# Andean Tuber Crops - Jewels of the Earth

In addition to potatoes, there is a shocking rainbow diversity of brightly colored tubers cultivated in the Andes where they have been a staple of rural communities for millennia. These so-called "lost crops of the Incas" have been largely ignored by the rest of the world. These "jewels of the earth" deserve to be widely grown. An alarming loss of heirloom cultivars has been observed in recent decades as land is given over to modern crops, such as carrots, that are associated with affluent culture. This makes preservation through integrating these enchanting and delicious tubers into our gardens all the more timely. Most are easily cultivated and can be prepared any way you cook potatoes- baked, steamed, boiled, fried, etc. Studies have shown all of these plants to be nutritious and high in antioxidants. Cultivation outside of South America is still somewhat experimental, so let us know how they grow for you. www.sacredsucculents.com/andean-tuber-crops

General cultivation information for Andean tubers: They all are tolerant of a wide range of soils, but grow best in a relatively rich, well draining soil. We use 20% pumice stone, 10–15% sand and the rest compost/garden loam. Gophers are particularly fond of all these plants, so we grow them in half wine barrels or raised beds with wire mesh on the bottom. In the colder climates, several inches of mulch will help assure tuber survival through heavy frosts. In climates below Z7, the tubers can be overwintered in moist coir or sand in a cool place, or even in a paper bag in the fridge, then replanted at the start of the growing season. Though tolerant of a little shade and drought, all do best in a sunny location with regular irrigation.

"Achira" Canna edulis: Ginger-like perennial monocot to 6'. Large attractive foliage, green, sometimes with bronze highlights. Bright red or orange lily-like flowers. Thick edible rhizomes. A cultivar throughout the subtropical mid elevation Andes. The rhizomes are extremely rich in a large molecule starch and have been eaten since antiquity. Young shoots and immature seedpods are also edible, tasting similar to peas. A useful garden plant, makes an excellent windbreak. Not as cold hardy as the other tubers, but can still tolerate 15° F or lower if very well mulched. Achira is also much more tolerant of extreme heat and wet or even soggy soil. The rhizomes are best harvested after the tops of the plant have died back from frost or a dry period. Make sure to replant a few of the nippled growing tips of the rhizome for continued harvests.

"Oca" Oxalis tuberosa: Round to cylindrical tubers 1—6" long. Hundreds of known cultivars in an alluring spectrum of colors from yellows to oranges, pinks and reds. Sprawling succulent stems to about 1' tall with trifoliate clover-like leaves, yellow flowers. One of the easier Andean tubers to grow and second only to the potato in popularity. Cultivated for thousands of years, the tubers have a variety of flavors from crisp and lemony fresh to buttery and sweet when cooked. Still unknown as a food outside of South America with the exception of Mexico where it has been grown for over 200 years and New Zealand where it has been farmed recently. One of the most adaptable of the tuber crops. Since tuber production does not begin until after the Autumn Equinox when the daylength shortens and the days cool, the largest tubers are produced if you can keep the tops protected from hard frost (they are tolerant of light frost) and growing as long as possible (this goes for *Tropaeolum* and *Ullucus* as well.) If you do not live in an area with a long mild Autumn season, you have a couple options. One method is to stake some hoops over the plants covered with frost protectant fabric or even greenhouse plastic. One other trick is to cover them with shade cloth a few weeks prior to the equinox to simulate shortened daylight and encourage early tuber forming. We are finding that well before the shortened daylength it is good to mound extra soil around the stems, as you would potatoes, to encourage additional tuber formation. The tubers can be harvested after the tops of the plant finally die back. In general, the more cold the tubers are exposed to the sweeter they become, so a late harvest is usually preferable. Hardy to 5° F or lower if well mulched. We typically harvest late December or January. Traditionally the tubers are exposed to sun and cold for several days after harvest to break down any oxalic acids and increase sweetness. Exposure to light also enriches the vivid colors. Like potatoes, the tubers can be cut into

"Mashua" or "Añu" *Tropaeolum tuberosum*: A close relative to the garden nasturtium. Annual climbing stems to 8' with rounded lobed leaves. Tubular flowers, bright orange or red, sometimes with a yellow lip. Easy to grow, high yielding, highly ornamental, pest resistant and repellent. The leaves and flowers can be added to salads. The tubers are cooked like potatoes and some varietals have a slight peppery flavor. Shown to reduce testosterone with regular consumption. In general, mashua dislikes excessive heat, preferring a long cool and moist season. Give the vine a trellis or fence to climb on. Most varieties are daylength sensitive for tuber production, after the Autumn Equinox they should be cultured similar to *Oxalis* (see entry above). Vegetative growth is tolerant of mild frost, but dies back to the tubers after heavy frost. The tubers are hardy to 5° F or lower if well mulched. Flowers are formed late in the season, but can be encouraged earlier by holding back water.

"Ulluco", "Melloco" or "Papa Lisa" *Ullucus tuberosus*: Hundreds of cultivars exist. 1–4"+ round to cylindrical tubers, a delighful array of bright colors. Highly edible spinach-like rounded leaves on short sprawling stems to 12". One of the most delectable of all the Andean tubers, crisp and buttery in flavor. A dual crop for both the leaves and tubers. Shown to have antiviral properties. Contains triterpenoid saponins which may help with hypoglycemia. A little more challenging to grow than the others, but well worth any effort. Most varieties resent too much heat, yet are tolerant of a little shade during high summer. They also seem to be sensitive to being transplanted into overly rich "hot" soil, often rotting. The best treatment is gradually applying small amounts of compost/fertilizer as a mulch throughout the growing season. The wild ulluco, *U. tuberosus* ssp. *aborigineus*, which has long trailing stems up to 10' or more in length, appears to be a bit more adaptable to both heat and cold, sun and shade, than its anthropogenic kin. Ulluco only produce their lovely tubers after the Autumn Equinox, sending out small stolons that slowly grow into tubers. See the *Oxalis* entry above for additional cultivation info. The bright tuber colors quickly turn green when exposed to light, though unlike potatoes, they are still safe to eat. Hardy to 5° F or lower if well mulched.

"Yacon" Smallanthus sonchifolius: Fuzzy annual leaves and stems to 4'+ topped with yellow daisy-like flowers. Clusters of knobby propagative tubers and large yam-like storage tubers. A multi-use plant traditionally grown throughout the Andes, it has been introduced to Central America and is popular in New Zealand. The large storage tubers have a delicious juicy sweet taste eaten raw, somewhat like a cross between jicama and watermelon. In the Andes it is thought of more as a fruit than a vegetable. The young vegetative growth is cooked similar to celery. The tubers are rich in fructooligosaccharides and are considered a prebiotic; that is, they feed the healthy bacteria in the gut which improves overall health. The leaves are used as a tea for diabetes. A molasses like syrup made from the roots is becoming popular as a beneficial sweetener. Easy to grow, prefers rich garden soil and sun. Adaptable to warmer climates, some clones have even proven themselves in the tropics. It's important to differentiate what's the propagative tuber and what's the edible storage tubers. The propagative tuber is knobby, eventually clustering, often cream colored, brown, or even purple when exposed to light. It looks very much like its close relative the sunchoke (jerusalem artichoke). The edible storage tubers grow off the other tubers and are long (to 10"+), smooth, usually brown or white, and shaped like yams. New plants cannot be propagated from these. The propagative tuber clusters can eventually grow quite large (we've had them basketball size), and these can be broken up to further propagate the plant. Some clones are very sweet harvested any time of the year, while others are a bit sour until exposed to repeated frosts or sun. Hardy to 15° F or lower if mulched.

# Andean Tuber Crops - Jewels of the Earth

We have live plants available April/May to November, bare root tubers available December through April. Tubers are available USA only. During December through April every 3 tubers ordered count as 1 plant for shipping costs, we begin replanting the tubers in late April, so check that month for bare tuber availability. Regular plant shipping costs apply the rest of the year. *Inquire for additional cultivars*.

Please note: Our Oca, Mashua and Ulluco stock was decimated by voles and wood rats this winter, please inquire for availability before ordering.

## Arracacia xanthorrhiza 'PR' "Arracacha" "Apio"

Apiaceae. Celery-like edible leaves, clusters of large cream colored roots that are edible raw or cooked, a delicious flavor somewhere between a potato and carrot. Ancient cultivar grown throughout the Andes. Not as common as it once was as "civilized" plants such as carrots take its place. For over a hundred years it has been grown in Puerto Rico as "Apio", though cultivation is declining there as well. We offer clones from Puerto Rican genetics. Z8a if well mulched Inquire for availability

#### Canna edulis 'Rojo' "Achira"

Cannaceae. Ginger-like perennial monocot to 6'. Large attractive foliage, green, sometimes with bronze highlights. Bright red lily-like flowers. Edible rhizomes. A cultivar throughout the mid-Andes. One of the "lost" crops of the Incas. The rhizomes are extremely rich in a large molecule starch and have been eaten since antiquity. Young shoots and immature seeds are also edible raw or cooked. Tolerant of diverse conditions, prefers moist soil. Often planted as a wind break. Knick and soak seed. Z8b if mulched. The main strain we offer has bronze and purple streaked leaves, dark reddish-brown seed pods and deep red flowers. True from seed.

10 seed \$4 / Plant 2 years old \$11.50

## Canna edulis 'Baldwin's' "Achira" (previously offered as 'Esmeralda's')

Dark green leaves, reddish flowers. Thick, fast growing, yellow and pink banded rhizomes. Previously listed this as 'Esmeralda's' from Oregon Exotics Nursery, but have since discovered it's in fact an unnamed, unreleased clone kept alive by our friend Tom Baldwin after OE closed. Z8b Plant \$15.50

Canna edulis 'Tarija' Seed grown from plants farmed for millennia in Tarija, southern Bolivia. Fast growing rhizomes, bright green leaves, red flowers. Z8b Plant 2+ years old \$13.50

Canna edulis 'Verde' Deep green leaves, slender red flowers flecked orange, lime-green seed pods. True from seed. Z8b 5 seed \$4 / Plant \$11.50 Canna Collection \$36, includes all above 4 varietals we offer, a \$45 value!

#### Lepidium peruvianum 'Yellow' "Maca"

Brassicaceae or Cruciferae. A radish or turnip like plant that is the highest altitude cultivar in the world, grown in the Andes at elevations over 14,000 feet. An ancient food/medicine that has been farmed for nearly 6,000 years. Incredibly nutritious, considered an energizing aphrodisiac and immunostimulant. Thrives in very harsh conditions, poor, cold soils with minimal water. Little work has been done growing this plant outside the Andes. Let us know how it grows for you. Seed from a yellow root form that shows tolerance for low elevation cultivation. Z5b

Seed packet \$4

# Lepidium peruvianum 'Red' "Maca"

This is the esteemed cultivar with red roots. Highly nutritious and rich in immune boosting, energizing compounds. This selection is reported to have a higher antioxidant value and research suggests it has great merit for prostate health. Z5 sold out

#### Lepidium peruvianum 'Junin' "Maca"

A mix of root colors: yellow, purple, red, etc. Seed from the high altitude maca fields of Junin, Peru, a major area of cultivation for millennia. Z5

Seed packet \$4.75

## Lepidium peruvianum 'La Paz, Bolivia' "Maca, Bolivian"

Various colored roots, reds, purples, blacks, yellows. Cultivated near Apu Illimani, Cordillera Real, La Paz Dept., Bolivia. Z5 Seed packet \$4.25 (limited)

Lepidium peruvianum 'Mix' A mix of various colored roots from plants we have grown successfully here in California. Z5

Seed packet \$3.75

# Mirabilis expansa 'Blanca' cl. A "Mauka" "Miso" "Tazo"

Nyctaginaceae. Herbaceous perennial to 2–3', simple leaves. This clone has slightly pubescent leaves and small white flowers. Branched subterranean stems/tubers, thick, succulent and edible. White fleshed in this genotype. This is the rarest, least understood of the Andean tubers, known to science since the 1960s. Only known from 3 disparate locations- north of La Paz, Bolivia, near Cajamarca, Peru and the highlands of Pichincha & Cotopaxi, Ecuador. This is most likely the result of the Incan policy of mitma; relocating entire ethnic groups throughout the Andes. Mauka's tubers are protein rich and high in calcium, phosphorous and potassium. Much still needs to be discovered about the cultural needs of the plant but it seems somewhat tolerant of both wet and dry conditions. Should be hardy to at least Z8 and likely Z7 if well mulched.

Plant \$25

#### Mirabilis expansa 'Blanca' cl. B "Mauka" "Miso" "Tazo"

This clone has smooth, leathery leaves with grayish hues in full sun. White flowers. Cream-white edible roots. Came to us from the fine folks at Peace Seeds.

Plant \$25

# Mirabilis expansa 'Roja' "Mauka" "Miso" "Tazo"

Red skinned roots and small pink-red flowers in this genotype. Stems and leaves also take on reddish hues in bright light.

Plant \$25

## Mirabilis expansa 'Seedling' "Mauka" "Miso" "Tazo"

These are seed grown plants from crossing 2 'Blanca' varieties. The plants have white to yellow stems and leaf veins which should reflect root color.

Plant 2–3 years old \$26

#### Neowerdermannia vorwerkii "Achacana"

Cactaceae. Spherical cactus to about 4" diameter with dark green triangular tubercles. Curved spines, lilac-pink flowers and reddish fruit. Distributed from the altiplano of Bolivia to northern Argentina, from 10,000–13,000'+. The whole cactus is considered a kind of potato, it is gathered by the tens of thousands each summer, skinned, cooked and eaten. It is said to be very tasty and is a significant source of vitamin K, calcium and zinc. The pulp is also a remedy for stomach ailments and made into a drink for kidney and liver disease. There is some concern that harvesting may endanger the plant, but it has yet to be clarified how wild populations are impacted. Well worth cultivating as an unusual food plant. Needs strong light and gritty soil. Z7a or below.

10 seed \$5 inquire for plants

#### Oxalis tuberosa "Oca"

Oxalidaceae. Round to cylindrical tubers 1-6" long. With hundreds of known cultivars in an alluring spectrum of colors from yellows to oranges, pinks and reds. Sprawling succulent stems to about 1' tall with trifoliate clover-like leaves, yellow flowers. One of the easier Andean tubers to grow and second only to the potato in popularity. Cultivated for thousands of years, the tubers have a variety of flavors from crisp and lemony fresh to buttery and sweet when cooked. Still unknown as a food outside of South America with the exception of Mexico where it has been grown for over 200 years and New Zealand where it has been farmed recently. Grow similar to potatoes, the larger tubers develop late in the season after Autumnal Equinox with cool weather and shortened daylength. Traditionally the tubers are exposed to sun and cold for several days after harvest to increase sweetness. Light exposure also enriches the vivid colors. Oca also make captivating ornamental plants. If well mulched the tubers are hardy below Z7a.

# The following 5 Oca varieties are \$12.50 each for tuber starts or plants, or \$42 for 4 varieties Inquire for availability!

Oxalis tuberosa BK08516.7 Pale yellow flattened cylindrical tubers with slender pink/red eyes. Excellent creamy flavor. Cusco region, Peru.

#### Oxalis tuberosa BK08516.8

Fat, round cylindrical tubers, yellowish with a pink blush, turn a deeper pink/maroon with light exposure. Fantastic non-acidic flavor. Cusco region, Peru.

#### Oxalis tuberosa 'Bauml, Golden'

Rounded cylindrical tubers, a deep golden-vellow with slender red eyes. A superb buttery flavor, almost like some winter squash. Highly productive for us. A La Paz, Bolivia collection from ethnobotanist Jim Buaml.

Oxalis tuberosa 'Bauml, Crema de Rosa' Rounded to cylindrical knobby tubers, cream with a pink-red blush. Non-acidic and tasty. La Paz, Bolivia.

#### Oxalis tuberosa ' 'OE, Orange'

Knobby cylindrical tubers. Yellow and orange, turning darker shades of orange with rose highlights after light exposure. Originally introduced by the now defunct Oregon Exotics nursery. We are happy to help keep this lovely strain in cultivation

## The following 6 Oca varieties are \$10.50 each for tuber starts or plants, or \$18 for any 2 varieties—Inquire for availability! Oxalis tuberosa 'OAEC, Pink' OUT OF STOCK

Pink-red tubers. Crisp lemony flavor. A productive varietal, widely distributed by the Occidental Arts & Ecology center. We've grown this one successfully for many years.

Oca Kapular Selections - The following are choice Oca selections from conservationist / organic plant breeder Alan Kapular and his family.

Oxalis tuberosa 'Amarillo' These are a pure deep yellow, no contrasting color to the eyes. Lumpy, rounded tubers blush orange with light exposure.

Oxalis tuberosa 'Sunset' (='Grande') Medium size orange to salmon-red cylindrical tubers, high yielding. A delightful acidic taste fresh, but cooks up mild. Oxalis tuberosa 'Hopin' Unusual, round white tubers blushed with pale pink to darker red. Nice crisp flavor.

Oxalis tuberosa 'Mexican Red' OUT OF STOCK Dark blood red flattened cylindrical tubers. These are the deepest, purest red of any we offer. The name would suggest that this is one of the cultivars that has been grown in the mountains of Mexico for a couple centuries.

Oxalis tuberosa 'Rebo' The red Bolivian selection, deep red, rounded cylindrical tubers with contrasting large yellow-orange eyes.

Complete Oca Collection \$78\* includes the above 11 varietals we offer, over \$112 value! \* add \$13 shipping

## The following Oca varieties are only available in limited quantities and are not included in the complete collection.

Oxalis tuberosa 'Killu' Pure pale yellow, slender cylindrical tubers that have a tendency to branch. Good flavor. Tubers/plant OUT OF STOCK

### Oxalis tuberosa 'Black'

Large cylindrical tubers, black eyes, dark red to nearly black skin, occasional pale yellow splotches, very prolific. A great selection from F.V. Keirsbilck. Tubers/plant \$12.50

#### Oxalis tuberosa 'OE, Blush?'

Flesh colored, round cylindrical tubers that blush magenta to red. An Oregon Exotics intro, we believe this is what they distributed as 'Blush'.

Tubers/plant OUT OF STOCK

#### Oxalis tuberosa 'OE, Durazno'

Rounded, yellow/pale orange tubers, red eyes and pink/red-orange highlights, like a peach. From O.E., the original name is lost.

Tubers/plant \$12.50

Oxalis tuberosa 'OE, Yellow' Very pale yellow cylindrical tubers with red eyes. Smooth sweet flavor. Another Oregon Exotics intro. OUT OF STOCK

Oxalis tuberosa 'Polar Bere' Lumpy, rounded tubers, pure bone white to very pale yellow with light exposure. Mild sweet flavor. Tubers/plant \$11.50

Oxalis tuberosa 'Seedling' These are our first offerings of seed grown Oca. A very interesting diversity of color—white, yellows, peach, pink and reds. The overall tuber form tends to be cylindrical. The tubers you receive will be random in color. Tubers/plant OUT OF STOCK

# Pachyrhizus ahipa "Ajipa" "Villu" "Andean Jicama"

Fabaceae. Semi-erect stems 1-2' high with pubescent trifoliate leaves. Violet to white flowers and 3-4" bean pods. Swollen edible root, elongated to spherical, weighing up to 1 kilo. Another ancient domesticate, unknown in the wild. Cultivated in the Yungas, Ceja de Selva and warm interAndean valleys of Bolivia, Peru and northern Argentina, between 5–10,000'. Our seed is from Tarija, southern Bolivia. This is the Andean jicama, with sweet crunchy flesh similar to the Mexican jicama (Pachyrhizus erosus) many people are familiar with. Hardier, faster growing and more adaptable than Mexican jicama, this is a species that should do well in many gardens. Pest free, nitrogen fixing and daylength neutral. The root is rich in quality starch, minerals and protein. The foliage, pods and seeds contain the pesticide rotenone, moderately toxic to humans. Some plants show low rotenone content in the oil rich seeds, it is conceivable that an edible seed strain could be developed free of the toxin. About 4-6 months to harvest from seed, pinching the flowers back is said to increase root size. Prefers well draining soil and warmth. Sprout like beans. Cultivation of the plant is nearly extinct in Peru and Argentina and has been waning in Bolivia, integrating it into our gardens is an essential strategy for the conservation of this valuable ancient root crop. Z9/10a?

## Smallanthus sonchifolius 'Sweet Crisp' (=Polymnia sonchifolia) "Yacon"

Asteraceae. Clusters of knobby propagative tubers and large yam-like storage tubers. Fuzzy annual leaves and stems to 4'+ topped with yellow daisy-like flowers. A multi-use plant traditionally grown throughout the Andes, it has been introduced to Central America and is popular in New Zealand. The large storage tubers have a delicious juicy sweet taste, somewhat like a cross between jicama and watermelon. In the Andes it is thought of more as a fruit than a vegetable. The young vegetative growth is cooked similar to celery. The tubers are rich in fructooligosaccharides and are considered a prebiotic; that is, they feed the healthy bacteria in the gut which improves overall health. The leaves are used as a tea for diabetes. A molasses like syrup made from the roots is becoming popular as a beneficial sweetener. Easy to grow, prefers sun and a rich soil. This cultivar has proven itself very productive of sweet tubers even in tropical conditions such as Hawaii. Hardy to Z7b or 8a if well mulched.

Plant/ tuber \$11.50

#### Smallanthus sonchifolius 'Morado' "Purple Yacon"

This may be the variety originally introduced by Oregon Exotics as "Purple Puma". Annual stems show some purple streaking. The orange-yellow flowers are a little larger than other varieties. The propagative tubers are a bright violet-purple, the fat juicy storage tubers have a purple to brown-purple skin and white flesh that sometimes infuses violet with light exposure. Surely rich in anthocyanins. Delicious sweet flavor. Z7b/8a Plant \$17.50

#### Smallanthus sonchifolius 'OE' "Yacon"

An Oregon Exotics introduction. This may be their 'Pearl of Bolivia', but we are not sure. Highly productive. inquire for this and other varietals

## Solanum acaule "Apharu" "Wild Potato"

Solanaceae. Low growing plant, often less than 6" high. Rosettes of dark green, odd-pinnate leaves. Pale purple flowers and heart shaped fruit that often plant themselves below the soil. Small white tubers, 1/4–1.5" diameter, round or oval and flattened. The tubers are borne on the end of long lavender colored stolons. This tetraploid wild potato is known from central Andean Peru down through Bolivia to northern Argentina, preferring the grasslands of the Puna. Occurs from about 9,000' up to 15,000'+, often amongst *Stipa ichu, Cajophora, Urtica* and several cactus species. Even grows along the margins of permanent snowbanks. On of the ancestors of the Ruki potatoes cultivated in parts of Peru and Bolivia. Used in modern potato breeding to increase frost tolerance and resistance to disease and pests. The bite size tubers are perfect for soups. Good horticultural appeal and is of keen interest to experimental home gardeners. Sun to part shade. Resents extreme heat. Tubers hardy to Z5/6?

Seed packet \$4 / Tubers/plant \$11.50

#### Solanum sp. 'La Paz' "Bolivian Potato"

Solanaceae. Leafy stems to 12"+. Purple flowers. Rounded to elongated grub-like tubers, magenta to dark purple skin, large cream colored eyes. White-yellow flesh. Collected by ethnobotanist Jim Bauml, La Paz, Bolivia. May be *Solanum phureja* or *S. tuberosum* ssp. *andigena* or one of the many ancient hybrids. Does not seem to have a real dormancy except when frost comes. Produces tubers throughout the year. Z6–7a? OUT

Tuber/plant \$12.50

# Tropaeolum tuberosum 'Sapu-añu' "Mashua" "Añu"

Tropaeolaceae. Very fat deep yellow tubers, often rounded and rosette like. Annual climbing stems to 8', rounded lobed leaves. Tubular orange flowers. A high yielding root crop throughout the Andes, close relative to the garden nasturtium. Easy to grow, highly ornamental, pest resistant and repellent. The tubers are cooked like potatoes and can have a slight peppery flavor, this variety has a more mild and agreeable flavor than some mashua. Shown to reduce testosterone with regular consumption. Good producer. Leaves and flowers edible too. Another Oregon Exotics intro. thought lost. Z7a when mulched.

Tubers/plant OUT OF STOCK

## Tropaeolum tuberosum 'Chilean Red' "Mashua" "Añu"

Vine with purple stems. Round to cylindrical tubers; pale yellow, orange and deep red. Early in the season they unearth yellow and peach colored, the longer they stay in the ground the darker the red coloring. Fast growing and very productive for us. Z7a if mulched

Tubers/plant \$15.50

## Tropaeolum tuberosum 'Q'illu-isañu' "Mashua" "Añu"

Fat, chunky tubers of pale yellow that develop pink eyes and an occasional light spray of red speckles with light exposure. Mild flavor. Z7a if mulched OUT OF STOCK

## Tropaeolum tuberosum 'Yurac-añu' "Mashua" "Añu" (previously offered as 'Ken Aslet')

Cream colored grub-like tubers to 6"+ long with purple eyes, speckles and some red striations. Tubular bright-orange flowers. This is the plant that we had originally received as the horticultural selection 'Ken Aslet', and had been distributing under that name. However we obtained a tuber from a friend who said that is was the "real Ken Aslet", and sure enough this new plant fits the description better. So we have renamed this very productive clone with an appropriate Quechua name. Similar to variety *pilifera*, but we believe this one to originate in Peru and the purple speckles and red striping are heavier with light exposure. One of the easier varieties to grow. Z7a when mulched.

Tubers/plant OUT OF STOCK

# Tropaeolum tuberosum v. lineamaculata 'Puca-añu' "Mashua" "Añu"

Elongated cylindrical tubers, yellow with heavy purple-red flecking and lines that often entirely cover the tuber. The vines also have dark purple stems. This description fits the true variety *lineamaculata*. Highly productive. Originally introduced by Oregon Exotics. Z7a when mulched.

Tubers/plant \$15.50

#### Tropaeolum tuberosum v. pilifera "Mashua Blanco" "Añu"

Vine with rounded lobed leaves, orange flowers. 2" to 6"+ white to cream colored edible tubers with purple eyes and with light exposure: fine purple speckles near the stem. According to Cardenas this white variety originates in Columbia. This is probably the easiest and most productive of the Mashua for us, though the tubers are not as showy as other varieties. Z7 if well mulched.

Tubers/plant \$11.50

## Tropaeolum tuberosum ssp. silvestre BK08524.14 "Mashua Silvestre" "Añu Silvestre"

Large vine with lobed leaves and attractive orange-red flowers. Wild form of this ancient Andean tuber crop. In the Fall it forms porcelain white, finger thick, edible tubers up to 12" long. These become flecked reddish with light exposure. Mother plant growing on a rock wall edging a traditional garden of corn and kiwicha, above Lares, Cusco Dept., Peru, 11,300'. Leaves and flowers edible. The tubers are also used medicinally for skin infections. Beautiful and edible, wild Mashua will also prove useful for breeding with the cultivated forms. We offer tubers/plants from several seed grown parent plants. Z7 OUT OF STOCK

## Tropaeolum tuberosum ssp. silvestre BK10501.2 "Mashua Silvestre" "Añu Silvestre"

Clambering vine with lobed, rounded leaves. Small orange-yellow-red flowers. Come Autumn it forms finger thick edible tubers to 12" long, pure white with a little pinkish flecking, turning purple-red when exposed to light. Another seed collection of wild Mashua from a plant growing on shrubs on ancient Incan terracing, Killarumiyoq, near 12,000', Cusco Dept., Peru. We offer tubers/plants from our seed grown mother plant. Z7 if well mulched.

OUT OF STOCK

## Ullucus tuberosus "Papa Lisa" "Ulluco" "Melloco"

Basellaceae. Hundreds of cultivars with 1–4"+ round to cylindrical tubers, a delighful array of bright colors. Edible spinach-like rounded leaves on short sprawling stems to 12". One of the most delectable of all the Andean tuber crops, yet practically unknown in the U.S. Crisp and buttery in flavor. Shown to have antiviral properties. Contains triterpenoid saponins which may help with hypoglycemia. Like oca the tubers only develop late in the season. Tuber production is best in areas with a slow transition from Summer to Autumn. A little fussy, but so far they seem adaptable to northern California. Hardy below Z7a when well mulched. (Inquire for additional cultivars)

# The following 8 Ulluco varieties are \$16.50 each for tuber starts or plants

## Ullucus tuberosus 'Bauml, Pica de Pulga' OUT OF STOCK

Small rounded tubers to 2", a delightful yellow with neon-pink stars. The name means "flea bitten". Bauml selection, La Paz, Bolivia.

Ullucus tuberosus BK08607.1 1-2" round "pica de pulga" type; yellow to orange with fluorescent red to pink spots. Chulumani, Yungas, Bolivia.

Ullucus tuberosus BK08607.2 OUT OF STOCK 1-2" round, pure fluorescent red-pink tubers, delicious. Chulumani, Yungas, Bolivia.

Ullucus tuberosus BK09510.2 OUT OF STOCK 1-3" round or elongated deep-orange tubers, like gold nuggets. Caraz, Ancash Dept., Peru.

Ullucus tuberosus BK10425,2 3-4"+ grub-like cylindrical yellow tubers with flourescent pink splotches. Cultivated near Patacancha, Cusco Dept., Peru.

Ullucus tuberosus BK10429.1 Pale to bright yellow round to cylindrical tubers with slender pale pink eyes. From G. Quispe, Chinchero, Cusco Dept., Peru.

*Ullucus tuberosus* **BK10429.2** 1–2"+ Pale to darker yellow lumpy oblong tubers, occasionally with a purplish blotch. From our friend Grimalda Quispe in Chinchero, Cusco Dept., Peru. In addition to eating she says the sliced tubers are used on bug bites, burns and swellings; including swollen lymph.

Ullucus tuberosus 'Llanqha-puca' OUT OF STOCK Round tubers up to 2" diameter, colored a deep, dark pink to red. La Paz, Bolivia.

# Ullucus tuberosus ssp. aborigineus "Ulluco Silvestre" "Wild Ulluco"

Trailing vine to 2–10'+ with heart-like edible leaves. 1/2–2"+ round or oblong tubers, varying from white to pink or lavender, turning almost purple-brown with light exposure. This is considered the wild form or ancestor of the cultivated ulluco. In our experience the tubers are just as edible as the cultivars and only slightly smaller. The leaves are delicious like spinach. Cultivated ulluco very rarely sets seed and this wild subspecies, which seeds more readily, could be used in breeding programs. It has been speculated that it was used in breeding new varietals by the Incas. Grow as you would other ulluco, but give more room for the vine. A good source for edible greens, the leaves are larger and more abundant than the cultivars. In our initial trials one pea sized tuber produced nearly 4 oz of tubers in a season. First introductions, unknown in cultivation. Z6 to 7

## The following 4 Wild Ulluco varieties are \$15.50 each for tuber starts or plants, or \$50 for 4 plants

## Ullucus tuberosus ssp. aborigineus BK10426.5

Trailing vine to 24"+. Chunky lavender tubers to 2"+. Growing in Incan stone terrace walls with *Peperomia rotundata*. Halfway from Pumamarca to Munaypata, Cusco, Peru, 10,500'. This accession was made at one of the most heavily terraced mountainsides we've seen in all of the Andes. With over a thousand stone terraces it must have been a site of intensive agriculture.

## Ullucus tuberosus ssp. aborigineus BK10426.6

Sprawling vine to 36"+. Odd shaped lavender-pink tubers to 2.5". Growing amongst dilapidated Incan walls above Munaypata, Cusco Dept., Peru, 10,400'.

#### Ullucus tuberosus spp. aborgineus BK10427.5

Vine to 24"+, small pale pink tubers. Growing amongst boulders with *Bomarea* and *Fuchsia apetala*, above Patacancha village, Cusco Dept., Peru, 13,000'. Should be extra hardy.

#### Ullucus tuberosus spp. aborigineus BK10509.6

Long dangling vines to 20'+ hanging on rocky cliffs next to waterfall, Inkallajta, Cochabamba, Bolivia, 10,000'. Pale to dark lavender tubers, round to oblong. These were the longest vines we've seen from the wild ulluco. Reported to be utilized in the region for gastrointestinal problems. This varietal may be more adaptable to warmer conditions than the others.

# The following Ulluco varieties are \$16.50 each and are only available in limited quantities—these are not included in the complete collection.

Ullucus tuberosus 'Bogota' OUT OF STOCK Elongated cylindrical deep pink tubers. Paloquemo Market, Bogota, Columbia.

Ullucus tuberosus 'Chugua Roja' Rounded rose-pink tubers. From Boyaca, Columbia.

Ullucus tuberosus 'Illimani' Chunky tubers, bright yellow with occasional pink speckles. Cultivated on the slopes of Apu Illimani, La Paz, Bolivia.

Ullucus tuberosus 'Lisa Amarillo' OUT OF STOCK Cylindrical bright yellow tubers. Cusco, Dept., Peru.

Ullucus tuberosus BK151014.10 Bright lime-green round tubers, spinach like annual leaves. Jujuy, Argentina, cultivated near the Bolivian border.

Sacred Succulents, P.o. box 781, Sebastopol, CA 95473 www.sacredsucculents.com/andean-tuber-crops