

Diary of Pantry Beds 2019:

March 21st, 2019:

Extension: Directed and assisted planting of broccoli in X 2 rows in Pantry Bed #5 and placed chicken wire around that bed.

Directed sowing of seed of spinach in bed # 4.

March 22nd, 2019:

Extension: Amended Pantry Beds #11, 10, and 12, adding 18 cups of Garden Tone to each of 50 sq ft of those beds. Four X 5 gallons buckets of compost were added to each of Pantry Beds #11 and #10.

Four bags of Mushroom compost (each bag was 1.1 cu. ft.) to Pantry Bed #12.

Forty-eight linear feet of Irrigation drip line was placed in each of these beds, #11, 10, and 12.

Purchased mushroom compost from Menards and Garden Tone and Tomato Tone from Hummert International.

March 23rd, 2019:

Extension: Directed sowing of lettuce (the most westerly row was Black Seeded Simpson, immediately inside this was sown Red Sails lettuce, the most easterly row was Buttercrunch, and immediately inside this was Butterhead Blend) . We amended the soil of Bed #3 with 9 cups of Garden Tone vegetable fertilizer in each 50 sq ft, and by error in measurement of 4.5 lbs of Espoma Soil Acidifier was added to 96 sq ft of Pantry Bed #3 (it should have been 3 LBs. Placed chicken wire around bed 3.

Sowing of beets (2 rows) and planting of Candy Onions (2 rows) in Pantry Bed #10.

Sowing of Spinach X 2 rows and planting of one row of each of Kale and Swiss Kard and placement of chicken wire fence around the bed.

Extension: Directed sowing of lettuce, amending of soil, with 9 cups of Garden Tone vegetable fertilizer in each 50 sq ft, and 3.3 lbs of Espoma Soil Acidifier in 96 sq ft of Pantry Bed #3. Placed chicken wire around bed 3.

Sowing of beets (2 rows) and planting of Candy Onions (2 rows) in Pantry Bed #10.

Sowing of Spinach X 2 rows and planting of one row of each of Kale and Swiss Kard and placement of chicken wire fence around the bed.

March 27th, 2019

Planted Kennebec Potatoes with a one foot spacing along the outer lines of the drip hose. Each of the seed potatoes in West potato row had ¼ th of a cup of Garden Tone Vegetable Organic and ¼ th cup of Paul's Worm Castings mixed into the soil around the seed potato. Each plant in the East row received ¼ th of a cup of Garden Tone Vegetable Organic and no Paul's Worm Castings.

March 28th, 2019: Soil amendment done between 1 and 4:00PM, before rain at 4:30 PM

Bed #1 was amended with 2 cups of Espoma Soil Acidifier for each 1/3 of the bed to reduce pH by one-half of a pH unit (pHs in Pantry Beds have consistently tested at 7.1 to 7.2, the ideal pH being closer to 6.5 for vegetables). In addition to this, 3 LBS or 9 Cups of Garden Tone Vegetable organic fertilizer was worked into the top 2" of soil with the Soil Acidifier. Bed #1 will receive Candy onion starts, when the soil is less saturated.

Bed#2 was with 2 cups of Espoma Soil Acidifier for each 1/3 of the bed to reduce pH by one-half of a pH unit (pHs in Pantry Beds have consistently tested at 7.1 to 7.2). In addition to this, 3 LBS or 9 Cups of Garden Tone Vegetable organic fertilizer was worked into the top 2" of soil with the Soil Acidifier. This bed also received 3 cups of Paul's Worm Castings Over every one third of the bed.

April 3rd, 2019, Extension: Candy Onions slips planted in the west side of Bed #1 on the outer side of the drip line, one plant every 6 inches by Joe Solt.

April 6th, 2019: Report from Jan Carron: Brassicas (Katrina small head cabbage and Broccoli) were planted in Pantry Bed #8, oregano, pansies, sage, summer savory and dill in end beds of Pantry Garden on April 6. Jan Carron planted Candy onions in bed 2 on 4/3 west side and east side 4/6.

April 17th, 2019:

Extension: Mowed Lawn around Herb garden, alleys of Pantry Beds, Compost Bins, Annuals, and Conference Room C. Bought and Laid down Corn Gluten in the Alleys of the Pantry Beds using a drop spreader and a setting of nine.

April 18th, 2019:

Extension: Purchased Red Sails lettuce plants from Rural King in Wentzville and Breakfast Radish seed, Easter Radish Seed, and cherry red radish seed packets from Rural King. A row of radish seeds was sown in an inside lane east of the most westerly drip line in Beds #1 and #2. The North half of each row was sown in Breakfast Radish. The southern half of the radish row was sown in Easter Radish.

In Bed #5 the cherry red radish seeds were sown in the middle of the bed from north to south. All radish seeds were mixed with one or two handfuls of play sand to make sowing of the seeds easier, while there was a lite mist of a rain.

The Red Sails lettuce was purchased at Rural King for \$5.00 for two 6 packs of plants. While at Rural King, I noticed that seed potatoes cost \$0.39 per LB, while the same potatoes cost \$0.50 per LB at the Farmers Co-op in St. Peters.

04/19/2019:

Extension: Mowed and weed wiped alley ways of Pantry beds. Used a drop spreader to apply corn gluten to alleys of the Pantry Beds with a setting of 9. Mowed and weed wiped around compost bins, lasagna bed and herb garden.

04/20/2019 Extension:

Laid down corn gluten on turf grass around the annual beds, lasagna garden, herb garden, south of the cold frame house, and in front of the amendment beds. Put chicken wire around potatoes in Bed #12 and Bed #6. Straightened drip line in Pantry Bed #8 and stapled it in place.

Sowed radish seeds in four rows in Pantry Bed #6 after amending the soil in the following fashion—Sta-Green Garden Soil with Fertilizer (and perlite), 3 Cu. Ft., with 0.05% N, plus 9 pints of Paul's Worm Castings in the North 48 Sq. Ft. of the bed and 2 Cu. Ft. of All Purpose Garden Natural Organic Soil with worm castings and 0.04% Nitrogen, 0.06% P, and 0.04% K followed by 9 cups of Organic Garden Tone Vegetable Fertilizer from Espoma in the southern half of the bed.

Placed chicken wire around beds #12 and #6.

Sowed Radish seeds middle West Rows of Beds #1 and #2.

Watered All beds using 6 to 8 gallons of water per bed. Calculating the weekly requirements at 1 Cu. In. of water per week for 96 Sq. Ft. = 96 Sq. Ft./1 X 144 Cu. In./1 Sq. Ft. X 1 Cu. Ft./1728 Cu. In. X 7.481 Gallons/1 Cu. Ft. = 59.8 Gallons/ week. Using two gallon watering buckets for manual watering 8 Gallons times 7 days = 56 gallons/ week or 4 X two gallon buckets per bed.

In Bed #6: The western most row was sown in two packets of Jung Purple radishes vintage 2012. The inner western row was sown in Early Scarlet Globe NK radishes. The most eastern row was sown in French Dressing Radishes (21 day maturity) and the inner eastern row was sown in a mixture of NK Early Globe (23 day maturity) and Rabano Cherry Bell Verdura (22 days maturity). We should be able to harvest the radishes before planting the sweet potatoes in this row.

04/21/2019 Extension: Watered all 12 Pantry Beds, sowed sugar snap peas at the ends of 3,5,6,8,10, and 12 Pantry beds, in order to enhance nitrogen fixation and possibly harvest some sugar snap peas. Weeds Bed #4. Sowed radish seeds in Pantry Bed #8 between west and east rows of cabbage.

04/22/2019 Extension: Watered all 12 Pantry Beds. Bed # 5 lost 12 Broccoli plants brought on by a loss of secondary and tertiary roots. These plants were removed and replaced by Bright Lights and Peppermint Kale. The transplants in some cases had dried out root balls and were root bound in other cases. The roots were loosened soaked with liquid fertilizer and planted with a mixture of soil and 2 to 3 Tbsp of Garden Tone Vegetable Organic fertilizer and 3 Tbsp of Paul's Worm Castings. The soil was also soaked with the liquid fertilizer. There were 26 Swiss chard plants transplanted, many in bed #5. Several of these plants were placed in the south end of the Pantry Beds.

04/23/2019 Extension: Watered rows that were sown with seeds and not yet sprouted. Cleaned up the North bin of the compost area. Noted the high riding of the chassis of the riding lawn mower due to the large pile of biomass near the compost area. This biomass had been accumulating since October over the winter. Much of the biomass is incompatible with use as compost in a backyard composting system, such as ours. It may well be able to be used in a commercial operation. However, we are given large woody stems and other biomass with C/N ratios between 100/1 and 450/1.

I purchased Swiss Chard to replace those that I used for the Pantry Beds, but had been designated for the Annual Beds. A discussion with MB reaffirmed the need to carefully read signs of attribution of plants in the Green House to other Lead Gardeners. A further discussion with KR, informed me that the Swiss Chard that I had used was an add on to the Annual Garden and did not need to be replaced. I chose to purchase the plants from an outside source to complete the look of the Annual Beds.

04/24/2019: Assisted Kathy Robertson in stapling irrigation tubing and planting Swiss chard in the Annual Beds.

04/26/2019 Extension: Watered radish seedlings and spinach seedlings in the Pantry Beds.

04/27/2019: Extension: Two seed potatoes failed to germinate in the west row of Pantry Bed 12. I planted two Yukon Gold seed potatoes (one was planted as the fifth plant in on the west row and the other the third plant in on the west row of Pantry bed 12) in these vacant spaces.

05/01/2019: Extension: Weeded and planted Earliserve bush green beans Q 6" in the north end of Pantry Bed #12. Thinned out the Beets to Q 3" in Pantry Bed #10. Weeded and Removed two dying brassica plant at the north end of Pantry Bed #8 and planted six white onion starts in their place. Weeded Pantry Bed #6, thinned radishes to one every 1" in each of four rows. Planted two rows of white onions in Pantry Bed #6, each row lateral to the outer rows of radishes.

Purchased 1 LB of white onion blubs, 1 LB of mung beans, and Earliserve Bush Beans from FMA Store in St. Peters.

05/03/2019: Extension: Mowed Turf Grass around annuals, herbs, compost bins, and in the alleys of Pantry Beds.

Weeded Pantry Bed #11.

Planted six Marigolds in the north and six in the middle sections of Pantry Bed # 8, with the brassicas. This was done to see if I could prevent or reduce white fly infestations with its green larva. The staggered arrangement had one marigold every three brassicas.

Planted seven marigolds in Pantry Bed #5. These were staggered every three to four feet on the outer edge of the west row of brassicas. All soil around each transplant was amended with a small handful of Garden Tone Vegetable mixture and a small handful of Paul's Worm Castings.

05/04/2019: Extension: Worked with Tim Steinman and Joe Solt to harvest and prune leaf lettuce (**6 LBs**) from Pantry Bed #3 and harvested Kale (**9.5 LBs**) from Pantry Bed #11. This quantity of lettuce and Kale took up a tremendous amount of space in my second refrigerator. We had to hold off harvesting spinach from bed #4, because we did not have any place to refrigerate this additional harvest. We will harvest on Monday, May 6th and take the spinach to the food pantry by a second trip.

05/06/2019: Extension: Planted Bright Lights Swiss Chard in end beds of the Pantry Garden and Bed #7. Fertilized them with small handful of Garden Tone Vegetable Fertilizer and a small handful of Paul's Worm Castings mixed with soil. The transplants were watered with Peters liquid fertilizer two TBSPs for each 2 gallons of water. **20 LBs** of leaf lettuce, spinach and Swiss Chard delivered to Saint Joachim and Ann Catholic Church.

05/08/2019: Extension: Mowed the alley ways between the Pantry Beds, the Turf in front of the annuals, and weed whipped the Alley ways of the Pantry Beds, around the Lasagna Bed, Annuals, the compost bins, the disabled gardens, the Apple tree lattice, and the pergola, and the square foot gardens.

05/10/2019: Extension: I talked with Rebecca Poon Ph.D. in Cellular Biology about the overall arrangement of the Pantry Beds, the rapid compost process that I use, plants of the Pantry Beds, their irrigation and assisted her in planting tomatoes in Pantry Bed #1 and #2. We also measured the pressure in the two water manifolds. The psi in the North manifold was approximately 66 psi. The South manifold had a reading of nearly 120 psi (much too high for long term use of soaker hoses in the vineyard and possibly detrimental to the connection hoses to the vineyard and square foot gardens. If there are

pressure regulators on the South manifold they are inoperative. I believe the North manifold should have a restrictive pressure regulator of 50 psi for optimal functioning of the pressure compensated hose in the Pantry beds, a backflow preventor, and a filter to prevent clogging of the pressure emitter drippers. A pressure regulator for the South manifold should be consistent with design capabilities of the water irrigation systems used in the Vineyard.

The tomato plants were planted in the following order in Pantry Bed #1, from North to South, so that there was about 2.5 to 3 feet between plants, using alternating wooden and steel stakes for the sake of appearance. Pantry Bed #1 had the following tomatoes planted while mixing 3 TBSPs of Garden Tone Tomato Fertilizer into the soil, Giant Garden, Big Brandy, Mortgage Lifter, Arkansas Traveler, Emerald Apple, Celebrity, Mortgage Lifter, Brandywine, and Giant Garden Tomato. A trough was used to lie lengthy tomatoes down horizontally. Plastic bags were used to tuck under protruding tomatoes, if their leaves threatened to touch the ground. Thorough watering of the transplants before and after transplantation was performed. Rooting solution was not used but will be applied within the next two days. Pantry Bed #2 had the following tomatoes planted in the same manner from North to South, Yellow Gooseberry, Brandywine, Brads Atomic Grape, Giant Garden, Celebrity, Arkansas Traveler, Brandywine Cherokee Purple, and Early Girl.

All fencing on Pantry Beds 1 and 2 had to be taken down and put back up to work of the beds. On Pantry Bed #1, I replaced the west fence.

All radishes and beets in all beds were watered. Rebecca Poon thinned the radishes so that there was about 1" between radish plants on completion in Pantry Beds #1 and #2.

I discussed the need for additional assistance in the Pantry Beds with Kevin Minard and Victory Galley. Total time in the Pantry Beds today was approximately 6.5 hours.

May 13th, 2019 Extension: Watered the pantry beds with 8 gallons of water to each Pantry Bed. Measured the Pressure in the north manifold at 66 PSI and south manifold at 110 PSI. The latter manifold pressure is sufficiently high to damage irrigation hoses.

I tested the syphon jet on the north manifold. The Ratio of water syphoned to water dispersed was 700 cc to 18,927.05 cc or 27.7 cc of dispersed fluid for every 1 cc of syphoned fertilizer concentrate. This was performed at a PSI of 66. I plan on getting a 50 PSI reducer and repeating this calculation.

May 14, 2019 Extension: watering cans were used to apply about 8 gallons of water to each Pantry Bed (except the asparagus). I bought a flow meter for measuring water usage, two pressure restrictors set at 50 PSI, one for the south manifold and one for the north manifold.

Extension: Took down the fencing for harvesting. Directed harvesting of **30 LBs** of lettuce, kale, Swiss Chard, spinach, and thinned the beets. Delivered harvested greens to St. Joachim & Ann food pantry.

Planted Arkansas Traveler tomatoes at the ends of beds #2, #3, #5, and #4 and added 3 TBSPs of Garden Tone Tomato fertilizer and a handful of Paul's Worm Castings with each plant. . Fertilized the spinach in bed #4 after the harvest.

Weeded bed #7. Thinned the beets and weeded bed #10. Weeded #4 and harvested spinach. Discussed the loss of broccoli plants to root rot with Justin Keay.

Put all the fencing back in place.

May 17th, 2019 Extension: Mowed the grass in the alleys of the Pantry Beds, around the Herbs, Lasagna garden, and compost. Directed planting of tomatillos in Bed 11, watering of Pantry Beds with irrigation drip line, watering of the end beds south of the Pantry Beds (with assistance of Rebecca Poon), repaired drip line in Pantry Bed #2, and assisted in mowing and mulch of 1/3 of the large compost pile with Kevin Minard riding the Gravelly Mower.

May 18, 2019, Extension: harvested **16.5 LBs** of radishes. Total to date is 66.5 LBs. Directed David Romig to plant sweet potatoes in Bed #6, one foot apart down the middle of the bed. Marsha also gave him permission to plant in a couple of her beds. Attempted to deliver the radishes to St. Joachim and Ann, but they were closed.

David Romig made this entry: Saturday, May 18, 2019, I planted 21 plants in Pantry bed #6, 21 plants in the raised bed with the blueberry plant diagonally across from the water corner in the southwest corner of the orchard, and 15 plants in the berm in the north east corner of the orchard. They are were planted about 12 inches from each other. Two of these 15 didn't even have a leaf, so they may not make it. I watered all the plants today, May 20th, around 9:45 am

May 21st, 2019, Extension: Delivered Radishes to Saint Joachim & Ann Food Pantry.

May 22, 2019, Extension: Harvested **99.5 LBs** of Swiss chard, kale, spinach, lettuce, radishes, and broccoli with the assistance of 3 MGs and Students.

I weeded bed #1 and #7 and planted a cherry tomato in the north end of Bed 9, south end of bed 7 and 5. Each plant received a hand full of Garden Tone Tomato Organic Fertilizer and Paul's Worm Castings.

May 24th, 2019, Extension: placed 3' stakes near each tomato plant, pruned them up to the first fruit blossoms, and tied them to the stakes.

May 25, 2019, Extension: Directed harvesting, sowing of Kentucky Wonder Bush in two rows of bed #3 and placement and sowing of Kentucky Blue Garden Beans around four 5' tall cages in the other half of row #3. Irrigated the Pantry bed for 45 minutes. Drove in T-Post stakes in the middle of Pantry Beds #1,2, and 3. Secured the T-Post in bed # 3 to the wire cages with plastic coated wire and tied it to the Trellis cattle panel at the south end of Bed #3. Directed mowing of the alleys, and turf around the annuals, herb garden and Lasagna beds. Directed mulching with leaves of the Beds #1, 2, and 3.

May 28th, 2019, Extension: Irrigated 10 of the pantry beds with the drip irrigation system for one hour.

May 29th, 2019 Extension: I planted okra, Straight Eight cucumbers, green okra, Spineless Okra, and Burpless Hybrid cucumbers in Bed #5. I also constructed and erected three trellises for the Straight Eight cucumbers. I, also, placed cages around the tomatoes, pruned them and strung wire from the Trellis ends to the T-Posts in the middle of beds #1 and #2.

May 30, 2019, Extension: Today, Rebecca Poon and I harvested **53 LBs** of produce from the Pantry Beds. The prominent production came from Bed #10 with 30.5 LBs of Beets, 14 LBs of Katrina small head cabbage for Bed #8, and 5 LBs of bunching onions from Bed #6. Those beds were weeded as they were harvested. The produce was delivered to St. J & A at 9:15 AM.

Yellow bunch onion bulbs were planted between spinach plants on the west half of Bed # 4. On the east half Bed # 4, between the spinach I planted whit bunch onions. I noticed that there were mole cavities

and tunnels through the middle of the Bed. This seemed to correlate with poor growth of the spinach plants in the middle of the bed.

Bush beans were sown 4" apart east of the drip below and between the tomato plants in Bed #1. Two garden Sage plants were planted, one at the north end of Bed #1 and the other at the South of that bed.

I picked up 36 zuchetta plants from Mark Krebs. Many of the them should find homes with Master Gardeners. Some will remain in the Pantry Beds. Four hours of volunteer time.

June 1st, 2019, Extension: Chuck Baur constructed and brought five sets of end posts with trellis caps to the Extension These were set into place on Beds #11, 10 and 12 by Kevin Minard, Joe Solt, David Romig, Diana Binder, and Clark Howard.

I assisted Diana Binder with the placement of a 16' section of cattle panel in the middle of Bed #10. I, then, transplanted eight zuchetta on the east side of the cattle panel. Diana transplanted zuchetta to the end post of several of the pantry beds. The soil around each transplant was amended with three TBSPs of Garden Tone for Vegetables and Paul's Worm Castings. I placed white bunch onions on the east side of pantry bed six.

June 2nd 2019, Extension: Four Sweet Banana peppers and 3 large yellow peppers planted in Bed #4. Two additional peppers were planted on the west side of Bed #6. Five Zuchetta plants were transplanted on the inside of the east fence of vineyard. In a one-foot band of soil, amended with Paul's Worm Castings and Garden Tone for Vegetables Buckwheat was sown and covered lightly with a mix of soil and leaf mulch. A border was created with a 2" X 4". In addition, yellow flag sticks were also placed to protect the buckwheat.

Buckwheat was also sown west of the candy onions, east of the Merlin beets, and north and south of the cattle panel in Bed #10. The intent of growing buckwheat near the sweet potatoes in Bed #6 and Bed #10, and near the vineyard fence was to bring pollinators and beneficial predators to protect the zuchetta and the sweet potatoes.

June 4, 2019, Extension: Watered seedlings and sprouts in various beds. Irrigated plants in Pantry Beds. Harvested **21 LBs** of Katrina Cabbage from Pantry Bed #8. Weeded Bed #7. Asked Cindy to deliver cabbage to St, Joachim and Ann Food Pantry. Bush Bean sprouts in bed #5 doing well. May need to replant pole beans in Bed #5. Some seeds have yet to sprout. Bush Earliserve beans in Bed #1 beginning to appear. Replanted white bunch onions beginning to appear in Bed #4.

Plan on Harvesting Candy onions: This 20-inch tall plant is grown for its edible, enlarged, bulbous, underground portion which may be white, red, or yellow in color. The narrow foliage is light green and is very strong smelling. Harvest the bulbs when the leaves begin to fall-over and the bulbs are easily pulled from the ground. If there is resistance, the roots are still actively growing and the onion should not be harvested. Hasten maturity by removing the tops and look to be able to harvest the bulbs in a week. Eat them fresh or dry them for storage

21 + 99.5 + 53 +16.5 +30 +15.5 + 20 = 255.5 LBs of produce to date donated to the St. Joachim and Ann Food Pantry.

June 5th, 2019, Extension: **Harvested 24.5 LBs vegetables** including 5 LBs of lettuce, 4.5 LBs of Kale, Kohlrabi 0.5 LBs, 6 LBs of cabbage, 0.5 LBs of sugar snap peas, and 8 LBs of Swiss Chard. Spinach was removed from Bed #4. Added 4 Cups of Garden Tone to the North half of Bed #4. Added 1 Gallon of 3.5 TBSP / Gallon of Dram-K to each 20 sq. Ft. of Bed #4. Weeding of Bed #11 was done by Phoebe. Irrigated Pantry Beds.

June 7th, 2019, Extension: **Harvested a total of 12.5 LBs** including 0.5 LBs onions, 0.5 LBs of beets, 0.5 LB of broccoli, 8 LBs of cabbage, and 1.5 LBs of cilantro. Weeded Pantry Beds 1, 3, 5, and 7. Fertilized three Zuchetta plants in the North end of Bed 10, with Micro-Grow transplant solution. Replanted Contender Bush beans in several locations in #1. Cindy carried the vegetables to Saint Joachim and Ann food pantry. Fertilized all tomatoes in beds 1, 3, and 5 with Dram-K using 60 cc / gallon. Two gallons of this solution was used on tomatoes in bed #1. Two more gallons of a similar solutions was used on the remainder of the tomatoes in Beds 3 and 5. I, also, noticed a leak in the right-angle PVC neck of Bed #5. This will have to be repaired soon. I found the needed supplies in the shed and will tackle this soon.

June 8th, 2019, Extension: Posts and trellis tops made by Chuck Baur were inserted in the middle aisle of Beds 9 and 10. U-Staples were nailed to the cattle panel fixed to the posts. The cattle panel were nailed to the ends of 9, 10, 11, and 12. Pantry Beds were irrigated. Buckwheat seedling are growing well in beds 6 and 10.

June 9th, 2019, Extension: watered sprouts and transplants. Repaired the schedule 50 PVC bib connection by replacing the right-angle PVC connection to the 1/4 turn faucet. Irrigated the raised beds after the repair. I needed to get new PVC prep and glue, as the old material were gelled.

June 10th, 2019, Extension: Pruned bottom leaves of the tomatoes, watered tomatoes and buckwheat sprouts, Fertilized Bed #2, sowed Contender Bush beans in Bed #2, and Weeded Pantry beds.

June 12th, 2019, Extension: Harvested 6.25 LBs of vegetables including Lettuce 11 LBs, Swiss Chard 11 LBs, Cabbage 7.5 LBs, Beets 0.5 LBs, Kale 0.5 LBs, Broccoli 0.5 LBs, Basil 0.25 LBs, Peas 6.5 LBs, and Onions 28.5 LBs.

Total to Date 28.5 LBs + 12.5 LBs + 24.5 LBs + 255.5 LBs = 321 LBs.

June 18th, 2019, Extension: Rebecca Poon Harvested 16.75 LBs of vegetables. Broccoli 0.25 LBs, Sugar Snap Peas 5 LBs, Beets 4 LBs, Swiss Chard 7.5 LBs. We Weeded and water sprouts. Sowed Buckwheat seed in bed #5 after removing half of the broccoli.

June 19th, 2019, Extension: Phebe and I harvested 41 LBs of produce. Onions 36.5 LBs, Beets 5 LBs, Kale 1.5 LBs, Radishes 0.25 LBs, Broccoli 0.5 LBs, Cabbage 1.5 LBs, Lettuce 0.25 LBs, and Peas 0.25 LBs. Water Buckwheat Sprouts and irrigated Pantry Beds.

Several days ago, Tim Steinman stacked the compost in the South Bin. I mowed grass at the Extension and added 16 cubic feet of grass clippings to the compost, while flipping compost from the South Bin to the Middle Bin. I mixed the current compost with grass in a 2 to 1 ratio. It is evident that Tim used a considerable amount of coffee grounds collected from various coffee houses. Coffee grounds have a C/N of about 20/1 which is an ideal ratio for a compost agent. Discussed key components of growing vegetables in Raised Beds with two groups of visitors.

Current vegetable production: 321 LBs + 16.75 LBs + 41 LBs = 378.75 LBs.

June 22nd, 2019, Extension: The temperature in the middle compost bin, after a day of rain, was 138 degrees F. I flipped the compost from the middle bin to the south bin. The bottom of the middle bin was soggy and anaerobic. The south bin had three inches of water in it. I placed a platform on bricks with a canvas over the platform and then flipped the compost on top of the canvas. For the soggy bottom 3" of compost in the middle bin some compost was placed in the north bin which has a French drain underneath and another portion was spread out near the irrigation manifold on high ground, to be left until these portions of compost had dried out and could be re-united to the south bin. I believe the soil base in the middle and south bins need to be elevated and placed on a brick base to prevent digging out the foundation of those bins after completion of a compost run and lowering the soil level making it subject to gathering rainwater.

I, also, noted animal activity against the buckwheat in Raised Bed #10. So, I found some old chicken wire and surrounded the bed with it. This will need to be replaced with more sturdy wire which is not compromised by rust and aging.

June 25th, 2019, Extension: Watered plants in Raised beds for 30 minutes. Removed old rusty chicken wire with large holes from Bed #10. The chicken wire was placed a few days ago because the buckwheat has been eaten, probably, by rabbits. I bought 150 feet of chicken wire and cut it into several sections to surround Bed #10 and removed the old hole ridden wire fence.

June 26, 2019, Extension: Several MGs (Kathy, Laura, and Cindy) harvested sugar snap peas 1.5 LBs, Swiss Chard 7.5 LBs, candy Onions 15 LBs, peppers 0.5 LBs, Eggplant 0.5 LBs, and Kale 4 LBs. I weeded Beds #2, 4, 6 and 8 and fertilized, with 4 cups of Garden Tone for Vegetables in Bed #4. This is the same bed that has had significant mole intrusions with sub-surface cavities. In Bed #6 the sweet potato vines were shortened as they crossed over the drip lines. The Buckwheat was shortened to knee height. This bed was also weeded. Buckwheat in bed five was watered. Cucumbers were tied up in bed #5. The zuchetta plants and vines were secured to the various trellises and cattle panels. Several tomato plants were secured in circular cages. The total amount of produce harvested was 29 lbs. Kevin harvested the garlic in bed #9.

378.75 lbs + 29 lbs = 407.75 lbs delivered to St Joachim and Ann Food Pantry

June 27th, 2019, Extension: Watered pantry beds for one hour before the MG meeting.

June 28th, 2019, Extension: hard rain at 5:30 PM.

June 29th, 2019, Extension: Soil was moist in all beds. Temperature in the compost north bin was 104 degrees. Bed #9 has left over leaves from the mulch covering the garlic. I added 14 cups of Garden Tone Vegetable Organic Fertilizer, 3 lbs of Soil Acidifier by Espoma, and 9 cups of Paul's Worm Castings. Because leaves raise the pH of the soil, I added enough soil acidifier to lower the pH by ½ unit. The beds have been running 7 to 7.2. So, it will be interesting to check the pH in the spring.

I removed chicken wire that had large holes in the fencing of bed 6 and 4 and staked down the chicken wire. I shortened sweet potato vines in bed #6.

I weeded bed 7 and tied up several tomato plants. Glenda and Linda harvested sugar snap peas from the end trellises. I secured zuchetta vines and cucumber and created a string line from the cattle panel in bed 10 to the end posts.

I talked with Rebecca and Rodney Taylor about the Pantry Bed plants, compost and straw bale gardens. Rodney mowed the grass alleys in the Pantry.

Weeding was done in bed 7. Some of the peppers on the west side of bed 4 are stunted, probably are suffering from excessive water or moles. More beets can be harvested in 10 and onions need to be harvested in 1 and 2. Tomatoes look good but need some pruning. Bed 8 feels as though the soil is compacted. It had an organic soil/fertilizer added prior to planting brassicas, which have been harvested. Bed 8 still has several Marigolds in the bed. For now, it is undisturbed.

July 2nd, 2019, Extension: Purchased 10 bags of all-purpose sand and landscape weed mat and delivered them to the Extension. Irrigated Pantry Beds. Weed wipped alley ways of the Pantry Beds.

July 3rd, 2019, Extension: Phoebe harvested produce and weeded Bed 11. We weighed the produce as follows. Kale 0.5 lbs, Swiss Chard 6.5 LBs, 0.25 LBs of Banana Peppers, Jalapeno Peppers 2.5 LBs from Kevin Minard's garden, 3.5 LBs of Sugar Snap peas, 5.5 LBs of Beets, Candy Onions 14.5 LBs, Bunching onions 3.5 LBs for a total of 36.75 LBs for today's harvest. Total for this season is 407.75 LBs + 36.75 LBs = 444.5 LBs as of July 3rd, 2019. The produce was delivered to St. Joachim and Ann food pantry by Zeppo Marx.

The tomatoes were pruned and tied up to their cages by Larry. All Pantry Beds, except beds 7, 11, and 12 were Fertilized with hydrolyzed fish and kelp (Dramm-K) by Curly. The southern end beds were hand watered and the Pantry beds were irrigated for 30 minutes by Moe.

Gummo Marx sowed spineless Okra down the middle of bed 9 and 3 year old Contender bush beans on the outside of the drip lines which he had to repair with a splicing connector.

The peppers in Bed #4 showed signs of a fungus infection and stunted growth. The north half was sprayed with 1-2-3 Potassium soap and the south half was sprayed with Neem solution by Groucho. His brother Harpo tied and adjusted squash vines to trellises. Chico weeded portions of bed 5 and 7. The basil and bunch onions in bed 4 appear healthy.

Jan Curran assisted in replacing worn and holey chicken wire on the west side of Bed 1. This team worked from 8:00 AM until 5:00 PM when rain and lightning began. Unfortunately, lightning prevented coiling the hose on its retainer. My thanks go out to all my volunteers.

July 5, 2019, Extension: I weeded Pantry Beds #4, 5, 7, and 8. Irrigated Pantry Bed. I irrigated the pantry beds. Unfortunately, it rained later today. I watched Tim Steinman finish his paving of the south and middle compost bins. I tied up tomatoes at the ends of Pantry Beds #5 and 7. Tomatoes with late blight were pruned in bed #1 and 2. The end beds of outside of the Pantry beds were weeded. The hoses were wrapped up around their retainers. Cucumbers in bed #5 were entwined in their chicken wire.

July 6th, 2019, Extension: Rodney and I reduced the vegetation and plant refuse pile near the compost bins. Leslie and Rodney removed weeds from bed #12, the potato bed.

July 7, 2019, Extension: Renovated the top 2 inches of soil in Pantry Bed #8 by raking the soil, adding three cups of Paul's Worm castings, two cups of Garden-tone Espoma vegetable fertilizer, and two cups of Soil Acidifier Espoma to every third of the raised bed. Okra seeds which were sprouted with a wet paper towel in a plastic bag were planted in the center of Bed #8.

Beans and okra are breaking through the soil in bed #9. That required buying and placing chicken wire around that bed. Hooks need to be placed in the North posts to secure the wire. The tomato plant at the north end of #9 was pruned to allow enclosure in the chicken wire. The Pantry beds were irrigated, and Bed #9 was watered along with the south end beds. The west side of Pantry Bed 12 (potatoes) was weeded.

July 8th, 2019, Extension: Cut and placed chicken wire around Pantry Bed #9 and water the sprout with a manual shower extension. Planted Okra seedlings which were sprouted in a zip lock bag and a moist paper hand towel. Sprayed 1-2-3 on the base of squash plants. Picked squash bugs eggs on zuchetta and crushed adults in the act of mating.

Entwined zuchetta and cucumber plants onto and around twine and wire supports

Harvested 9 LBS of produce. $444.5 \text{ LBS} + 9 \text{ Lbs} = 453.5 \text{ LBS}$.

July 10th, 2019, Extension: Rebecca Poon and Cindy Platzer (and to a lesser degree, myself) harvested 30 LBS of produce today. This includes 6LBS Swiss Chard, 4 LBS of Kale, Lettuce 0.5 Lbs, Green Beans 6.5 LBS, Peppers 0.25 LBS, Egg Plant 2 LBS, Tomatoes 3LBS, Sugar Snap Peas 0.25 LBS, Bunch and Candy onions 2.5 LBS, and 5 LBS of peppers and squash from Paul Hendrich's home garden.

I weeded, watered, and placed drip line with 0.6 Gallons / hour every 12" in two lines in bed #7. C hooks were screwed into place on the North end of bed #9 to secure the chicken wire and protect bean sprouts. Squash bugs were picked off from the Blue Hubbard squash and zuchetta. Zuchetta was secured onto string leading to the end post in Bed #10.

All beds were irrigated for about one hour by drip lines and manual shower wand for sprouts.

Temperatures in the compost bins were 150 degrees F in the newly formed south bin (3.5 days ago) and 110 degrees F in the north bin which was started on June 16th. Soil temperature in an irrigated #9 pantry bed at noon was 80 degrees F.

$435.5 \text{ LBS} + 30 \text{ LBS} = 465.5 \text{ LBS}$ total to date.

July 11th, 2019, Extension: There a very strong wind and rain on July 10th. As a result, some of the basil plants and pepper plants in Bed #4 were blown over. These plants were righted and supported with short metal cages or short sticks or poles and ties.

In bed 1 and 2 tomato cages were blown onto a slight tilt. These were righted and a 3' U post was pounded into the soil and secured 6' from the end of each of these two beds. Tomato side branches were secured and pruned where necessary.

Eight tomatillo plants were planted into Bed #11, while the soil around them was enriched with three TBSPs of Garden Tone for Vegetables and three TBSPs of Paul's Worm castings. The tomatillos were obtained from Mark Krebs. In some of the transplant holes two tomatillos were transplanted, in order to get one of them to survive.

July 13th, 2019, Extension: This Saturday we, Rodney Taylor and I harvested 3.5 LBS of green Beans, 13.5 LBS of Squash (Zuchetta and Yellow straight neck), 4 LBS of Beets and Onions, 8.5 LBS of Tomatoes. We sprayed the stems of the squash with 1-2-3 and picked squash bugs and eggs off the plants. Sprouts in

Beds #9 and #8 were hand watered. The rest of the beds were irrigated to 45 minutes. Squash and tomatoes were tied or trained to grow on trellises or cages. Weeding was done while harvesting.

Notice, while beans are labor intensive in picking, a much greater ease is obtained with greater production with the squash and tomatoes. One cucumber plant may well have been infected by the cucumber beetle, as distal curling of the leaves is present. These leaves were removed to get ahead of the progression of plant damage.

All onions and most beets have been harvested. We are now 110 days since planting the potatoes in bed 12. Harvest date would be between 110 and 120 days. This Saturday or next week would get us very near to 120 days. Potatoes are showing signs of termination of growth.

Production total for 2019: 29.5 LBs (today) + 465.5 (previous) = 495 lbs

July 17th, 2019, Extension: Tied up and pruned tomatoes. With the help of Cindy and Leslie and a contribution by Paul, we harvested 61.5 LBs for the Saint Jochim and Ann Food Pantry. Cindy delivered the produce. Swiss Chard and Kale 6LBs, Zuchetta 8 LBs, Yellow straight neck and small zuchetta squash 12.5 LBS, Basil 0.5 LBs, Tomatoes 14.5 LBs, Green beans 3 LBs, small Egg Plant from Cindy's Extension garden 2.5 LBs, assorted Peppers 0.5 LBs, Cucumbers 3.5 LBs, Blue Hubbard Squash 5.5 LBs.

61.5 LBs + 495 LBs = 556.5 LBs

July 20th, 2019, Extension: Rebecca Poon and Rodney Taylor harvested 112.5 LBs of produce today. This included 92 LBs of potatoes, 11 LBs of Tomatoes, 4.5 LBs of Green Beans, 0.5 LB of Peppers, 4.5 LBs of Zuchetta. I took a picture of a tendril from a zuchetta plant reaching out to a wire on a trellis. I looked for the eyes on the zuchetta to understand how it knew to make that effort. I could find none. Simply, a vision without sight.

I tied up the zuchetta branches and picked squash bug eggs off the leaves in the Pantry Beds. The buckwheat was along the fence line removing the flowering heads in Marsha's vineyard. The Okra sprout were hand watered. The Pantry Beds were irrigated for 35 to 40 minutes.

112.5 LBs + 556.5 LBs = 669.0 LBs to Date

July 24th, 2019, Extension: Pantry Garden production; Green Beans 2.5 LBs, Zuchetta 14 LBs, Yellow Squash 2 LBs, Banana Peppers 0.5 LBS, Cucumbers 2 LBs, Eggplant 1 LB (Cindy's garden), Jalapenos 1.5 LBs (Kevin's Garden), Green Peppers 0.25LBs, Okra 0.25 LBs, Tomatoes 19 LBs, = 43 LBs

I irrigated Pantry Beds for 45 minutes. Hand watered Okra in beds 9 and 8, weeded Pantry Bed 4, placed eight X 5 Gallon buckets of finished compost on Bed 4, and removed and replaced old chicken wire on east side of that bed. I tied up and pruned tomatoes at the end of pantry beds, trained zuchettas and removed squash bug eggs and killed squash bugs. Sevin was placed at the base of the stems of straight neck yellow squash in bed 9. I mowed the alley ways of the Pantry Beds, around north side of the vineyard and compost area, and mulched already mowed grass thatch in the turf grass. The zuchetta at the back of the vineyard were tied up and woven into the fence line. One large zuchetta was removed from the fence.

Paul Hendricks Tomatoes and Squash 37 LBs. Lesley's garden 19 BS.

43 + 37 + 19 = 99 LBs on July 24th, 2019 + 669 LBs previously counted = 768 LBs to date

