

varieties. Farmer-direct seed - farmers growing seeds for themselves and directly distributing to other farmers - is the clearest path away from the global commodity seed market and towards reestablishing seed as the common wealth of humankind.

Sapphyre Miria, Twin Oaks Seed Farm

Seed Terminology

Open-pollinated (OP) varieties are stable and more or less uniform populations. Seeds can be saved and re-grown from year to year and the plants will look the same each year. OP varieties do contain some genetic variability however, which allows for continued selection and adaptation over time. In this way varieties can be adapted to new conditions without the step of making crosses with other populations. OPs, as at least as much as hybrids, require careful stewardship because they always have the potential for change. OPs lend themselves to democratic and horizontal power dynamics, and are not conducive to commodification. Farmers and gardeners can save, steward and control their own seeds, thus retaining sovereignty over what they grow.

Hybrid (F1) varieties are the first generation after a cross between two different OP parent varieties. The parents (called inbred lines) are generally bred for strict uniformity, resulting in uniform hybrid varieties. Seeds saved from F1 plants and replanted are called the F2 generation. F2 plants are anything but uniform, displaying the characteristics of both parents and everything in between. It takes several years of selection to create a stable OP variety out of an F1 cross. Proprietary hybrids are hybrids for which the parent lines are not known tothe public. Hybrid seed is an extra-legal mechanism that allows for proprietary control of varieties. F1 hybrids can also be seen as step one in the process of breeding new OP varieties.

Genetically Modified (GMO) varieties are created in labs by splicing DNA from different, unrelated kinds of organisms into the plant's DNA. The resulting genetics are then the sole legal property of the corporation that created them. There is no role for farmers or gardeners saving seed, and they are forbidden to do so. Even farmers whose seedstocks have been contaminated accidentally can be sued for possessing proprietary genetics. The process of making GMOs is unprecedented in nature; GMO plants contain proteins and compounds entirely unprecedented in the natural world, but are being released without serious assessment of their effects on our health and the environment.

Instructions for Ordering by Mail

- Make a list of varieties, making sure to write the size, quantity and price for each item. All non-bulk packets cost $3.50. Bulk prices are listed in the variety descriptions.

- Total your purchases.

- Add shipping cost. For orders that are all packets or that total less than pound, add $5 for shipping. For orders over one pound add $2 for each pound. Please contact us for shipping prices on orders heavier than 8 pounds, or order online.

- Include a check or money order, with the total purchase price plus shipping price. Alternatively, include credit card information: Name, billing address, card number, expiration date and security code (3 digits on the back).

- Write down the address that you want seeds shipped to, and include a phone number in case we need to contact you.

- Mail to:
  Common Wealth Seed Growers
  138 Twin Oaks Road
  Louisa, VA, 23093

- We ship by USPS and UPS ground.

Please email us at **commonwealthseeds@gmail.com** or leave us a message at **540-223-5861** if you have any questions or problems with your order. We do not have regular phone hours, but will get back to you in one to two business days.

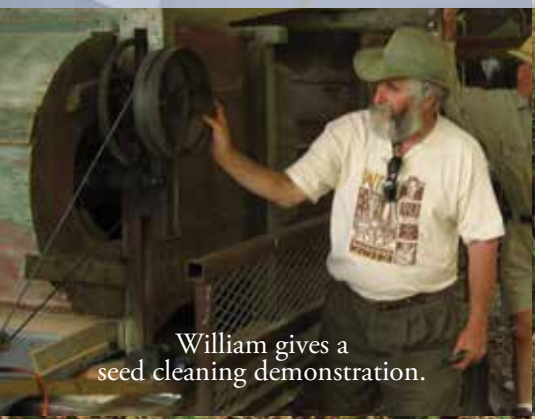
Please consider ordering online at **commonwealthseeds.com**. Our website has color pictures for all varieties, as well as planting information, variety trials reports, seed saving information, farm pictures and more.

Trifecta

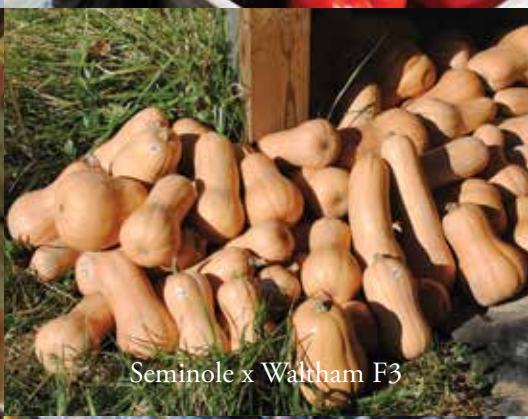
Debbie processing OrangeGlo

DMR 264

Sweet Bullnose

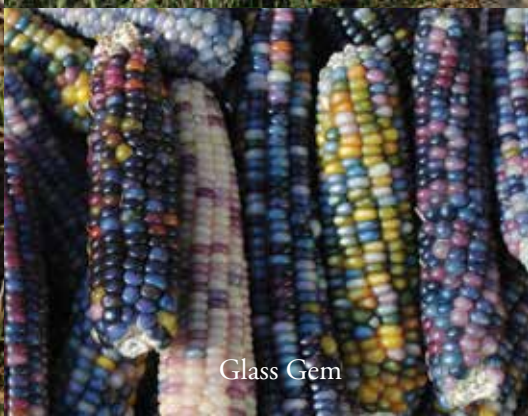


William gives a
seed cleaning demonstration.



Seminole x Waltham F3

Garden Peach



Glass Gem

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