2023 Vegetable Varieties Trial Garden– Planting Instructions and Planting Layout

Bed Design - Picking Up Transplants from Cornell

- Check your soil to see what it needs before planting. See more on vegetable garden soil here: [https://cpb-us-e1.wpmucdn.com/blogs.cornell.edu/dist/f/575/files/2016/07/Veggie-Info-Sheet-2016-1jsq90e.pdf](https://cpb-us-e1.wpmucdn.com/blogs.cornell.edu/dist/f/575/files/2016/07/Veggie-Info-Sheet-2016-1jsq90e.pdf)
- Vegetables should be planted to replicate the planting layout for each bed. If you’re not planting in a 3x3 raised bed, the plants should still be arranged to replicate the planting layout which will also be on the signage.
- The number in front of each variety corresponds to placement in the bed and not the number of plants to plant.
- Signage should be printed and displayed by each bed/planting. We suggest that you laminate the signage or use another method to protect the signage from the weather. Bed numbers will not be on the signage so beds can be arranged in any order.

Japanese Parsley (Cryptotaenia japonica) **Will require several weeks of cold stratification before planting** – Direct seed outdoors late winter/early spring to provide requisite cold period naturally. To grow indoors, hold packets in the fridge for at least 30 days before planting at room temperature.

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**Brown** indicates seeds for **Direct Sowing**

**Green** indicates transplants that will be picked up from Cornell Campus. Save the Date: Thursday, May 4th.

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**Bed 1: Noodle Bean Bed – China**

**Bean ‘Chinese Red Noodle’** (trellis/bean poles) (Vigna unguiculata subsp. Sesquipedalis) 80 days to maturity.

**Description:** Deep red, 18-inch pods that even keep most of their color when sautéed! Long vines produce all summer and do well under many conditions including extreme heat and high humidity. This is a Chinese ethnic variety that produces fairly early. Small red seeds.

**Planting:** Soak seeds overnight and direct seed after last spring frost ½ to 1 inch deep and 6 inches apart – Vining type - provide trellis or poles for support. Requires 8-12 hours of Sun; Sprouts in 5-8 Days in ideal temperatures (75-95 Degrees F).

**Harvesting:** pick when pods reach 12-18 inches.

Growing Tip: Trellis and keep picked for best production.
**Bed 2: Winged Beans and Cover Crop - Japan**

**1-Bean ‘Urizun Japanese Winged’** (trellis/bean poles) *(Psophocarpus tetragonolobus)*

**Description:** An early maturing winged pole bean from Japan. This highly adaptable winged bean variety is a good choice for a wide range of growing areas. Winged beans are native to equatorial Asia. This variety will begin to produce pods in August, and heavy production will continue until frost. This heat-loving vegetable is especially popular on the island of Okinawa, Japan, where it takes center stage during the warm summer months. Vines are lush and tropical looking, with large, lavender flowers and unique pods. The vines will readily climb a trellis or fence, making this an exotic edible ornamental.

**Planting:** Pre-soaking for 1-2 hours before planting will speed germination. Direct sow well after last frost when soils have warmed; plant 1-2 inches deep and 6 inches apart, sprouts in 7-14 Days; ideal temperature 75-95 Degrees F, provide trellis or poles for support.

*From website comments - can be started inside to get a jump on the season; won’t put on much growth until weather gets quite warm.*

**Harvesting:** Keep picked for continued production. Pods are ready starting at about 6" in length, and may be picked at any time until they become tough and fibrous, at about 9" in length (but this may vary with growing conditions).

**Use:** Traditionally blanched and stir fried with ume (pickled Japanese plum), or tossed into the wok with just about anything; they are also great in soups or steamed. Sliced beans resemble little stars and are a fun way to introduce kids to this nutritious vegetable.

**Growing Tips:** Pre-soaking for 1-2 hours speeds germination. Plant into warm soil; provide poles or trellis; Requires warm temperatures to thrive and grow well.

**2-Buckwheat ‘Rose Red Soba’** *(Fagopyrum esculentum)*

**Description:** Grown for incredible flowers, tasty buckwheat seeds, and for feeding beneficial insects! Clouds of rose-pink flowers cover this low-maintenance buckwheat. The drought-tolerant flowers are fantastic to attract beneficial pollinators in abundance and add an amazing pop to long-lasting bouquets. Planted en masse, it is as stunning as a field of lavender. Easy to grow, deer resistant, drought tolerant.

**Planting:** Once bean plants are growing up supports, direct sow between bean plants ¼ inch deep and 6 inches apart. Sprouts in 7-12 Days; Ideal Temperature: min 41F

**Use:** As a Covercrop and to attract and support beneficial insects. Cut down after blooms appear and before seed matures. Also can be grown to maturity for grain in larger plantings.

**Growing Tips:** Buckwheat blooms very quickly, often 6-8 weeks after sowing. For soil improvement, plants should be mowed as soon as blooms appear.
**Bed 3: Paste Tomato - Korea** (Solanaceae Family)

**Tomato ‘Korean Long’** [https://www.rareseeds.com/korean-long-tomato](https://www.rareseeds.com/korean-long-tomato)

*(Solanum lycopersicum)* 85 -90 days to maturity

**Description:** The Korean Long tomato is an indeterminate type sauce or slicing tomato with meaty flesh and superb flavor. The long pinkish red fruit has a slightly curved pointed nose or tail and ranges between 6-14 ounces, with some fruit being more heart shaped. A crack-resistant paste tomato that is productive, reliable, and bursting with heirloom flavor.

**Planting:** Start indoors 6-10 weeks before last frost. Plant 1/8th inch deep, Heat mat helps to warm soil and speed germination. Sprouts in 7-14 Days, Ideal Temperature: 75-95 Degrees F. Transplant outside after last frost.

**Harvesting:** Harvest when pink-ripe.

**Use:** This variety is delicious fresh or cooked.

**Growing Tips:** This is a large indeterminate plant. Provide support – extra-large cage, fence, or tall stake.
**Bed 4: Greens and Roots - Japan**

(Brassica rapa var perviridis) **Description:** This variety is an old, traditional komatsuna strain from Tokyo, Japan. Since it makes such a perfect spinach substitute, it’s hard to believe that Komatsuna is actually a mustard! The leaves combine the best qualities of spinach and mustard, with a mild and sweet flavor reminiscent of spinach but with the immensely powerful nutrition of a mustard! Frequently referred to as one of the “most underrated” leafy greens.  

**Planting:** Direct sow ¼ inch deep and 12 inches apart. Sprouts in 5-8 Days at ideal Temperature: 55-70 Degrees F  

**Harvesting:** Harvest individual leaves or cut entire plant. Recommended method: harvest newer leaves, allowing the more mature ones to remain in place to nourish the plant.  

**Use:** This leafy green is incredibly delicious, mild and tender. It holds superfood status in its native Japan, and in some studies it contained nearly twice as much calcium as whole milk per 100 grams! The leaves are also super high in beta carotene, as well as vitamins A, C and K. Komatsuna has been revered in Japanese, Taiwanese and Korean cuisine as a mouth-watering veggie for many years. Use as you would for spinach or other leafy greens.  

**Growing Tips:** Provide 6-12 hours of sun daily; Frost hardy. Tolerant of heat and frost but best planted in cool spring or fall conditions. Prefers rich soil.

(Raphanus sativus) **Description:** This variety of Diakon radish is a popular old Japanese favorite. The giant white roots can grow to 24 inches long and 3 inches wide. Also great for breaking up compacted soil!  

**Planting:** Plant in full sun. Direct sow ¼ inch deep and 2 inches apart. Sprouts in 3-6 Days with ideal Temperatures: 50-75 Degrees F.  

**Harvesting:** Matures in 40-50 days. Frost hardy. Try a spring planting and follow with a fall planting.  

**Use:** Sweet and very crisp, this radish is a delight pickled, stir-fried, steamed, or raw.  

**Growing Tips:** Sow spring radishes in several small successions for a continuous harvest. Best grown as a fall crop; roots will continue to grow while remaining tender and mild for up to 90 days in cool to cold weather.

(Daucus carota) **Description:** New Kuroda is sugary sweet and the texture is ultra-fine grained. The roots can power through tough soil and blistering heat, producing winning roots under even the most brutal conditions. This Japanese heirloom was bred to withstand tropical heat and therefore is the top spring or summer variety that we have seen. This incredibly hardy variety thrives in cool weather as well and is ideal for fall planting also.  

**Planting:** Direct sow in full Sun 1/8 inch deep and 2-3 inches apart. Sprouts in 12-18 Days in ideal temperature: 50-75 F  

**Harvesting:** One of the most heat-tolerant, so it’s good for spring or fall planting – consider succession planting for spring and fall crop.  

**Use:** Stir fries or as you would use any other carrot.  

**Growing Tips:** Carrots require light and fluffy soil in full sun, adequate moisture but only average fertilizing. Surface sow; press in gently and provide consistent irrigation. Best crops are probably from a fall harvest. Cover shoulders with straw to prevent greening.
**Bed 5: Snacking Cucumber - Japan** (Cucurbitaceae family - Cucumis sativus)


**Description:** This Japanese variety is a perfect snacking cucumber with no bitter flavor! Produces shorter, slightly thicker fruit than other Japanese varieties. Deep green fruit is about 7-8 inches long. Adapted to high temperature, humidity, and is disease and powdery mildew resistant.

**Planting:** Direct sow ½ inch deep after all danger of frost and soil has warmed. Sprouts in 7-14 Days; Ideal Temperature: 70-90 F; Thin to one plant. Grow trellised to save space.

**Harvesting:** Harvest frequently to maintain production. Harvest when fruit is 7-8 inches long.

**Use:** Harvest when cucumbers are 7 to 8 inches in length. Keep picked for best production. Will find a recipe or two

**Growing Tips:** Can be grown on the ground or on poles. Needs abundant soil moisture and rich soil.
Bed 6: Heat and Sweet Peppers - Korea & Japan (Solanaceae Family)

1-Korea – Hot Pepper ‘Korean Dark Green’
https://www.rareseeds.com/korean-dark-green-pepper (Capsicum annuum) 80 days to maturity.

Description: An heirloom from Korea, 2-feet tall plants have dark green foliage and produce 3-4-inch slender peppers that are dark green to red in color.

Planting: Start indoors in bright light 8-12 weeks before last frost date. Heat mat helps to warm soil and speed germination. Sow seeds ¼ inch deep. Sprouts in 7-10 Days; Ideal Temperature: 70-95 Degrees F

Harden off before transplanting in the bed. Transplant after all danger of frost and soil has warmed. Plant Spacing: 14-18" Plant two.

Harvesting: Harvest when peppers are at 3-4 inches in length.

Use: Very spicy and hot, this delicious pepper is great for authentic kimchi and other Korean dishes.

Growing Tips: Plant where it receives 8-12 hours of sun. Transplant into the garden after all danger of frost has passed and when soil has warmed. Pepper plants thrive in warm weather. Black fabric/plastic will help increase temperatures around plants. Be sure plastic is not touching plant stems.

2- Sweet Pepper ‘Manganji’ - https://www.rareseeds.com/manganji-sweet-pepper (Capsicum annuum) 80-90 days to maturity.

Description: The famous and flavorsome sweet chili of historic Japan. Sure to be a new sensation with chefs and foodies alike. Manganji is recognized as a traditional cultural vegetable in Kyoto, Japan, where it is celebrated as the King of Japanese Chili peppers. Manganji is among the world’s best tasting peppers.

Planting: Start indoors in bright light 8-12 weeks before last frost date. Heat mat helps to warm soil and speed germination. Sow seeds ¼ inch deep. Sprouts in 7-10 Days; Ideal Temperature: 70-95 Degrees F

Harden off before transplanting in the bed. Plant Spacing: 14-18" Plant two.

Harvesting: Harvest green peppers after they’ve reached about 6" in length, or leave on plant until fully red.

Use: These are generally sweet, but often take on a bit of heat, perfect for mild salsas, grilling, roasting and more!

Growing Tips: Plant where it receives 8-12 hours of sun. Transplant into the garden after all danger of frost has passed and when soil has warmed. Pepper plants thrive in warm weather. Black fabric/plastic will help increase temperatures around plants. Be sure plastic is not touching plant stems.
Bed 7: Chinese Cabbages - China & Japan  (Brassica rapa)


Description: Very easy to grow, this superior Napa-type Chinese cabbage variety has seldom been seen in the U.S. Medium-sized barrel-shaped heads are densely packed with crinkled, mild-tasting leaves. The preferred variety in the U.K.

Planting: Direct sow outside 1-2 weeks before last spring frost date or start indoors - transplant outside when seedlings are 4 weeks old. If transplanting, handle plants very carefully. Sow seed ¼ inch deep. Sprouts in 10-14 Days; Ideal Temperature: 60-80 Degrees F. Plant Spacing: 12-15” Plant five.

Harvesting: Heads approach maturity at about 70 days from planting. Harvest any time after heads are well-sized; in cool conditions may be left in place to gain a bit of size but harvest promptly if weather is hot. Usual method is to cut entire plant just above the soil line.

Use: Great raw or stir-fried, or in homemade kimchi!

Growing Tips: Best planted in cool spring or fall conditions. Sow in place, or carefully transplant when the seedlings are 4 weeks old. Frost hardy.

2- Japan – Chinese Cabbage ‘Nagasaki Late’ https://www.rareseeds.com/nagasaki-late-chinese-cabbage (Brassica rapa) 60-100 days to maturity.

Description: Held in high esteem in its native range, this cousin of bok choy and tatsoi is beloved as a nutritious and tasty vegetable with deep cultural roots as a culinary emblem of Nagasaki, Japan. Growers of Nagasaki Late cabbage will attest that it has been a culinary staple in the Nagasaki region for many generations, and indeed records show the variety, which is locally called Tojinna, has been grown in Nagasaki since at least the Edo period. Evidence suggests that the introduction of this variety actually dates back to the Tang dynasty (618-907).

Planting: Start indoors or direct-seed outdoors 1-2 weeks before last spring frost date. ¼ inch deep and 12-15 inches apart or carefully transplant outside when the seedlings are 4 weeks old. Sprouts in 12-15 Days; Ideal Temperature: 60-80 Degrees F. Plant five.

Harvesting: Heads approach maturity at about 60-100 days from planting. Harvest any time after heads are well-sized; in cool conditions may be left in place to gain a bit of size but harvest promptly if weather is hot. Usual method is to cut entire plant just above the soil line.

Use: This crispy and flavorful Asian green is locally popular in hotpot, stir fry and soup. The green is particularly popular as a star ingredient in Ozoni, the traditional soup enjoyed at Japanese New Year’s. It’s a favorite cold-hardy green and deeply nutritious.

Growing Tips: Best planted in cool spring or fall conditions. Frost hardy.
**Bed 8: Broccoli - Stems & Greens and Pink Celery - China** (Brassicaceae and Umbellifers families)

1- **Chinese Broccoli ‘Yod Fah’** [https://www.rareseeds.com/chinese-kale-yod-fah](https://www.rareseeds.com/chinese-kale-yod-fah) 55 days to maturity. (*Brassica oleracea* or *alboglabra*) 55 days to maturity.

**Description:** The delectable, tender stalks taste like a cross between asparagus and broccoli, only sweeter. Our favorite spring vegetable, this is a very easy-to-grow broccoli-like plant from China. The tender blue-green, glossy leaves are similar to kale but better, and the broccoli-like inflorescences are buttery soft and nutty in flavor. A must have for those who long for broccoli but struggle to grow it. It’s also a nutritional super-food.

**Planting:** Direct-sow in early spring (also consider making a succession planting in late summer for a fall crop). ¼ inch deep and 8 inches apart. Sprouts in 10-14 Days; Ideal Temperature: 60-80 Degrees F. **Plant five – in a zig-zag pattern.**

**Harvesting:** Harvest the crisp stems and shoots, when they are about as thick as a large asparagus shoot. **Harvesting Video - Yod Fah:** [https://www.youtube.com/watch?v=7tgtyJf-4dw](https://www.youtube.com/watch?v=7tgtyJf-4dw)

**Use:** Nothing goes to waste with this crop; all parts of the plant are delicious!

**Growing Tips:** Yod Fah boasts good heat resistance. Frost Hardy Protect seedlings from slugs.

2- **Celery ‘Chinese Pink’** [https://www.rareseeds.com/chinese-pink-celery](https://www.rareseeds.com/chinese-pink-celery) (*Apium graveolens*) Full maturity runs 90-120 days, but individual leaves can be harvested at much younger size.

**Description:** A stunning bright pink celery from China. This easy-to-grow variety completes the nutritional rainbow! Pink celery is popular in northern China, especially Beijing, where the attractive pink stalks are served in high-end restaurants. This tasty Asian type celery is a great choice for beginner gardeners, as it is much easier to grow than European-type celery. Flavor is yummy and lightly sweet, the texture is light and crunchy, and its eye appeal is unstoppable. Its brilliant bubblegum pink color makes it a truly delightful addition to the veggie patch and market display. This vibrantly colored veggie is sure to be a hit in kids’ gardens! It is quite easy to grow, and even the baby plants are stunning neon pink.

**Planting:** Start seed indoors 8-12 weeks ahead of last frost date. Sow seed 1/8 inch deep/surface-sow, gently pressing into soil. Sprouts in 15-20 Days; Ideal Temperature: 70-75 F. Transplant seedlings outdoors after last spring frost, 10 inches apart. **Plant four – in a zig-zag pattern.**

**Harvesting:** Full maturity runs 90-120 days but individual leaves can be harvested at much younger size, in fact anytime the plants seem like they can spare a couple of leaves.

**Use:** Seasoning and stir frys.

**Growing Tips:** Plants grow best in very moist soil, developing larger and milder stalks than when grown in dry soil.

3 – **Choy Sum ‘50 day’** [https://www.rareseeds.com/50-day-choy-sum](https://www.rareseeds.com/50-day-choy-sum) (*Brassica chinensis*) 50 days to maturity.

**Description:** A delectable Chinese vegetable that is known for its tender and delicious edible stalks and flowers.

**Planting:** Direct sow ¼ inch deep and 4-6 inches apart. Sprouts in 10-14 Days; Ideal Temperature: 60-80 Degrees F. **Plant five – straight row or zig-zag if you prefer.**

**Harvesting:** The whole plant is typically cut just above the soil line, but individual leaves may be harvested if preferred.

**Use:** All parts - the greens are nutritious and very flavorful, and the flowers and stalks are a gourmet delicacy!

**Growing Tips:** This green can be planted in both spring and late summer for fall harvest. Frost hardy. Protect seedlings if slugs are a problem.
**Bed 9: Herbs for People and Pollinators** (2022 - Sage, Oregano, Garlic Chives, Parsley) For 2023 – we will remove all plants – to a new location if you wish and plant the bed with the following:

**Basil ‘Chinese Sweet’** (*Ocimum basilicum*) **Description:** A flavorful, citrusy variety. This fast-growing, heat-tolerant basil provides lemony, orange-flavored foliage all summer long. This delicious herb is hard to find in America.

**Planting:** Best started indoors; plant ¼ inch deep; Sprouts in 6-10 Days. Ideal Temperature: 70-85 Degrees F; After soil has warmed and all danger of frost is past, transplant outside 8 inches apart.

**Harvesting:** Snip individual leaves or cut whole plant.

**Use:** The leaves are smooth in texture, and even the stem is tender enough for eating raw in salad. A popular Chinese variety perfect for Asian dishes and fusion cooking!

**Growing Tips:** Thrives in heat. May be sown in place in long-summer areas or started indoors and set out after last-frost date of spring. Remove flower buds promptly to prolong harvest.

**Chinese Chives** (*Allium tuberosum*) Perennial.

**Description:** These winter-tolerant chives are great for greenhouse or garden production. They have great garlic flavor and are popular with Asian chefs. Pollinators love the flower heads too!

**Planting:** Start indoors 8-10 weeks prior to last frost and transplant into garden shortly after last frost date. Can also be direct sow in areas with a long growing season. Sow seed 1/8 inch deep and 3-9 inches apart (spacing for direct sow or when transplanted into the bed) Sprouts in 7-14 Days; Ideal Temperature: 55-60 Degrees F

**Harvesting:** Harvest a few leaves at a time, leaving enough to support plant growth.

**Use:** Leaves as a seasoning in stir fry or anywhere you would like garlic flavor. White blooms are visited by many different pollinators!

**Growing Tips:** Keep seeds consistently moist until germination. Remove seed heads before they mature to prevent unwanted seedlings.

**Japanese Parsley ‘Mitsuba’** (*Cryptotaenia japonica*) 55 days to maturity. **Will require several weeks of cold stratification before planting – see planting instructions below.**

**Description:** This delicate and refreshing Japanese herb is easy to grow. It loves shade; it can be grown in full to part shade and is perfect for low-light spaces in the garden. This savory little parsley family member is also popular in Chinese cuisine and is reminiscent of its cousins, parsley and cilantro. The plants are similar to parsley in their growth habit.

**Planting:** Direct seed outdoors late winter/early spring to provide requisite cold period naturally. To grow indoors, hold packets in the fridge for at least 30 days before planting at room temperature. If transplanting out, sow seeds 6-8 weeks ahead of transplanting time. Sprouts in 5-10 Days; Ideal Temperature: 68-78 Degrees F; Transplant 6-8 inches apart.

**Harvesting:** Individual leaves can be plucked here and there, or entire plant can be cut at ground level about 60 days. In cool weather more time can be allowed, but for leaves, harvest no later than when flower stalk begins to become visible.

**Use:** It is typically used raw, sprinkled atop a meal to give it the perfect final touch. The leaves, stems, roots and seeds are all edible and excellent in stir fries, soups, salads and other Asian-inspired dishes.

**Growing Tips:** Prefers cooler spring and fall weather. Plant where it receives 4-6 hours of Sun.