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I'm doing parallel breeding with both the garden dahlia and *D. coccinea*. In both cases, I am selecting for roughly the same traits and I occasionally make crosses between the two. *D. coccinea* tubers have a clear history of use as an edible and I have found that seedlings produce smaller but more reliably good tasting tubers than garden dahlias. Because of that, I sometimes wonder if I would be better off just focusing on *D. coccinea*. Flowers of this species are usually single and yellow or red. Plants typically reach about four feet tall. Foliage can be very dark, almost black. Tubers, particularly the skin, frequently have a resinous or piney flavor that is not present in the tubers of most garden dahlias, similar to the flavor of yacon skin. Seeds in this mix come from plants that have been selected for good edible traits over 4-6 generations. The picture shows the flowers of the fifteen varieties that contributed to this mix in 2018.

None of our dahlias are grown on a spacing that precludes cross pollination between species. They aren't right next to each other, so they will be reasonably pure, but there is always the possibility that you will get some seedlings that are inter-species crosses. To my way of thinking, that only adds extra value, but if you have a need for absolute purity in your seeds, these might not be what you are looking for.

Bulk 5 gram packets are also available, containing approximately 500 seeds.

Price: \$6.50 - \$35.00

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These seeds are collected from dahlias in our edible collection, including both standard varieties and our breeding lines. Because they are collected from dahlias with good edible qualities, it is likely that they will produce some new dahlias with such qualities. I'm not yet sure what the odds are. I have been keeping roughly 1 in 30 plants grown from seed, so if your taste is similar to mine, you might get a couple of good edibles from a packet of seed. Dahlias are polyploid and don't breed true, so every seedling is a unique variety and the only way to know if you have a good one is to taste it. Flowers will be extremely varied from this mix, with many singles and doubles, and the occasional fancy type.

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Kaiser Wilhelm is a high yielding variety with long, off-white tubers. I think it has the best combination of tuber size, yield, and flavor of the heirloom dahlias that we have tested. The tubers are firm and juicy and quite sweet when raw. The flower is a large orange and yellow ball. We also have a single flowered mutant which I use for seed production. I assume that the single flowered form is a somatic mutant and so the seeds will not transmit that trait in excess of the usual ball form, but I'm not entirely sure of that. Large plants grow to about four feet.

This is a very old variety, dating to 1881. It seems that older varieties are a little more likely to make good edibles, possibly because they haven't been selected as long and intensively for flower traits.

Although we sometimes offer tubers of these varieties, my main focus is producing seed for breeding. Like all dahlia seeds, the true seeds of this variety will not be true to type. I have grown out quite a few and got a range of types, predominantly single flowered and ball types. Many of them have tubers with good edible qualities.

Price: \$7.50

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Stolz von Berlin is a high yielding variety with small to medium, tapering, tan tubers. The tubers are sweet in the fall, but sweeter in the spring, as is commonly the case. The flower is a pink ball. Medium size plants grow to about three to four feet.

This is a very old variety, dating to 1884. It seems that older varieties are a little more likely to make good edibles, possibly because they haven't been selected as long and intensively for flower traits.

Although we sometimes offer tubers of these varieties, my main focus is producing seed for breeding. Like all dahlia seeds, the true seeds of this variety will not be true to type. I have grown out quite a few and got a range of types, predominantly single flowered and ball types ranging in color from white to red, with a few yellows mixed in. Many had good edible qualities.

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White Aster is a high yielding variety with small, round to oval, tan tubers. The tubers are almost as sweet in the fall as in the spring. The flower is a white ball. Medium size plants grow to about three to four feet.

This is a very old variety, possibly the oldest extant European variety, dating to 1879. It seems that older varieties are a little more likely to make good edibles, possibly because they haven't been selected as long and intensively for flower traits.

Although we sometimes offer tubers of these varieties, my main focus is producing seed for breeding. Like all dahlia seeds, the true seeds of this variety will not be true to type. I have grown out quite a few and got a range of types, mostly singles and doubles in white, yellow, and pink. Many had good edible qualities.

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Yellow Gem appears to be infected with a dahlia virus, most likely Dahlia Mosaic Virus. It has tested negative for every other common dahlia virus and DMV is the only one that I cannot test for. The effect of this virus is pretty minimal, other than causing some yellowing of the leaves, and it is extremely common in dahlias. The plants still flower well and produce plenty of tubers. So, it is your call. If you grow a lot of dahlias and you want to keep them disease free, you should probably not buy this (on the other hand, if you grow a lot of dahlias, you probably already have some that are infected). If you are just growing a few dahlias for food, it might not matter to you. I will keep trying to clean up this variety, but DMV is capable of integrating into the host genome, so cleanup may not be possible.

Yellow Gem is a high yielding variety with round to oval, off-white tubers. The tubers are firm and juicy, with a very smooth texture after cooking. Flavor is neutral in fall with just a hint of sweetness and floral aftertaste. By spring, the tubers are very sweet. Small, yellow "pom pom" type flowers. Grows to about 3 feet. An older variety, dating to 1914. Tolerates overwintering in wet soil better than most varieties, which helps to sweeten it.

We had a hard time tracking down a source for this variety. It appears that many ornamental growers have dropped it in favor of more showy varieties. Perhaps we can help it to gain some popularity and live on as an edible.

Although we sometimes offer tubers of these varieties, my main focus is producing seed for breeding. Like all dahlia seeds, the true seeds of this variety will not be true to type. I have grown out quite a few and got a range of types, predominantly single flowered and ball types. Many of them have tubers with good edible qualities.

Price: \$7.50 - \$11.00

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Florida betony (*Stachys floridana*), is very similar to Chinese artichoke, but with a bit sharper flavor. As one of the few root crops native to North America, it should be better known and appreciated. Many millions of dollars are spent every year in Florida and Georgia, trying to poison this plant out of existence instead of eating it. Tubers reach a maximum of about 12 inches in length, although more typically about 6 to 8 inches. May tolerate more heat than Chinese artichoke, although it has no more drought tolerance. Keep it well watered for the best yield. Plant or pot immediately on receipt; they don't keep very well out of the ground.

I strongly recommend growing this plant in pots. Also, grow only one clone if you don't want the plants to set seed. Florida betony has a well deserved reputation for growing out of control. I have not found this to be the case here. In the west, it needs watering in the summer and does poorly without it, so spread is limited. In a more favorable climate, it may become a problem plant. Best to keep it contained. Beside that, tubers are often set rather deeply, so pots are much easier to harvest.

Florida betony is classified as a noxious weed in some areas of the South. Please check your local noxious weed regulations before ordering.

We grow several different accessions of Florida betony in order to maximize diversity for breeding. They are not significantly different and if you just want to grow the plant as a food crop, it probably doesn't matter which one you choose. Clones A and C were collected in Florida and clone B in North Carolina.

Packet details:

5 tubers or segments of tubers about 2-3 inches in length.

Price: \$6.50 - \$7.50

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Mauka information and growing instructions



Mauka caudices

Blanco produces large clusters of white/tan roots. We generally find it to be higher yielding than our other variety, Rojo. Its leaves also seem to have less calcium oxalate or whatever substance is responsible for the strange mouth feel that mauka leaves sometimes produce. Flowers are white and produced abundantly in early spring if you can keep the plants alive over winter. Blanco produces enough to eat in a single growing season, but has much higher yields after two years.

We offer both caudices (lower segments of stem) and seeds.



Mauka seeds

Mauka caudices are lower segments of stem with dormant buds. You plant them a couple of inches deep and they quickly root and sprout. We have been testing sending caudices through the mail for a couple of years and have found that they are pretty hardy and survive even long shipping times. The main problem is that they may begin active growth if the conditions are warm while they are in the mail. If they don't sprout, they can be kept in the refrigerator for months before planting. If they have sprouted, then it is generally best to pot them until they can be planted out. Unlike growing from seed, a caudex generally produces a full size plant in the first year.

Mauka is one of the few Andean root crops that is true breeding. The seeds are easy to start and have a germination rate of 90% or more. Plants grown from seed should be harvested in their second year or later unless you have a very long growing season. Unfortunately, the seeds are a pain to produce. They mature over a long period of time and they are difficult to collect. Because of that, I offer caudices as the standard and seeds only when I have the time to collect them.

Price: \$8.50 - \$23.50

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Oca information and growing instructions

This is an OSSI open source variety. Click for more information about open source seeds.

Phytosanitary information

Redshift is a Cultivariable original variety, introduced in 2013. It is notable for heavy yield and excellent flowering.

Culinary Traits

Refshift has no tartness or sweetness and tastes very much like potato. The cooked texture is soft. It loses much of its color when cooked, becoming pink or even white.

Agronomic Traits

Redshift plants are among the largest of any variety that we grow, first becoming very tall and then sprawling. The tubers cluster under the base of the plant and may become crowded, producing irregular shapes. Tuberation photoperiod is about 12.5 hours, a week earlier than most heirloom varieties. Average yield is 1.8 pounds. Maximum tuber length is 5.2 inches and average tuber length is 1.6 inches. Average tuber count is 36. This variety produces about twice as many small tubers as large.

Redshift is an exceptional flowerer with a mid-styled flower, flowering here from June through October. It

is consistently among the top three producers of true seed here, along with Siwash and Wishkah.

What you will receive

Tubers

You will receive the stated number of tubers, packaged in a wax envelope. We grade tubers by passing them through a grate. Small tubers are those that won't fall through a 1/3" grate, but that will fall through a 1 inch grate. Medium/large tubers are those that will not fall through a 1 inch grate.

Seeds

Seeds are open pollinated. Because oca is a polyploid hybrid, the seeds will not grow true to type. They are suitable for use in breeding or conservation efforts and could be used to select varieties similar to the parent type.

Price: \$6.50 - \$12.00

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Phytosanitary information

Sockeye is a Cultivariable original variety, introduced in 2015, notable for relatively early tuberization and high yield.

Culinary Traits

Sockeye is a moderately tart variety, with what we might call the classic oca flavor, something like a potato with lemon or sour cream. Raw, it has attractive, shiny, red skin and light yellow flesh with a red core. It can be sliced thinly for raw dishes, which will produce disks with contrasting red and yellow rings. Cooked, the texture is very soft and the tuber will disintegrate with long cooking time. Like most oca varieties, Sockeye loses most of its color when cooked, usually becoming light pink.

Agronomic Traits

Sockeye plants are tall, with a large number of stems, and sprawling at maturity. The tubers are produced on relatively short stolons and cluster densely beneath the plant. This has both advantages and disadvantages. The tubers are easy to harvest, but because they are closely packed, many will have irregular shapes. Tuberization photoperiod is about 13 hours, making it two to three weeks earlier than

most of the heirloom varieties. Average yield is 2.2 pounds. The maximum tuber length is 5.2 inches and the average tuber length is 2 inches. Average tuber count is 34. The distribution of tubers ranges pretty evenly from small to large.

Sockeye is a fairly poor mid-styled flowerer, flowering from late June to September here.

White Salmon

White Salmon is a somatic mutant of Sockeye that has lost all red color. It is white to pale yellow after exposure. Other than color, it is identical to Sockeye. We don't grow much of this variety and it is not available every year.

What you will receive

Tubers

You will receive the stated number of tubers, packaged in a wax envelope. We grade tubers by passing them through a grate. Small tubers are those that won't fall through a 1/3" grate, but that will fall through a 1 inch grate. Medium/large tubers are those that will not fall through a 1 inch grate.

Seeds

Seeds are open pollinated. Because oca is a polyploid hybrid, the seeds will not grow true to type. They are suitable for use in breeding or conservation efforts and could be used to select varieties similar to the parent type.

Price: \$6.50 - \$20.00

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Skirret information and growing instructions

Skirret (*Sium sisarum*) is a historically interesting and tasty root crop. Not particularly high yielding, but forgiving and perennial. After two years, or perhaps one in really favorable conditions, you get a small clump of thin, white, carrot-like roots. Flavors are subjective, but I find that it has a flavor somewhere between carrot and parsnip. It likes wet, shady conditions, so it may give you a food crop in areas that otherwise don't get much use.

Seeds have a good germination rate, but are slow to get started. Give it two months - some will germinate in a week, others after you are sure there is no hope. A soil temperature of 70 degrees seems to be optimal, so if you are going to direct sow, don't start them too early. Skirret will also happily

transplant, so if you start them inside about 60 days before your last frost, you can have seedlings ready to go. Once you have a plant, you can propagate it vegetatively with ease, although this is another uncommon plant that would really benefit from some more enthusiasts growing it from seed on a regular basis.

Group 1 includes only plants grown from seeds of the few that survived a serious disease event here in 2014. These plants are the clone that we offer as offsets. The population had already been selected for improved root size and now hopefully also carries improved disease resistance. I think that the disease that the parent plants survived was celery blight, but I'm not certain.

Group 2 seed is collected from our entire skirret population, with the exception of those in Group 1. This includes plants from seven different sources: three genebank accessions, two wild collections from Europe, and two varieties obtained as superior clones. As far as I'm aware, this is the greatest skirret diversity available anywhere. This mix should be of primary interest to breeders. For the more casual skirret grower, Group 1 seed is likely to provide superior results.

Price: \$5.50 - \$20.00

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Yacon information and growing instructions
This is an OSSI open source variety. Click for more information about open source seeds.
Yacon ships in spring, usually separate from the rest of your order.

Bogachiel is the third new yacon variety from our yacon breeding project. It was a cross between unreleased first and second generation varieties.

This is probably the best variety that we have produced yet, combining together several desirable traits. It is high yielding, with an average of 16.4 pounds of storage roots here. Individual roots weighing in the vicinity of 2 pounds are common. I'm honestly not sure if huge roots are a plus or a minus, but people seem to get excited about them. The roots have yellow flesh and are sweet at harvest. Skin color is tan with red at harvest and darkens to fully red with a week or two of exposure to light. This variety flowers early and abundantly and many flowers here had full seed set, so it should be relatively easy to use in breeding.

What you will receive:

Rhizome

You will receive the stated number of rhizome pieces, packed in damp peat. You should keep packets refrigerated and check them periodically to make sure that the exposed cuts are not molding. If mold develops, cut back to clean flesh and plant or pot as soon as possible. Rhizome does not store well, so it

is always better to plant it than to store it if you can.

Seeds

Seeds are open pollinated. Because yacon is a polyploid hybrid, the seeds will not grow true to type. They are suitable for use in breeding or conservation efforts and could be used to select varieties similar to the parent type.

Price: \$7.50 - \$45.00

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Kalaloch is the second new yacon variety from our yacon breeding project. It was an open pollinated seedling of the variety Cajamarca. I'm guessing that the cross was probably Cajamarca x Bekya based on the traits that it shares with both varieties, but we'll probably never know for certain.

There is a lot to like in this variety, but I selected it for release based on the fact that it is an early flowerer and carries the genetics of Cajamarca, which is a difficult variety to work with. It is about a month earlier to flower and form tubers than the next earliest variety, Bekya. The roots are medium sized, white/tan, and sweet, smaller but otherwise similar to Cajamarca. It sets seed with a compatible pollinator. It is medium to tall with green stems. It isn't a particularly high yielding variety, but I think it will be a good variety for climates with shorter growing seasons. It will probably do better in containers than larger varieties. The smaller root balls are also a lot easier to harvest than those of heavy yielding varieties and smaller roots are a more practical size for fresh eating than two-pound monsters.

What you will receive:

Rhizome

You will receive the stated number of rhizome pieces, packed in damp peat. You should keep packets refrigerated and check them periodically to make sure that the exposed cuts are not molding. If mold develops, cut back to clean flesh and plant or pot as soon as possible. Rhizome does not store well, so it is always better to plant it than to store it if you can.

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I think that this will be the last year that we offer this variety. It is a perfectly nice variety, but it is not as good overall as my more recent selections and also not as easy to use in breeding.

Quinault is the first new variety introduced from our breeding program, grown from open pollinated seed of the variety 'Rojo'. Mature tubers come out of the ground a light/red purple, sometimes partly tan, but become the darkest red of any variety that we grow after a couple weeks of exposure. Plants are of medium height, usually reaching between five and six feet here by the end of the growing season. The one purpose that this variety is not suitable for is as an ornamental. It is a slovenly looking plant with sprawling stems and droopy leaves. That doesn't affect food production, of course, but it is a better plant for the back yard than the front.

Quinault doesn't really measure up to the heirloom varieties. The yield is generally lower and the flavor is fine, but nothing special. The main reason that I released this variety is simply that there had never been a seed grown variety produced in North America and very few anywhere in the world. Quinault will be of more interest to people who are interested in doing yacon breeding than as a general purpose variety. It is early to flower, at about 155 days. It has greatly improved seed set and pollen production compared to the heirloom varieties. Unfortunately, germination rate of the seeds that it produces is lower than most of our later seed-grown varieties (although still superior to the heirloom varieties).

What you will receive:

Rhizome

You will receive the stated number of rhizome pieces, packed in damp peat. You should keep packets refrigerated and check them periodically to make sure that the exposed cuts are not molding. If mold develops, cut back to clean flesh and plant or pot as soon as possible. Rhizome does not store well, so it is always better to plant it than to store it if you can.

Seeds

Seeds are open pollinated. Because yacon is a polyploid hybrid, the seeds will not grow true to type. They are suitable for use in breeding or conservation efforts and could be used to select varieties similar to the parent type.

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Sol Duc is a 2019 introduction from our yacon breeding project. It was a cross between the varieties Morado and Quinault.

Sol Duc has a moderate yield, with an average of eleven pounds of storage roots. It has red skin and develops skin color relatively early, so that the tubers are all red at harvest. In most varieties, color develops late and many of the tubers are still white at harvest and require a week or more of exposure to color up. Sol Duc will continue to grow darker with exposure, becoming nearly black in some cases. The flavor is among the sweetest at harvest and continues to intensify in storage. Sol Duc flowers abundantly and sets seed easily, but is not early to flower, beginning in October.

What you will receive:

Rhizome

You will receive the stated number of rhizome pieces, packed in damp peat. You should keep packets refrigerated and check them periodically to make sure that the exposed cuts are not molding. If mold develops, cut back to clean flesh and plant or pot as soon as possible. Rhizome does not store well, so it is always better to plant it than to store it if you can.

Seeds

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