

2019 Summer Romaine Lettuce Variety Trial—First Planting

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This year's lettuce variety trial was conducted at Philia Farm in Johnstown, NY. The main goal of the trial is to evaluate romaine varieties to see which perform well in hot summer conditions. We seeded and transplanted three plantings over this summer, with the first being complete and the last two not able to be harvested.

First planting: May 29th, harvested July 23rd, had 12 days above 85 degrees, GDD (Base 45) 1304

We evaluated the varieties based on the number surviving to harvest, the number harvestable, the number bolted, disease pressure, bitterness, taste and the weight of one average head.

Varieties trialed were:

- Aloha Gem
- Annie Oakey
- Anuenva
- Blondie
- Breen
- Bronze Arrow
- Bronze Mignonette
- Cherokee
- Cinnamon Oak
- Coastal Star
- Concept
- Crisp Mint
- Dragoon
- Elf Ears
- Fusion
- Gildensterns
- InfraRouge
- Irene
- Jack Ice Leaf
- Jadeite
- Jericho
- Kilavea
- Kraginger Somer
- Magenta
- Majestic
- Manoa
- Muir
- Nancy
- Nevada
- Olga
- Optima
- Pablo Batavian
- Parris Is Cos
- Plato II
- Redina
- Salvius
- Sparx
- Sweet Valentine
- Treasure Isle
- Truchas
- Zeb Romaine

Ratings

Bitterness: on a scale of 1-3 with 1 being bitter and 3 being sweet

Disease: on a scale of 1-5 with 1 being extremely sick and 5 having no disease present

Taste: While personal tastes play a role, three different people tasted the lettuce, and their rankings were averaged to minimize personal taste preference.

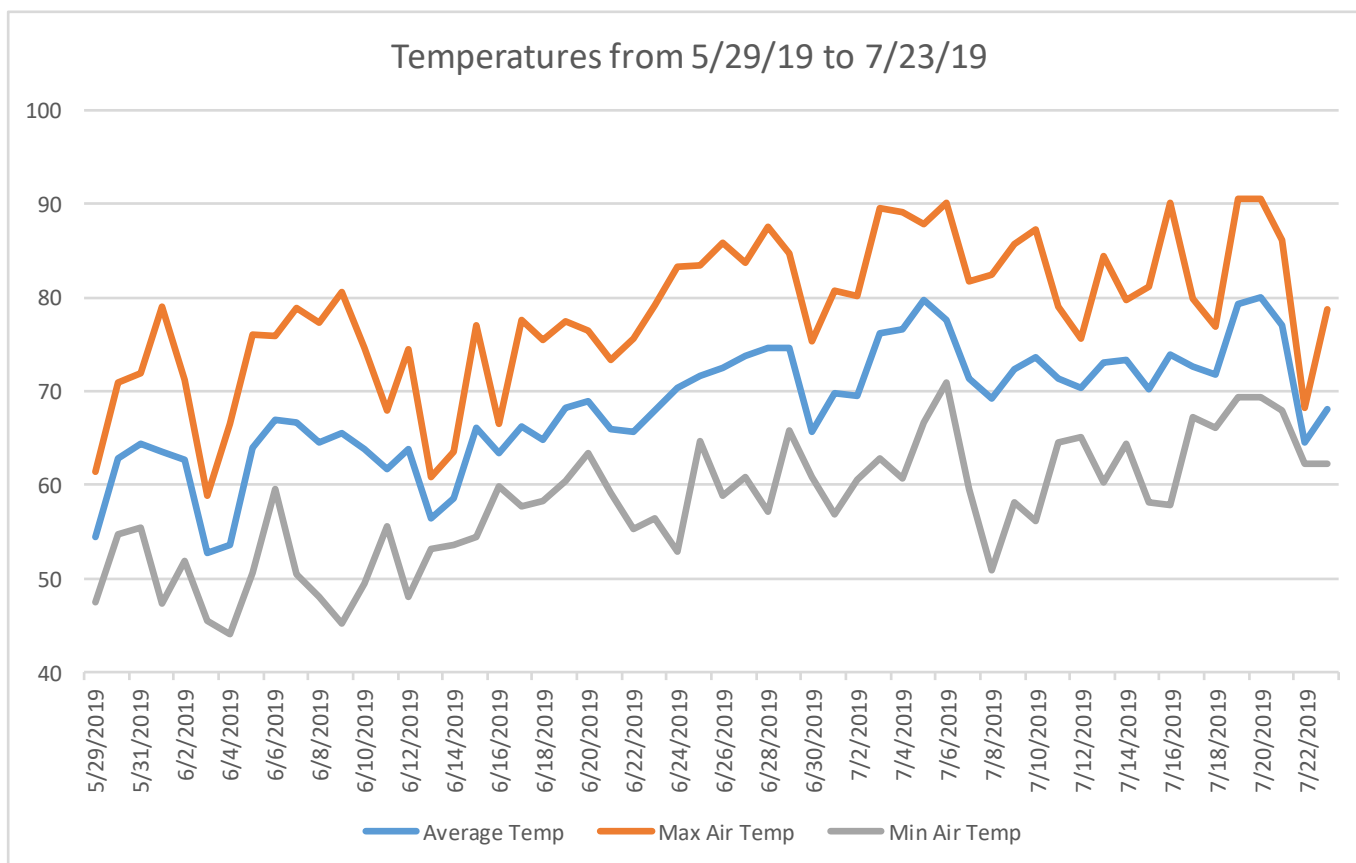
The Eastern New York Commercial Horticulture Program is a Cornell Cooperative Extension Partnership between Cornell University and the CCE Associations in the 17 Eastern New York counties.



One of the most important factors is the number of plants bolting. Often this leads to bitter leaves and odd head shapes and sizes that are unmarketable. In this first planting, only a few varieties bolted when we harvested and evaluated at 55 days from planting. However, just 6 days later, most of the varieties had bolted, leaving only a few able to be harvested. Those that were still marketable were: Salvius, Breen, Coastal Star, Cherokee, Nevada, Fusion, Dragon, Truchas, Plato II, Jericho, and Sparx.



This year was cooler than last year during the growing period, with only 12 days above 85 degrees and a slow increase to those high temperatures as seen on the chart below. In 2018, the plantings that had the most sudden temperature swings from cool to hot had more plants bolting. 85 degrees is when lettuce will stop growing and experience greater heat stress, leading to bolting. Given that most varieties bolted quickly after we evaluated, keeping a close eye on your lettuce during extreme heat and humidity is extremely important to have heads that are still marketable.



Varieties

Aloha Gem

- From Wild Garden Seed
- A glossy 'Little Gem' sized, medium green, savoyed, heading lettuce with something like romaine texture. Can be planted 6-8" apart for intensive production. May be harvested at a wide range of maturity, from rosette to full headed.
- Head weight of 0.65 lbs
- No bolting
- A 3 on the disease scale, one plant completely melted.
- Rated 2 on the bitterness scale, neither bitter or sweet.
- Notes on taste: No crunch. An absence of flavor with a tiny bit of bitter. Rated 3 of 5 with 5 being excellent.



Annie Oakley

- From Wild Garden Seed
- A cute little deep red oak with curls on the outside, and a heart of gold on the inside. Combines the dark red and crisped edges of Lollo d' Vino with the compact oak frame of Emerald Oak. 6" spacing like a true mini.
- Head weight of 0.39 lbs
- All plants bolted
- Beautiful color.
- Excellent disease resistance
- Bitterness of 1 due to bolting
- Notes on taste: A little bitter, but not too bad. Rated 3 of 5 with 5 being excellent.

Anuenue

- From Fedco Seeds
- 72 days
- In late July and even early August, this 1987 University of Hawaii introduction has no peers for crispness and sweetness and never develops even the faintest hint of bitterness. Slow growth is its secret. It remains compact as it matures, surrounding its round tightly packed heart with crisp outer leaves. Unlike most lettuces, seed will germinate at 80°. Also has some winter hardiness, surviving temperatures in the teens under Agribon+ AG -19 and old bed sheets in trials
- Head weight of 0.44 lbs
- No bolting
- Excellent disease resistance
- Average taste and bitterness. It was just fine. Rated 4 of 5 with 5 being excellent.
- Small size due to early harvest (55 days)



Blondie

- From Wild Garden Seed
- Blonde-green heads of loosely packed savoyed leaves. From Manoa x Leopard, but spotless and open headed.
- Head weight of 0.66 lbs
- No bolting
- Good disease resistance other than some tip burn that was inconsistent across plants.
- Notes on taste: Bitter with a weird flavor, rated 3 out of 5 with 5 being excellent.

Breen

- From Johnny's Selected Seeds
- True compact, red, mini romaine. Breen forms a very compact mini head early. The short plant averages 8" tall and is very slow to become oversized. Color is a medium bronze red. Though best for mini heads, it can also be used as a medium red baby leaf. Especially nice marketed with other mini romaines. High resistance to downy mildew races EU 16–21, 23–26, 28–33; US 1–9. MT0-30.
- Head weight of 0.56 lbs
- No bolting
- Good disease resistance
- Notes on taste: A tiny bitter, but good flavor. Great texture and really nice. Rated 4 out of 5
- Also grown in 2018



Bronze Arrow

- From Fedco Seeds
- 46 days
- Introduced as Bronze Beauty by the Germania Seed & Plant Co, this bronze was given a bronze medal by the AAS judges in 1947. A good variety for mesclun and cut-and-come-again culture. Very slow to bolt.
- Head weight of 0.44 lbs
- Excellent disease resistance
- Notes on taste: No real flavor, fairly average in everything. Rated 3 out of 5 with 5 being excellent.

Bronze Mignonette

- From Fedco Seeds
- An elegant splash of color for the bowl without the bitterness. Slightly frilled green leaves tipped by bronze wrap creamy hearts. Heat tolerant, slow to bolt.
- Head weight of 0.62 lbs
- All plants bolted in this planting.
- Worse than average disease resistance
- Notes on taste: Average flavor and not bitter or sweet. Rated 3 out of 5



Cherokee

- From Johnny's Selected Seeds
- Darkest red leaves and a long harvest window. Thick, crisp, dark red leaves with good flavor. Similar appearance to Magenta except much darker red color, though not quite as sweet. Very slow bolting with excellent tolerance to heat and bottom rot. High resistance to downy mildew races EU 16, 21, 23, 32.
- Head weight of 0.78 lbs
- Excellent disease resistance
- Notes on taste: Bitter but tasty and very flavorful. Rated 4 out of 5.
- Listed at 48 days but after 60, it is still good to harvest.

Cinnamon Oak

- From Wild Garden Seed
- Cinnamon red compact oak with a tight blanched heart, not quite a mini, about 10" across. Selected for resistance to tip burn.
- Head weight of 0.27 lbs, very small head
- Average disease resistance
- Notes on taste: Leathery texture. Not good flavor. Rated 2 out of 5 with 5 being excellent.



Coastal Star

- From Johnny's Selected Seeds
- A longtime favorite. The large, heavy heads are dark green. Heat tolerant. Suitable for marketing as full heads or romaine hearts. Good, sweet flavor. Intermediate resistance to corky root.
- Head weight of 0.81 lbs
- 57 days
- Excellent disease resistance
- Plants are a paler color than other lettuce in the trial
- Notes on taste: Tasty with no bitterness, rated 5 out of 5 with being excellent.
- Also grown in 2018

Concept

- From Johnny's Selected Seeds
- A green Summer Crisp with open heads. The leaves have characteristics of both a romaine and a green leaf, and are arranged in a whorl, giving the plant a unique vase-like shape. Leaves are thick, juicy, and flavorful.
- Head weight of 0.84 lbs
- 57 days
- A bitter lettuce, 1.3 of 3 with the first two plantings being bitter
- Worse than average disease resistance with rots and slug issues.
- Notes on taste: No real flavor, very bland. Rated 3 out of 5 with 5 being excellent.



Crisp Mint

- From Fedco Seeds
- Named for its ruffled mint-leaf appearance, not for any minty flavor. Good size, exceptional crispness and sweet flavor with little bitterness even in mid-July. This long-standing dark green romaine with an open habit and a rounded top was a standout two consecutive years in Fedco trials. Slow to bolt, though some tendency to TB in July heat.
- 70 days
- Head weight of 0.99 lbs
- No bolting
- Bad tip burn on all plants
- Notes on taste: Sour and gross flavor. Tasters spit it out. Rated 1 out of 5

Dragoon

- From Johnny's Selected Seeds
- Mini green romaine. Compact and uniform. Leaves are thick and have an excellent, crisp texture. Heads are very dense, hold well in the field. Bolting and tipburn tolerant. For spring, summer, and fall. High resistance to downy mildew races EU 16–27, 29, 32, 34; US 1–8, *Nasonovia ribisnigri* aphid, and tomato bushy stunt virus (lettuce dieback complex); and intermediate resistance to lettuce mosaic virus.
- Listed at 43 days but holding well at 60 days
- Head weight of 0.89 lbs, heavy for its size, very dense
- Excellent disease resistance
- Notes on taste: Incredibly sweet and delicious. Rated 5 out of 5.
- Also grown in 2018



Elf Ears

- From Wild Garden Seeds
- This is a big upright oak, ice green with somewhat savoyed leaves that comes from 'Crisp Mint' romaine in the parentage. The leaves have rather fancy "ears," elongated tips that extend from the head, and form heavy strong hearts. The bright green leaf is lightly savoyed with deeply cut lobes, crowned in extra-extended narrow tips. Selected for DM resistance.
- 50 days
- Head size of 1.21 lbs
- Half of plants bolted
- Excellent disease resistance
- Notes on taste: Past prime, so bitter and sweet. Might have been better a few days before. Rated 2 out of 5 with 5 being excellent

Fusion

- From Johnny's Selected Seeds
- Slow bolting with great flavor. Romaine and green-leaf cross. An interesting new concept with great flavor. Wavy leaves, like green leaf, with a romaine-like growth habit. Dark green, dense heads are upright and uniform with a high leaf count. High resistance to corky root; and intermediate resistance to lettuce mosaic virus.
- Head weight of 0.89 lbs
- Excellent disease resistance
- Notes on taste: Nice taste, sweet romaine flavor. Nice head. Rated 5 out of 5.
- Also grown in 2018



Gildensterns

- From Wild Garden Seed
- Folded and blistered light green leaves wrap into a tight crisp whorled 4" head that easily makes a single-serving salad. Market growers will find uniformly early maturing but slow-bolting Gildenstern a good four-season mini-crisphead, resistant to TB, DM and SC around the calendar.
- Head weight of 0.53 lbs
- 46 days
- Bad disease resistance, all plants had bottom rots
- Inconsistent size
- Notes on taste: Nice texture, a little watery. A little sweet with nice flavor. Rated 4 out of 5 with 5 being excellent.

InfraRouge

- From Wild Garden Seed
- This is a full sized leaf lettuce with color beyond your average red, deeply purple and bright red simultaneously, with crisped edges.
- Head size of 0.26 lbs. Very small and light
- Excellent disease resistance
- Notes on taste: Really bad flavor, all tasters spit it out. Rated 1 out of 5.



Irene

- From Wild Garden Seeds
- Irene jumped out of a trial bed like she was ready to go, heading up faster and more uniformly than similar gem contenders. Dark green 6" rosettes quickly form tight fists of crisp white hearts, each a salad for two. From the Island Gems series (Manoa x Leopard).
- Head weight is 0.58 lbs
- Excellent disease resistance
- Notes on taste: Nice and tasty, delicious taste. No crunch. Rated 5 out of 5.

Jack Ice Leaf

- From Fedco Seeds
- Dark green 11" Jack Ice delivers a perfect uniform “headless iceberg” crisphead early in the season, giving growers and gardeners the expected “ice” crunch and sweetness without the wait. Jack’s slightly pebbled extra-toothed fringed leaf and broad-centered whorl is suited for salad-mix cuts or full head harvest. High resistance to DM and TB, slow bolting, and with overall disregard for temperature extremes.
- 48 days
- Head weight is 0.74 lbs
- Good disease resistance
- Notes on taste: Very bad flavor. Weird and gross. Tasters spit it out. Rated 1 out of 5.



Jadeite

- From Wild Garden Seed
- With a delicate crunch, a dash of juicy sweetness, and touch of buttery texture to the blanched yellow hearts, Jadeite’s small stature yields artisan-quality flavor. While not as furnace-proof as full-sized romaines, Jadeite has good heat tolerance and very good cold hardiness, allowing closely spaced successions through many seasons.
- 50 days
- Head weight of 0.80 lbs
- Excellent disease resistance
- Notes on taste: Average taste, just fine. Rated 3 out of 5

Jericho

- From Johnny's Selected Seeds
- Blonde romaine for baby leaf and full-size heads. Attractive, bright light green for baby leaf. Fast growing with thin petioles and leaves. Sometimes grown as a full-size head. Tolerant to both heat and tipburn.
- 50 days
- Head weight is 1.28 lbs
- Good disease resistance with a little tip burn.
- Nice looking romaine with a heavy head.
- Notes on taste:
Tough texture.
Tasty but not too much flavor, a little bitter aftertaste.
Rated 4 out of 5

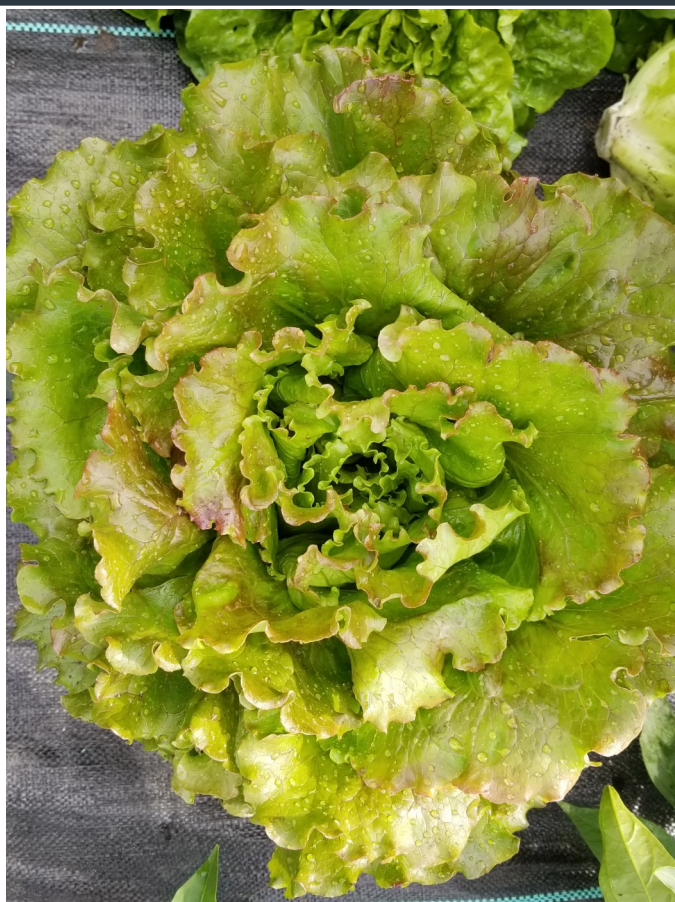


Kilauea

- From Wild Garden Seed
- From the Island Gems gene pool, compact dark green with red slashes, becoming red in the center leaves as it completes heading. Glossy, dense, crisp, flavorful.
- Head weight of 0.58 lbs
- Good disease resistance
- Notes on taste: Pretty! Bitter but decent taste. Crunchy. Rated 3 out of 5.

Kagraner Sommer

- From Fedco Seeds
- Elegant light green 10–12" butterhead of exceptional tender succulence, especially given the warm early-to-mid July slot when it matures.
- 58 days
- Head weight of 0.98 lbs
- Excellent disease resistance
- Notes on taste: Good texture, taste is sweet and bitter. Rated 5 out of 5.

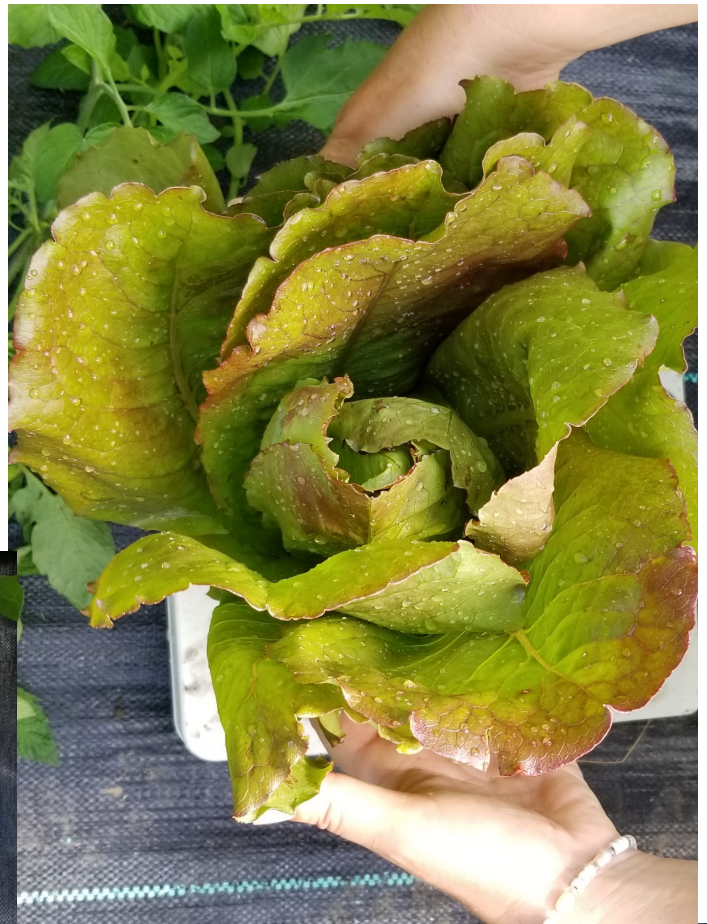


Magenta

- From Johnny's Selected Seeds
- A red Summer Crisp with good flavor. Shiny, slightly puckered, red-tinged leaves form a whorled, conical head with a crispy green heart. Ideal for spring and summer plantings. Tolerant to bolting, tipburn, and bottom rot. High resistance to downy mildew races EU 16, 21, 23, 32; and intermediate resistance to lettuce mosaic virus.
- 48 days
- Head weight of 0.88 lbs
- Excellent disease resistance
- Notes on taste: Tasteless with a slimy texture. Rated 2 out of 5.

Majestic

- From Fedco Seeds
- Fancy savoyed rich bronze-red leaves make Majestic positively gorgeous. Cylindrical open head has a spreading habit and huge colorful leaves with crisp romaine texture and juicy sweet non-bitter flavor deep into the heat of summer.
- 60 days
- Head weight of 0.79 lbs
- Excellent disease resistance
- Notes on taste:
Soft romaine.
Odd flavor, very green tasting, almost like kale.
Rated 2 out of 5



Manoa

- From Wild Garden Seeds
- A special mini head from University of Hawaii, grown widely in the Islands for its resistance to heat and tip-burn. Medium deep green, semi-savoyed leaves form small, compact plants that may be baby cut with an open head, or allowed to mature into a blanched round heart. Can be tightly spaced (6" in all directions) for 38-45 day summer production of baby cut.
- Head weight of 0.73 lbs
- Not uniform size
- Average disease resistance and slug damage
- Notes on taste: Tasty with good flavor and texture, would be good for a lunch time salad.
Rated 5 out of 5

Muir

- From Johnny's Selected Seeds
- The most heat tolerant lettuce. The slowest to bolt in our summer trials. Technically a Batavian type, the light green, extra-wavy leaves form dense heads at a small size and can be harvested as a mini or left to bulk up into large, heavy, full-size heads. The leaves are crisp and have excellent flavor. High resistance to downy mildew races EU 16–26, 28, 32; US 1–9, Nasonovia nibisnigri aphid, and tomato bushy stunt virus (lettuce dieback complex); intermediate resistance to lettuce mosaic virus.
- 50 days
- Head weight of 1.24 lbs
- Excellent disease resistance
- Notes on taste: Wonderful taste, sweet and amazing. Rated 5 out of 5.



Nancy

- From Johnny's Selected Seeds
- Our favorite traditional Boston type. Nancy's medium green leaves are unusually thick and crisp, so the head is sturdy and holds well. The large, well-packed heart has excellent butterhead quality. Slow to bottom rot. Nancy is a long-time favorite of Johnny's staff and customers. Intermediate resistance to lettuce mosaic virus.
- Head weight of 0.91 lbs
- Good disease resistance
- Hard to harvest, leaves are brittle and come free from stem easily. Might be better suited to home gardener.
- Notes on taste: Good taste, nice texture. Rated 4 out of 5.

Nevada

- From Johnny's Selected Seeds
- Bright green leaves form dense, closed heads. Resists tipburn, bottom rot, and bolting, and its great flavor stays mild. Heavy heads. Spring and summer crops.
- 48 days, but held well through 60 days
- Head weight of 1.28 lbs, very large heads
- Excellent disease resistance
- Notes on taste: Interesting flavor, very good and tasty! Rated 5 out of 5.



Olga

- From Fedco Seeds
- Big upright 8" oval heads with big hearts, big flavor and slightly fringed leaves. So sweet, crisp and buttery that Frank Morton thinks Olga must have some butterhead in the background. Stood considerable heat before developing slight tipburn and bitterness in August.
- 66 days
- Head weight of 1.20 lbs
- Good disease resistance with some insect damage.
- Notes on taste: Nice bitter flavor, crunch and moisture. Very green tasting. Rated 4 out of 5.

Optima

- From Wild Garden Seed
- Released by French seedhouse and breeder Vilmorin in 1995. This dark green uniform Merlot Nancy-type butterhead caught lettuce master Frank Morton's eye with its large plant and head size, and workhorse performance. Optima's juicy sweetness and silky texture could truly define a new category: Tenderheads! High resistance to DM, BR, and TB.
- 52 days
- Head weight of 1.01 lbs
- Good disease resistance
- Inconsistent size and shape.
- Notes on taste: Neutral taste with a little sweet, not very flavorful. Rated 4 out of 5.



Pablo Batavian

- From Fedco Seeds
- Its larger plants form loose heads of beautiful upright rosettes surrounded by wide wavy-edged flat leaves. Bronze coloration on the outside leaves contrasts strongly with the green interiors lending a striking metallic sheen. Very sweet and mild with some bitterness in the ribs, slow-growing and extremely heat resistant.
- 68 days
- Head weight of 0.54 lbs, light head for its size
- Excellent disease resistance
- Notes on taste: Sweet and tasty. Nice texture, super crunchy. Rated 5 out of 5

Parris Isle Cos

- From Fedco Seeds
- The standard market romaine developed by Clemson University and the USDA in 1952. Upright 8–9" heads fold inward to form compact centers. Interior greenish-white. Resistant to TB and bolting, even in heat. Irrigation improves its texture
- 68 days
- Head weight of 0.69 lbs
- Small romaine head.
- Good disease resistance
- Notes on taste: Chewy, leathery texture. Taste is fine, very green. Rated 4 out of 5.



Plato II

- From Fedco Seeds
- A lettuce fit for a philosopher-king, Plato sets a high standard for sweet taste in a romaine, holding its quality well into summer without bitterness, bolting or any tendency to tipburn. Frank Morton also found it more resistant to DM and SC than any of the other green romaines in his plot. Attractive dark green slightly ruffled heavily veined leaves.
- 65 days
- Head weight of 0.64 lbs, small romaine head.
- Good disease resistance
- Notes on taste: Flavorful, sweet with a tiny bitter, very nice! Rated 4 out of 5.

Redina

- From Wild Garden Seed
- This is a very popular commercial standard for red leaf of the Grand Rapids type. Similar to 'Hyper Red,' but not as dark. Good for full heads or salad mix if you want a medium red. Strong resistance to downy mildew and Sclerotinia stem rot.
- Head weight of 0.48 lbs
- All plants bolted
- Good disease resistance
- Notes on taste: Floppy and light. Very pretty but leathery texture. Not good flavor. Rated 2 out of 5.



Salvius

- From Johnny's Selected Seeds
- Bolt tolerant and widely adaptable. Medium green, upright plants. Open habit makes it more suitable for heads. Good flavor with a crisp texture. High resistance to downy mildew races EU 16–26, 32 and Nasonovia ribisnigri aphid; and intermediate resistance to corky root.
- 58 days
- Head weight of 0.85 lbs
- Excellent disease resistance
- Notes on taste: Beautiful romaine. Very vigorous and healthy. Great loose lettuce, very crunchy and nice. Rated 5 out of 5.
- Also grown in 2018

Sparx

- From Johnny's Selected Seeds
- Heat-tolerant romaine for hearts. High-yielding, upright, dense heads produce long, uniform hearts with good flavor. Ideal for spring, summer, or fall harvests. Similar to Helvius, which it replaced, but longer hearts and more attractive plants. High resistance to downy mildew races EU 16, 17, 19, 21, 23; US 1–6.
- 58 days
- Head weight of 1.33 lbs
- Average disease resistance, some kind of disease present and heavy slug damage.
- Notes on taste: Typical romaine. Good crunch. Rated 3 out of 5.
- Also grown in 2018



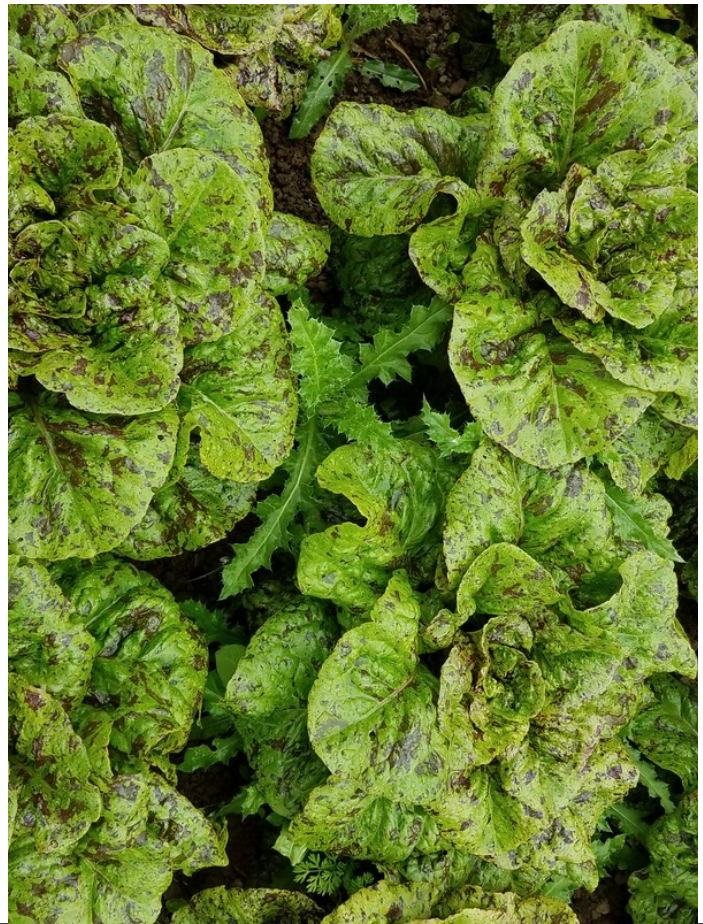
Sweet Valentine

- From Fedco Seeds
- A real sweetheart of a lettuce, Valentine combines magnificent beauty with mild sweet taste. Beginning as a large spreading bronzed butterhead with rounded veined leaves, it matures into a romaine shape. Has been very slow to bolt even in hot dry conditions. Flavor is more delicate, soothing and less bitter before it assumes romaine configuration.
- Head weight of 0.96 lbs
- Good disease resistance with inconsistent tip burn.
- Notes on taste: Bitter and weird flavor with odd aftertaste. Bad texture. Rated 2 out of 5.

Treasure Isle

- From Wild Garden Seeds
- Mounded, rounded heads of golden-green, ruby splattered savoyed leaves, mid-sized or larger. When the red pigment is overlain on light green, the effect is especially bright.
- Head weight of 0.50 lbs
- Excellent disease resistance
- Beautiful looking.
- Notes on taste: Good flavor, bitter and sweet, nice. Rated 4 out of 5.

Picture from Wild Garden Seed



Truchas

- From Johnny's Selected Seeds
- Dark red mini romaine. The compact, mini heads are dark red even in the North. Plants avg. 6–8" in height and fill out nicely. Market as a 3-pack with a green, and a bronze red variety. High resistance to downy mildew races EU 16–35; US 1–9 and tomato bushy stunt virus (lettuce dieback complex); and intermediate resistance to lettuce mosaic virus.
- 47 days
- Head weight of 0.44 lbs, small and light head.
- Excellent disease resistance
- Notes on taste: Bitter but flavorful, good taste. Rated 4 out of 5.
- Also grown in 2018

Zeb Romaine

- From Wild Garden Seed
- Tall bullet head romaine with well closed tops that make tight savoyed hearts. A little uptight compared to the other heads
- Head weight of 0.36 lbs
- Average disease resistance. Bad tip burn but inconsistent across planting.
- Notes on taste: Good flavor, sweet and bitter. Rated 5 out of 5.



Cornell Cooperative Extension

Eastern NY Commercial Horticulture Program

Thank you to our seed company partners for providing seed.

