**2019 Vegetable Varieties Trial Planting Instructions**

The beds in this design do not need to be kept in this order. The signage for each bed, does not have bed numbers on it so you can arrange them how you prefer – be sure to consider crop rotation when laying out your beds (if you participated last year). Counties should print and display the signage by each bed. Signage can be found at: <http://gardening.cals.cornell.edu/vvtg/> NOTE: For most designs, you will have more seed than you need.

**Bed 1: NY Heirlooms**

**1 planting of the following in each corner: Evening Colors Sunflower (1) with Haudenosaunee Skunk Beans (3) at base.**

**Sibley Winter Squash**

**(1) in center of bed**

Haudenosaunee Skunk Bean Phaseolus vulgaris (design requires 12 plants).

*An HEIRLOOM that has grown in the Finger Lakes for centuries before Colombus arrived. Our indigenous Haudenosaunee (Iroquois) people have selected, saved and shared these beans for untold generations and indeed they are our first dry beans to mature and our most productive dry bean.*

*Direct Sow: Once soil is warm & frost danger has passed, sow 1" deep every 4 inches along a fence or 3 seeds per teepee pole. Trellis at least 5’ high with the strongest materials you can find! Harvest dry, golden pods as they mature between rains. Inoculants often increase yields. Dark seeds germinate in cool soils better than white seeds.*

*Seed Depth: 1 inch; Days to Germination: 8-10 days 70-80 F; Plant spacing after thinning: 5-6"*

Sunflower Evening colors Helianthus annuus (used as a trellis for beans) (design requires 8 plants)

*Provides a diverse palate of autumnal hue petals with dark chocolate centers. Bi-color blooms range from 12+ inches to 4 inches wide, the largest being the first to bloom at the top. There are often a dozen smaller secondary blooms born on sturdy 18 inch stems perfect for cutting. Easily growing 8 feet tall or more, Evening Colors is a dramatic varitiety both in height and color.*

*Direct Sow (recommended): After frost, sow 2 seeds every 18-24” & thin to one. More fertility, space & sun = larger plants & flowers. Harvest blooms for continued flowering.*

*Sowing Date: After frost; Late May- early June; Seed Depth: 1/2 inch; Days to Germination: 7-10 days at 70-75 F; Plant spacing after thinning: 18-24 inches; Height: 5-7 feet*

Sibley Winter Squash Cucurbita maxima (plant in end bed -likes to sprawl) (Design requires 1 plant)

*HEIRLOOM - Sibley's fruit is 'pinched in at both ends and bulging at the waist.' 5-8 pound steel blue fruits. Banana type - flavor is rich and complex with perfect sweetness and a melt-in-your-mouth texture.*

*Direct Sow: After frost, sow 2 seeds every 3-5 feet in rich soil, thinning to one. Harvest before frost and cure in warm place with good airflow for winter storage. Plant in plenty of rich compost and allow them room to ramble.*

*Sowing Date: After frost, late May to early June; Seed Depth: 1 inch; Days to Maturity: 110; Plant spacing after thinning: 3-5 feet; Harvest just before fall frost and cure in a warm, dry place for 2 weeks. Store in a cool dry location for maxim storage.*

**Bed 2: All Season Pollinator Plants**

**Phacelia and Calendula 'Remembrance Mix' planted as you would like.**

Or interplant with Yarrow, Wild Marjoram, and Echinacea from the 2018 trial.

Phacelia (Bee’s Friend) Phacelia tanacetifolia (Design requires 2-3 plants depending on what you have in the bed from 2018)

*Lacey, fern-like leaves with dramatic lavender blossoms unfurling like fiddleheads, covered in beneficial insects. 2-3' bush*

*Transplant (recommended): Sow 4 weeks before last frost. Transplant into larger containers when the first true leaves appear. Transplant after last frost 9-12 inches apart; Height: 3 feet*

*Cover lightly & keep moist. Seed Depth: 1/4 inch; Days to Germination: 10-14 days at 60-65 F; Days to Maturity: 45*

Remembrance Calendula Calendula officinalis (design requires 2-3 plants depending on what you have in the bed from 2018)

*A brilliant diversity of colors with dozens of gorgeous, edible petals on each blossom. Petra from Fruition seeds also tosses these petals on cakes and cucumber gazpacho all summer; Easy to grow and remarkably drought tolerant, Remembrance calendula also thrives in containers and will readily naturalize when let go to seed.*

*Direct Sow: 2-3 weeks before/after last frost, sow 3 seeds 1/4" deep every foot & thin to one. Seeds germ & grow slower in cooler weather. Harvest flowers for continued production.*

*Days to Germination: 7-14; Days to Maturity: 55-60; Plant spacing after thinning: 1 foot; Height: 24 inches*

**Bed 3: Contain Yourself...!**

**Dwarf Vates Kale (1 row)**

**Lemon Ice Tomato (1 plant - staked)**

**Paris Market Carrot (1 Row )**

Dwarf Vates Kale Brassica oleracea (Design requires 1 – 3ft row – uses 16 seeds)

*Blue-green curly leaves on compact and sturdy plants. Extremely cold hardy and tender enough as baby greens raw. Even after months of freeze and thaw cycles in the fall and early winter the leaves stay green and are plentiful to harvest.*

*Direct Sow: Early spring, sow 3-4 seeds every 12”, 1/8th” deep in rows 18” apart for full-size plants & thin to 1. Mulch to reduce weed & watering pressure.*

*Days to Germination: 3-8; Days to Maturity: 8 days microgreen, 25 baby leaf and 50 days to full; Plant spacing after thinning: 12 inches*

Lemon Ice Tomato Lycopersicon lycopersicum (Design requires 1 plant)

*Dwarf plant - Lemon Ice a yellow tomato with sweet & creamy with rich, juicy flesh. Stout 2.5 to 3 foot plants are prolific and incredibly early. With impressively few seeds. Also good in containers; best grown on a trellis.*

*Transplant Only: Don’t start too early! Sow indoors 2 seeds/cell & thin to 1, 1/8” deep 6-8 weeks before last frost on a heat mat at 80°F to emergence, 75°F after. Pot up to 3-4” pots when first true leaves, planting 3/4 of the stem. Harden off & transplant outdoors after frost 2.5’ apart, again burying stem. Strong 3' trellis optional but helpful. Water soil, not leaves.*

*Days to Germination: 7-10 days at 80°F; Days to Maturity: 60 days to fruit; Plant spacing after thinning: 2 feet; Height: Dwarf*

Paris Market Carrot Daucus carota var. sativus (plant 1 – 3ft row)

*These round red-orange roots thrive in rock-laden and clay soils as well as containers. Each root quickly grows 1"-2" in diameter with rich mineral carrot flavor.*

*Direct Sow: Into loose & fertile soil with ample moisture. Early spring to mid-summer, sow 2 seeds/inch (16"-24" between rows) & keep soil moist to germinate (1-3 weeks). We plant radishes every 6” in the row & weed around the row as they germ. Thin to 1-2” apart for full size roots & weed well.*

*Sowing Date: 2-3 weeks before last frost through mid-July; Seed Depth: 1/2 inch; Days to Germination: 7-21; Days to Maturity: 55; Plant spacing after thinning: 2 inches; Height: 18 inches*

**Bed 4: Disease Resistance Makes All the Difference**

**Salad in Provence Mix (1 row)**

**Summer Sweetheart**

**Tomato (1) on stake**

**Success PM Summer Squash**

**Salad in Provence Mix (1 row)**

Organic Salad in Provence *Various species* (planted to fill gaps – early in the season) (plant 2 rows)

*Includes five diverse lettuces, three robust herbs (dill, chervil & cress) and six flavorful greens (including arugula).*

*Direct Sow: Early Spring, sow about 40 seeds per foot, 1/8" deep. Gently firm the soil for full soil-seed contact; keep moisture even. Harvest about 3 weeks later by clipping with scissors; most plants in mix will re-grow.*

*Sowing Date: As soon as soil can be worked; Seed Depth: 1/8 inch; Days to Germination: 4-7; Days to Maturity: 8 days to microgreen, 21 days to baby and 40 days to braising; Plant spacing after thinning: 2-5 plants per inch.*

Summer Sweetheart Tomato *Lycopersicon lycopersicum* (Design requires 1 plant) Grow trellised or on a tall stake.

*Cornell's cutting edge Late and Early Blight as well as Septoria resistance in a flavorful, creamy* *tomato perfect for salads, roasting and stuffing. Each truss should produce 10 plus fruits.*

*Transplant Only: Sow indoors 2 seeds/cell & thin to 1, 1/8” deep 6-8 weeks before last frost on a heat mat at 80°F to emergence, 75°F after. Pot up to 3-4” pots when first true leaves, planting 3/4 of the stem. Harden off & transplant outdoors after frost 2.5’ apart, again burying stem. Prune lowest stem "suckers." Water soil, not leaves*

*Sowing Date: Indoors early Spring; Seed Depth: 1/4 inch; Days to Germination: 7-10 days at 80°F; Days to Maturity: 75 days to fruit; Plant spacing after thinning: 2.5 feet; Height: indeterminate.*

Success PM Summer Squash Cucurbita pepo (Design requires 1 plant)

*Yellow squash - Powdery mildew resistant and strong non-preference of cucumber beetles in Cornell’s squash trails.*

*Direct Sow: After frost, sow 2 seeds every 3-4’ in rich soil, thinning to one. Harvest often for maximum production. Enjoy male blossoms stuffed or in fritters.*

*Sowing Date: After frost, late May to early June; Seed Depth: 1 inch; Days to Germination: 5 days at 80°F; Days to Maturity: 50; Plant spacing after thinning: 2 feet; Height: Bush*

**Bed 5: Unusual–ly Delicious**

**Lanro Kohlrabi (1 row)**

**Ginger (1 Plant)**

**Flashy Trout Back Lettuce (2 rows)**

Lanro Kohlrabi *Brassica oleracea* (Plant 1 row)

*Lanro is a standout among kohlrabi, getting large before becoming woody. Transplant them right after last frost for an early summer crop and/or in August/September for a fall/winter crop.*

*Transplant:4-5 weeks before last frost, sow 2 seeds per cell & thin to 1. Harden off & transplant 1-2 weeks before last frost every 4”.*

*Seed Depth: 1/4 inch; Days to Germination: 4-7; Days to Maturity: 56; Plant spacing after thinning: 4 inches*

Ginger – 1 per bed - *ginger rhizomes must be sprouted before planting in the garden. Freshly dug baby ginger is lusciously sweet and melts in your mouth, unlike anything you'll ever find in a store.*

Counties with “All Seeds Mailed” will receive 1 ginger rhizome to sprout with instructions when the rhizomes are available. Counties coming to campus will receive 1 sprouted rhizome with planting instructions on plant p/u day.

Flashy Troutback Lettuce *Lactuca sativa* (Plant 2 rows)

*A romaine dating back to the 1700s, its German name 'Forellenschluss' translates to 'Speckled Like a Trout'. Excellent flavor and notable bolt resistance, Flashy Troutback is perfect harvested as cut-and-come-again baby greens or as full, open heads of crunchy romaine lettuce.*

*Watch video – when to harvest for best flavor:* [*https://www.youtube.com/watch?v=wc46g1csB90#action=share*](https://www.youtube.com/watch?v=wc46g1csB90#action=share)

*Direct Sow: Early Spring, sow seeds 1" apart 1/8th" deep in rows 12" apart. Enjoy thinnings and leave 12" between plants. Ample water grows sweetest lettuce. Sow 3 weeks for consistent harvest to early fall.*

*Sowing Date: Mid-Spring - early Fall; Seed Depth: 1/8 inch; Days to Germination: 3-8; Days to Maturity: 28 days to baby and 50 days to full size;Plant spacing after thinning: 10-12 inches*

 **Bed 6:** **Ancient Grains are Awesome**

**'Black and Tan' Sesame (4 plants - 1 on each side of Quinoa planting).**

**'Rainbow' Quinoa in center (2 plants)**

**‘Duborskian’ Rice (3 plants per side - planted around the perimeter of the bed)**

‘Black and Tan’ Sesame *Sesamum indicum* (Design requires 4 plants).

*Sesame is easy to grow. It’s 3 to 4 feet tall with beautiful foxglove-like rose-pink flowers. Tolerant of drought & poor soils, it blossoms July through frost, yielding an abundance of delicious sesame seeds. It’s seeds easy to harvest and clean using simple tools you already have around your house, like screens and fans.*

*Transplant Only: Sow 2 seeds per cell 1/4" deep 4 weeks before last frost, keeping soil surface moist until emergence. Thin to 1 seedling per cell & transplant into larger containers when first true leaves emerge. Harden off & transplant out after frost danger, 12" between plants. Harvest seed once golden pods begin to break open.*

*Sowing Date: Indoors before last frost; Seed Depth: 1/8 inch; Days to Germination: 6-8 days; Days to Maturity: 75 days to flower, 95 days to seed; Plant spacing after thinning: 1 foot*

 ‘Rainbow’ Quinoa *Chenopodium quinoa* (Design requires 2 plants per)

*5 to 6 foot spires of green leaves turn gorgeously matte hues of russet, burgundy and ochre as the grains mature. Closely related to lambsquarters, initial weedings of quinoa can be tricky. Quinoa is not picky about soil although, like most plants, richer soil will grow taller, more robust plants. Harvest the grains once the seedheads begin to dry by cutting the entire uppermost stalk & threshing once they are completely dry. In hot years, the seeds may not set.*

*Transplant Only: Sow seeds indoors 4 weeks before the last frost, 2 seeds per cell thinned to 1. Transplant outside 2 weeks before last frost, 1 plant per foot. More fertility = taller plants = more seed. Weed well to start and they'll soon out-compete the weeds. Harvest whole head once seeds are firm. Dry completely and thresh. Winnow with fans to clean seed.*

*Sowing Date: Indoors before last frost; Seed Depth: 1/4 inch; Days to Germination: 5-7; Days to Maturity: 105; Plant spacing after thinning: 12 inches; Height: 6 feet*

 ‘Duborskian’ Rice *Oryza sativa* (Design requires 12 plants)

*Full of flavor upland rice that you can grow in a garden without flooding. A short-grain hardy Russian variety well adapted to shorter growing seasons. Roberta at Seven Tree Farm has been selecting this variety for several seasons now in Maine. When given adequate space (10" apart) they will tiller and send up additional seed heads (pannicles).*

*Transplant Only: Start indoors 3-4 weeks before transplanting late May when the soil has warmed up. They can tolerate a light frost but best to plant as close to the last frost date as possible. Transplant 10”-12” inches apart in good garden soil. The plants will reach 20”-24” high and have numerous tillers. Keep well weeded during early growth stage to give the tillers plenty of room to spread.*

*Harvest as heads dry down but before they drop seeds or get moldy. Typically the harvest ranges from late August through September.*

*Sowing Date: After frost, late May - early June; Seed Depth: 1/2 inch; Days to Germination: 5-7; Days to Maturity: 105; Plant spacing after thinning: 12 inches; Height: 3 feet*

**Bed 7: Edibles As Ornamental**

**Rainbow Swiss Chard (1 row)**

**'Violetto' Pole Bean (grown on trellis)**

**Rainbow Lacinato Kale (1 row)**

Rainbow Swiss Chard Beta vulgaris (Plant 1 - 3ft row)

*HEIRLOOM A vivid mix of crimson, grapefruit, tangerine, gold and silver stems with leaves that range from lime green to dark purple-green. Sow Rainbow Chard in early spring and enjoy the same planting all the way to Thanksgiving.*

*Direct Sow: Mid-spring through mid-summer, sow 10 seeds/foot, ½” deep; eat as baby greens &/or thin to 10-12” apart for full size. Thrives in garden or containers.*

*Sowing Date: Mid-Spring to mid-Summer; Seed Depth: 1/2 inch; Days to Germination: 5-7; Days to Maturity: 32 days to baby, 59 days to bunching; Plant spacing after thinning: 10-12 inches*

Trionfo Violetto Pole Bean *Phaseolus vulgaris* (grown on a trellis or pole – you decide how many you want to plant for this design)

*A French heirloom beloved for its nutty flavor and juicy-crisp texture. For best flavor and tenderness, harvest when the long, slender purple pods are thinner than a pencil.*

*Direct Sow Only: Once soil is warm & frost danger has passed, sow 1" deep every 4 inches along a fence or 3 seeds per teepee pole. Trellis at least 5’ high. Harvest young pods before beans swell for best yield. Dark seeds germinate in cool soils better than white seeds.*

*Seed Depth: 1 inch; Days to Germination: 8-10 days 70-80 F; Plant spacing after thinning: 5-6"*

Rainbow Lacinato Kale Brassica oleracea (Design requires 12 plants - 1 - 3ft row)

*Originally developed by farmer & plant breeder Frank Morton, Rainbow Lacinato was selected for cold-hardiness, incredible stem and leaf color, more consistent lacinato leaf shape and summer tenderness.*

*Direct Sow: Early spring, sow 3-4 seeds every 12”, 1/8th” deep in rows 18” apart for full-size plants & thin to 1.*

*Sowing Date: As soon as soil can be worked; Seed Depth: 1/8 inch; Days to Germination: 3-8; Days to Maturity: 8 days microgreen, 25 baby leaf and 50 days to full; Plant spacing after thinning: 12 inches.*

**Bed 8: Heirlooms of Today and Tomorrow**

Patisson Panache Patty Pan Curcurbita pepo (Design requires 1 plant)

**Habanada Sweet Pepper**

**Peacework Sweet Pepper**

**Patisson Panache Patty Pan Squash**

**Peacework Sweet Pepper**

**Habanada Sweet Pepper**

*A beloved French heirloom patty pan that can be eaten young as a summer squash or mature as a winter squash. Its flavor as a summer squash is notably more sweet and nutty compared to classic zucchini with a fine, firm texture that is especially good on the grill.*

*Direct Sow: After frost, sow 2 seeds every 3-4’ in rich soil, thinning to one. Harvest often for maximum production. Enjoy male blossoms stuffed or in fritters.*

*Sowing Date: After frost, late May to early June; Seed Depth: 1 inch; Days to Germination: 5 days at 80°F; Days to Maturity: 50 to summer squash, 100 days to winter squash; Plant spacing after thinning: 2 feet; Height: Bush*

Habanada Sweet Pepper Capsicum chinense (Design requires 2 plants)

*Habanada is the heatless habanero with irresistably tropical and floral sweetness. Bred by our Dr. Michael Mazourek of Cornell University, Habanada is as versatile as it is flavorful. Once they begin to produce, Habanada is immensely abundant; expect to harvest at least a pint a week. The flavor and sweetness of Habanada develops as they ripen from lime green to florescent orange.*

*The plants themselves are vigorous and are remarkably productive in average garden soil. With too much compost Habanada becomes tall and lush without putting much energy into fruit production, so be sure to not over-fertilize.*

*Transplant Only: Sow indoors 2 seeds/cell & thin to strongest 1, ¼” deep ~10+ weeks before last frost. Heat mats fluctuating 90F days/80F nights will germinate seeds best; after germ, set to 80F. Move to 3-4” pots with first true leaves. Harden off (reduce water & temp 3-7 days) & transplant after last frost with night temps above 50F into average soil.*

*Sowing Date: Indoors early Spring; Seed Depth: 1/4 inch; Days to Germination: 7-10 at 85°F; Days to Maturity: 80 days to green, 100 days to orange fruit; Plant spacing after thinning: 1-1.5 feet*

Peacework Sweet Pepper Capsicum annuum (Design requires 2 plants)

*Peacework pepper is a testament to the power of farmer + plant breeder collaborations. Here in western New York, Elizabeth Henderson and her team at Peacework Farm worked with Cornell University to select and stabilize this outstanding open-pollinated sweet pepper, in cooperation with the Organic Seed Partnership in the late '90s. Most fruits are medium-sized blocky bells, though there is still some variability in shape*

*Transplant Only: Sow indoors 2 seeds/cell & thin to strongest 1, ¼” deep ~8 weeks before last frost. 80F heat mats will germinate seeds best; after germ, set to 70F days & 60F nights. Move to 3-4” pots with first true leaves. Harden off (reduce water & temp 3-7 days) & transplant after last frost when night temps are above 50F. Pluck off any flowers at planting.*

*Sowing Date: Indoors early Spring; Seed Depth: 1/4 inch; Days to Germination: 7-10 at 85°F; Days to Maturity: 55 days to green, 70 days to red fruit; Plant spacing after thinning: 1-1.5 feet*

**Bed 9: Much Ado About Cukes Grow all 3 on a trellis – position plants as needed to make best use of your trellis.**

Cucumber Silver Slicer Cucumis sativus (plant 3 seeds and thin to 1 or 2 plants)

**Silver Slicer (1-2 trellised)**

**Green Finger (1-2 trellised)**

**Mexican Gherkin Cucumber AKA Mouse Melon (1-2 trellised)**

Sweet and juicy American slicer with ivory white, thin skin. Resistant to Powdery Mildew, Mosaic Virus, and Scab. 52 days to maturity.

Cucumber Green Finger Cucumis sativus (plant 3 seeds and thin to 1 or 2 plants)

*Bred by Cornell to thrive here in the Northeast. Enjoy abundant 8 to 10 inch cucumbers with exceptional flavor, crispness and impressively small seed cavities. Resistance to Powdery Mildew means even more production, especially in cool or wet seasons.*

*Instructions are the same for both of the 2 varieties above.*

*Direct Sow: Sow 2 seeds every 2’ (thin to 1) with at least 36” between rows after last frost. Trellis for easier harvest, straighter fruits & less disease pressure.*

*Sowing Date: Soil 70 F, late May - early June; Seed Depth: 1/2 inch; Days to Germination: 3 warm - 10 coo; Days to Maturity: 75; Plant spacing after thinning: 3-4 feet; Height: Full vine*

Cucumber Mexican Gherkin AKA Mouse Melon Melothria scabra (plant 3 seeds and thin to 1 or 2 plants)

*This heirlooms delicious 1 inch fruits look exactly like miniature watermelons! 4' vines with crunchy fruits that sport a slight tang that grows stronger as they age. Mexican Gherkins are resistant to traditional cucumber diseases (especially Powdery and Downy Mildews).*

*Direct Sow: Sow 2 seeds every 2’ (thin to 1) with at least 36” between rows after last frost. Trellis for easier harvest, straighter fruits & less disease pressure.*

*Sowing Date:* ***Soil 70 F****, late May - early June; Seed Depth: 1/4 inch; Days to Germination: 3 warm - 10 cool; Days to Maturity: 75; Plant spacing after thinning: 3-4 feet; Height: Full vine*