

Loudoun County Master Gardener's Demonstration Garden Lessons Learned Journal 2007-2010

The Mission of the Demo Garden at Ida Lee Park, Leesburg, VA

- Demonstrate the many facets of organic gardening to the community at large for educational purposes.
- Facilitate hands on environment for MGs/Interns to use their knowledge, continue their education and assist in maintaining the garden for public enjoyment.
- Provide an outdoor classroom for gardening demonstrations and educational events for the public; dates and times for these events are published in the monthly MG newsletter, local newspaper, and website.
- Goals for the garden are identified each year in a planning session where all MGs are encouraged to participate.

What we learned gardening in 2010:

- *Sq. Ft. Garden*

Area was a 4' by 10' space divided into 1' squares by 1' by use of a pre-made grid composed of ipe. Most seeds selected were for small space or container gardening.

Comments:

- The failure of the all plants to benefit from the drip irrigation lines (2) because of the fixed wood grid and the extreme heat resulted in reduced yields and/or more failures than should be normal.
- Soil also played a factor as soil was still compacted despite efforts to enrich after 3 years of use as a container garden.

Not successful:

- Snap Peas (Sugar Bon) - Planted March 25 - Seed packet described the peas as not needing any trellis support. The peas grew beyond being able to stand on their own (do require trellis support) then a strong wind in May bent all of them over breaking the vines and any hope of some kind of harvest.
- Arugula (Common) - flea beetles decimated plant before row cover could be put over which is difficult with so little space without covering the square next to it. No crop
- Peppers (Sweet bell) - Hot weather, lack of water and insect damage. No crop
- Pole Beans (Kentucky Wonder - Teepee) - Deer or groundhog then stink bug damage. No crop
- Cucumber (Spacemaster) - Lack of water, then insect damage killed the plants. No crop

- Tomato (Beefsteak Hybrid) - Did not do well even though a container tomato and most likely OVER-watered as it was planted in square next to leaking hose spigot. No crop

Successful

- Lettuce (Little Gem, Black Seeded Simpson)
 - Carrots (Short N Sweet) Excellent yield for small space
 - Broccoli (Packman) Smaller yield
 - Onion (White Storage)
 - Pepper (Mariachi) Smaller yields because of crowded conditions
 - Pumpkin (Jack Be Little) Pumpkins were pulled off vine in August as stinkbugs destroyed plant. Pumpkins were cured and used in arrangements in October.
 - Radish (Cherry Belle)
 - Tomato (Black Cherry) Pruned heavily to fit space resulting in lower yields
 - Swiss Chard (Rainbow) Excellent yield
 - In addition Icicle Radish, French marigold, Sunflower, Dill, Basil, Calendula & Buckwheat were successful and used as companion plants.
- **Children's Garden**
 - Stink bug infestation in and around the Children's Garden area took a toll on the plants of the Bean Pole Teepee with the 'Scarlet Runner Pole' and 'Purple King' beans, the Vine House with the passion flowers and the Sunflower hut with the sunflowers.
 - Severe summer drought killed newly planted clematis on the Children's Arbor
- **Rugosa Roses**
 - Spring of 2010 was spent observing the roses. There had been a problem with dying branches and yellowing of the leaves. Rosetone was applied in April. Dead and crossing branches were removed. Normal spring weeding and cleanup was done as well. On May 16, white geraniums (to deter Japanese beetles) and parsley (for rose beetles) were planted among the roses. A soil test was taken and given to Debbie D. The results came back with the PH as 6.7, no lime required, and to apply 10-10-10 (4 cups per 100 sq. ft.) which was applied in June. Phosphorus, potassium, calcium and magnesium were very high so no more fertilizer was applied the rest of the season.
 - Watering was done every 10 days or so - which just didn't cut it. Deep watering at least once a week is necessary and in the deep heat, twice a week is a must.
 - The mulch became crusty in the heat and didn't allow the water to penetrate. The mulch should have been replaced. The yellowing of the leaves and numerous dead branches may have been from the uneven watering. Regular watering may have also leveled out the high levels of nutrients shown in the soil test.

- **Vegetables**

- 1A Asparagus planted 6 new crowns, Jersey Knight, on March 30. Only 1 grew.
- 2A Carrots Spring planting, Apr 1- fall, Jul 15. Negovia and Long Orange. Both plantings did fairly well.
 - Onions, sweet, Apr 3, red, yellow, white. Yellow the biggest in size, good harvests.
- 3A Beets Apr 1 3 varieties, Merlin, Early Wonder, Touchstone. All did OK, never did get very big. Heat?
 - Cucumbers May 25 & June 1 2 kinds, Marketmore and Shoyu. Small harvests, plants succumbed to heat. Trellised.
- 4A Lettuces Apr 1, 2 leaf, 1 bibb and 1 romaine. Grew beautifully into June.
 - Peppers, hot and sweet May 13 The plants looked great but the harvesting didn't last long.
 - Arugula Apr 1 didn't take off this season.
- 5A Spinach Apr 1 Spring planting didn't do so well. We have better luck in the Fall or overwintering.
 - Radishes Apr 1 Cherry Belle and White Icicle. What we don't harvest, we let the White Icicle overgrow and go to seed to attract bad bugs to keep them off the crop (trap crop).
 - Tomatoes May 20, trellised, The excessive heat and swarms of stink bugs hindered the tomatoes growth. The cherries (Sungold & Supersweet 100) did better than the full size. Once the weather cooled a bit, the tomatoes rallied a bit, but were visually unattractive. Will try the trellis again, but prune more extensively. All the plants were MG plants.
- 6A Brassicas Broccoli/Cauliflower/Cabbage Apr.22 Under row cover because of cabbage worms/moths. Packman broccoli grew well and lasted a good while. Lots of side shoots. Cauliflower didn't do well. Cabbage gave us some smallish heads. Heat got to plants.
- 7A Spring Peas Mar 18- trellised, using metal 'animal panels' for trellis. Cascadia and Mammoth Melting. Good harvests from both.
 - MuskMelons June 17 Golden Jenny and Green Machine. They both produced several small fruits. Just too hot.
- 8A Square Foot Garden Variety of veggies that include peppers, tomatoes, chard, peas, beans, onions and some flowers. Suffered from the heat, but easy to keep up with.
 - Garlic Planted in Sep/Oct of 2009 and overwintered. Good crop, small to medium sized heads.
- 1B Strawberries planted Mar '09, Earliglow. Good early harvest. This is their 3rd year. Might need replacing next year.
- 2B Squash Summer/Winter, June 3. 2 hills each of Early Prolific Straightneck, Yellow Crookneck, Golden Summer Crookneck, Cocozelle Italian, Acorn and Butternut. Summer squash did really well and lasted. All the squash developed a mildew that was kept under control by spraying with copper. We used row cover early on to protect from insects. Winter quash yielded apprx. 3 per plant.
- 3B Swiss Chard Apr 6 We've been growing Rainbow and Luculles for several years. It is reliable and prolific and overwinters.
 - Onions, sweet Mar 25 red, white and yellow. Good harvests.

- 4B Lettuces Apr 8 Green Oakleaf , Sergeant and Rouge d' Hiver were leaf and one Romaine.
 - Sweet Potatoes May 20 Had to cover young plants as they were being eaten by a groundhog and/or bunnies. Although the plants were beautiful and we didn't harvest until Oct 21, there was no harvest! Try again next year.
 - 5B Spinach Apr. 6, Didn't grow well. Does better in fall.
 - Radishes Apr 6, Grows very well. Good harvests.
 - Pole Beans June 1, 3 kinds, Trionfino Violetto, Blue Lake and Kwintus. Quite a few bean beetles to pick off and dump in soapy water. No harvest-too hot. Tried replanting but there was no germination.
 - Bush Beans Jul 27, Plant bush in place of pole. No luck, too hot.
 - 6B Soybeans May 25 Young plants were chewed on by little critters. Covered with row cover on June 22, but they never recovered.
 - Fennel (florence) Apr 3rd, direct seed. Grew fairly well. Heavy feeder. The bulbs didn't get real big, but they were good.
 - Celery started inside too late, got too hot to grow.
 - 7B Potatoes Spring-Mar 25/Fall- Jul 15. King Harry, Yukon Gold, Reddale and Elba. Good overall harvest in the spring and not good in fall. The bed ended up getting shaded by the fig trees by the time we planted fall crop. We had NO potato beetles on either crop!
- **Compost**
 - Many mechanical problems with both chippers. Clogs, parts breaking, etc. so we secured a mulching mower to assist with breaking down matter BEFORE sending it through the chipper.
 - Compost broke down faster due to smaller pieces and generated a very hot compost. Temperatures of 160 degrees were obtained over a period of 10 days.
 - After final turning, the temp. was 150 degrees for over a week, ensuring weed-free compost for next season.
 - **Fruit Trees**
 - Peach: Followed regular spray schedule with Surround and hung traps for borers. Heavy snow and wind this year broke major branches and weakened tree already hit by peach borer. Tree still produced delicious peaches 193 lbs. donated to Interfaith. Later in fall tree got gummosis and the branches were riddled with ooze. We will take down the tree in 2011.
 - Apple/Pear: We lost a pear tree early in the season due to fire blight traveling all the way into the trunk. The Goldrush apple tree was cut back and topped to use for a grafting class in the spring of 2011. The tree was not producing well due to shade from pine trees and close proximity to other fruit trees.
 - **Turf Plots**
 - We planted liriopse as a turf alternative in the buffalo grass plot because we did not have success with it in our area. It is really a native grass when used as a natural alternative to manicured lawns.

- We also planted some steppables (ground covers) to demonstrate alternatives to sod (and mowing and fertilizing, etc.). There is elfin thyme, blue star creeper and Irish moss.
- We solarized a plot with plastic and intend to plant black mondo grass in 2011 to demonstrate yet another ground cover.
- **Shade Garden**
 - This year we did not need to use bags of organic soil to plant the impatiens. After placing the bags under the pine trees for 3 consecutive years, there was enough soil to plant them directly in the mounds of soil retained.
- **Grasses**
 - Muhly grass suffered over harsh winter again. All but dead this year.
 - Dwarf zebra grass thriving and reached a height of about 5 feet. Will need to thin it out next year as it is crowding its neighbors.
- **Teapot Herb garden**
 - Newly planted this year, the teapot herb garden was a big hit. We'll place all the potted plants (geraniums) back out this year and watch it grow another year.
- **Wedding**
 - Maintenance mode this year. We are finding that the Russian Sage is spreading like wildfire so we will need to thin it out.
- **Drought**
 - A portion of the left side 'comma' was replanted by Carla Fraser and Linda Furr with new specimens to bring the garden back into supporting drought tolerant plants. Red hot poker, Blue Star and phlox are among the new additions. The deer liked the Red Hot poker and Blue Star so we had to net them.
 - The right side 'comma' area was completely replanted in October by Leslie Solitario and Glenda Parsons. New plants include: Eupatorium, Gaillardia, Guara, Stokesia, Coreopsis, Heliopsis, Santolina, Boltonia and Euphorbia.
- **Ornamental Border**
 - The border is growing by leaps and bounds. Only problems were with the deer scraping the bark on the nine bark trees. We had to place metal cages around them to protect them.
- **Blueberries**
 - Year two for the berries, so therefore did not allow the shrubs to flower. The focus is still on root development. Season 2011 will be the first for fruit. The fall soil test indicated that the ph has adjusted to acidic with a 4.5 reading. This is considered fine for the berries, but VA tech did recommend a light application of lime, and this was done before closing

the garden for the season. We used sulfur, peat moss, pine needle mulch to adjust the ph before and after planting.

- We decided to replace two of the bushes, Bluecrop and Duke due to minimum or no growth. We feel that these may have been planted too low in the ground, something blueberries do not appreciate. The replacements are Duke as the second like plant in the row did well, and Blueray, as the other two like plants did wonderfully. Bluecrop planted in this writer's garden also failed, so perhaps there are issues with this variety in our climate. The 'blues' are mid-season, Duke is an early season variety.
 - A third berry was also lost, 'Jersey', a late variety. We feel the loss of this last in row shrub was due to its corner location near aggressive veggies..a volunteer watermelon took over the corner!
 - The remaining 11 plants did exceptionally well. They were well mulched with wood chips, seldom needed watering due to their location slightly downhill from the irrigated veggie beds. Also the turf plots are well watered on the other side of the fence. There was concern about these wet conditions, but the drainage must be adequate, as the plants grew many new canes this year. Two of our berries are southern highbush, vs. northern, and they have done great. We lost one of those last year, and replaced it with an unknown variety that had been in a pot for years. So far it is faring well in the ground.
 - We fertilized the berries in the spring (not good record keeping) with organic coffee grinds (high in N). We will pay more attention to feeding in 2011.
- **Other**
 - Figs:
 - Wrapped figs with burlap and filled with a few leaves and mostly straw. The straw allowed voles to live in comfort for the winter!
 - Severe vole damage around base branches of the eastern most tree. Tree produced lots of figs but branches with damage died back in fall.

What we learned gardening in 2009:

- **Container Bed**
 - Sinking some of the pots in the ground and drilling drainage holes on the lower side allowed the pots to stay more moist. (This was probably because the irrigation system underneath the pots kept the ground wet and so the pots sucked up more water.) The down side was this was fine for some plants but certainly not for others.
 - We placed plastic water bottles in the bottom of some of the pots to take up space so we didn't use as much potting soil. This worked well because when we took the dirt out, the plastic bottles were much easier to get rid of than all those little Styrofoam peanuts. On the down side, these pots needed to be watered more because there was less soil.
 - The small pots were a success (we think). The lettuce was not only colorful but we were able to use the cuttings as well. The kale in one small pot was pretty but it certainly brought in quite a few bugs. After

the lettuce was finished we added selections of thyme which didn't need as much water in the hotter season.

- We had two tomato plants that did not fare very well. Don't know why. I had the same ones at home and they did fine. Mine at home, however, were in larger pots with more soil and these in the demo garden were in a pot with a self-watering system. Although they were placed on the sunny side maybe they didn't like the canna or palm next to them.
- In the Canna pot we planted something new called Par-Cel, *Apium graveolens*, it was a hit. It is a "celery with the taste of celery but looks much like a curly leaf parsley. Cut and come again." It stayed pretty green all season and only needs 4 minimum hours of sun.
- We wouldn't try eggplant without being able to spray. We placed the companion plants next to it and they did nothing. Placing a cover over the eggplant might solve the problem but wouldn't look great on a patio and you probably wouldn't get that much food out of it anyway.

- **Children's Garden**

- Planted new passion flower 'Jeanette'. Did extremely well and provided profuse blooms over eight week period.
- Invasive plant 'Morning Glory' must be completely eradicated (remove all plant roots) or it will keep coming back.
- Plants-Newly planted & transplants suffered during the summer drought period. They should be watched more carefully, even 'drought' resistant ones.
- Remember to plant size appropriate plants in each area. This is especially the case for the Maze area where some plantings outgrew their area and had to be cut back constantly or transplanted out.
- Reconsider ABC area plant list and size. 26 plants in the allotted space might be too small of an area for all plants to flourish.
- Removing fairy village from under peach tree and keeping it clean & debris free around the tree's drip line appears to have helped health of the Peach Tree.

- **Heritage Garden**

- Annual Plants that grew:
Veggies:
 - Red Wethersfield Onion - successful, the onions were a nice size for having been grown from seed
 - Dutch Ballhead Cabbage - cabbage bugs ate them, none harvested
 - True Red Cranberry Bean - deer and bunnies ate them
 - Marrowfat Pea - deer and rabbits ate them, but they were productive
 - Broad Windsor Fava Bean - deer and rabbits ate them, so they never got started
 - Corn Salad, Cos Bath Lettuce, Tennis Ball Lettuce, Paris White Cos Lettuce - all of these heritage salad greens germinated well, were pest and disease free, and very productive.
 - Siberian Kale - devoured by pests, so very low harvest
 - China Rose Radish - pest and disease free, pretty good harvest

- Carrots Chantenay Red Core - good germination, but puny carrots

Companion Plants

- Calendulas - great germination, loads of blooms, but prone to powdery mildew
- Nasturtiums - beautiful, especially at the end of the season; pest and disease free
- Striped French Marigolds - very tall and striking, pest and disease free
- Corn Poppies - mixture of new seeds and volunteers from last year - beautiful!
- Larkspur - blue flowers looked beautiful with the orange poppies
- Zinnias - I planted two seed packets, but germination was lower this year than last year. There was a heat wave the week I sowed the seeds and it was too hard to keep them moist enough. Even still, they were very pretty when they got going.

○ Plants that didn't grow:

- Sesame - direct sowed, low germination, and then they were accidentally weeded.
- Black Cumin - tried for the second year and still didn't have success. Very low germination rates and then the plants disappeared.

○ Plant that grew too well:

- Cypress Vine - volunteered from last year. They had beautiful red flowers and grew along the back fence. We weeded vigorously, and still have plenty of plants.

- We had problems with deer this year, more so than last year. Historically, deer were not a problem because the colonists hunted them. To deter them in the future, we will probably have to use more modern techniques. The same is true for pests and diseases. Although many of the plants were pest and disease resistant, certain crops like cabbage and kale require non-historical methods such as row covers to protect them.

• **Grandma's Garden**

- Maintenance was the key this year. It is overgrown and thinning of plants is needed.
- Need to cut back asters further to avoid them flopping over

• **Vegetables**

- 1A-Asparagus: New planting of crowns in Spring 08. Half emerged and grew well in 2009. We plan to plant new crowns to fill out bed in Spring 09. Tansy is also located in this bed needs monitoring to control size, a great attractor of Lady Bugs. Rugosa roses need to be kept pruned along fence line, but in general the asparagus seem to enjoy these companions. Also, of note, we were told by Irene Mandracchia that an

- asparagus crop can be harvested twice a season, the second being in late summer after cutting back in July.
- 1A-Melons: Because of extra space in the bed, we chose to experiment with growing watermelons vertically in cages between asparagus. Small types, 'Sugar Baby' and 'Moon and Stars' were seeded on June 2, mulching with paper and aluminum foil. They did exceptionally well, no pests, producing sweet, good tasting fruit, but thought not enough to justify an entire bed. If planted in the future, consider returning to the 2008 selection, Sweet Beauty Hybrid, AAS. Ripening was difficult to determine.
 - 2A-Tomatoes: 'Delicious', Indeterminate, 'Sweet 100', Indeterminate, 'San Marzano', Indeterminate, and 'Goliath', Indeterminate, were selected. 2X each. All were our own seedlings. We had a cold and wet spring after transplanting on May 13. Encountered foliage problems soon after growth began, and one San Marzano was removed (a second tomato planted in this spot also died). Leaves were cupped, and they were losing their bottom leaves to what seemed to be Early Blight. We finally applied a copper dust - something we hesitated to do because, although it is approved for organic gardening, it can be toxic. We had also applied compost tea as a foliar spray. Conditions improved after the dusting. But in retrospect, possibly some of what we encountered was simply 'leaf roll' caused by weather conditions (perhaps not Early Blight), which would have improved on its own (From Colorado State Extension: Leaf roll, or leaf curl, is a physiologic distortion that may develop with periods of cool, rainy weather. It causes the lower leaves to roll upward and become thick and leathery. Leaf roll does not affect plant growth or fruit production and requires no treatment). After a slow start, we enjoyed a respectable harvest. Note, that the plants were rather crowded in tall hoops, some round, some square which limited pruning and air circulation, resulting in some new thoughts for the 2010 season. Additionally, to supplement the lost plant, we planted 3 tomatoes in large pots, 2 were purchased late in the season from WF and one came from Jan's home volunteers. Jan's did the best, the others were overgrown in their original pots and failed to recover.
 - 3A-Pole Beans: 'Liana', and 'Kwintus', pole beans. Additionally, we had planned to plant 'Emerite', but did not have them ordered, so we planted seeds-on-hand, which turned out to be a bush mixture: 'Blue Lake', 'Purple Queen' and 'Cherokee Wax'. Planted May 21 on beautifully supported bamboo teepees, plants were slow to take off, again due to cool/wet spring. The Liana took longer to get going, but produced later in the season and resisted the bean beetles longer. All varieties produced very well - especially the Kwintus! We had some aphids which did not cause a major problem on the mature vines. The Mexican Bean Beetles got so bad that we had to pull the crops very early. Actually, at the time we pulled them they were so full of yellow jackets that it was becoming difficult to harvest anyway. We tried to control them with surround, but it is necessary to spray the underneath of the leaves to accomplish this - which is extremely difficult to do - surround is also difficult to wash off the beans.

- 4A-Squash: Summer: 'Sunburst', 'BlackBeauty', 'Goldrush'
Winter: 'Delicata': The squash bed was planted on May 28, a bit later than originally planned to help ward off squash borer and squash bugs. After hilling/planting and mulching with black paper, the bed was covered with row cover and the cover remained until the plants outgrew the pest protection. Male flowers were budded. We were successful regarding the squash borer, but production was slow and low. We had squash bugs and squash beetles (Squash beetles resemble Mexican Bean Beetles and they vector disease). We had several plants suddenly collapse. Suspect bacterial wilt. We tried to control them with surround, but it is necessary to spray the underneath of the leaves to accomplish this - which is extremely difficult to do - surround is also difficult to wash off the fruit. We pulled all the plants early.
- 'Blue Lake' and 'Romano' bush beans were planted after squash and were covered with row cover because of early problem with bean beetle. The crop was still lost before harvest.
- 5A-Braccicas: Broccoli: 'Pac Man', 'Calabrese'. Cabbage: 'Savoy King', 'Red Express' Kohlrabi: Trans-planted April 23, our own seedlings (15 broccoli, 15 cabbage and Kohlrabi), then covered with row cover to avoid cabbage moths laying larvae. By the first week of May we noticed that plants were wilting, mostly cabbages and all Kohlrabi. Conclusion was cabbage root maggots were in the soil feeding on the roots. We replaced crops with store bought no named broccoli and cabbage seedlings from WF (somewhat pot bound and affected production). Row cover was removed when plants outgrew the cover. Production was good, Pac Man and Calabrese producing many side shoots. Cabbages were slow, but eventually, good solid heads were harvested.
- Additionally, in bed 5A, since we did not have a dedicated bed for Beets, we planted 'Early Wonder' along the edge of the brassica bed. Production was good.
- 6A-Peanuts: 'Carwille' and 'Georganic': Our bonus plant this year, these were fun and interesting because most of us are not familiar with the unusual way they grow. We planted seeds on May 19, a bit late due to wet soil conditions which can rot the seeds. We used inoculant specific to peanuts. We planted 15 seeds in small pots as a back-up supply, placing them where seeds did not germinate. The bunnies began munching on them as they were blooming - which we didn't realize right away, so set up a row cover tunnel that was open on top to allow sun and rain but no bunnies. There were no other problems. Our harvest was small and immature. Earlier planting and bunny protection would have made the difference. For winter cover we placed pulled peanut plants - with their roots removed - on the bed and added leaves and grass to make a 'lasagna'.
- 7A-Peppers: Sweet : 'Sweet Banana', 'Corno Di Tora', 'Gurey Giant', 'Thor' Hot: 'Hungarian Wax', Mucho Nacho Planted on May 26, peppers were placed in silver plastic mulch (narrow, more plants could have been placed in bed, perhaps using a double roll). Due to cold, wet spring (two years in a row), peppers were slow to take off. Additionally, because it was so cool/wet, we wondered if the silver mulch could have been keeping the roots cool, rather than warming

them up as was the plan. As it finally warmed production began taking off and was good, but could have been better with more plants. Also, with the use of this mulch, it was difficult to monitor moisture in the bed. (In hind sight, other varieties offered by the MG's were bigger producers that some of what we selected, such a Pizza, Jimmy Nardello, and Garden Salsa.)

- 8A-Sweet Potato: 'Beauregard' and 'Georgia Jet': Slips planted on May 14. Slow to take off, they soon were taking over the aisles, covering the lovely rustic fence that was built to keep them confined. No pests were noted until harvest, when we discovered that the potatoes had been badly eaten by voles. It should be noted it would have been a great harvest (we had the same issue with our 2nd Irish potato planting in bed 3B). Not all voles tunnel, which we found no evidence, but rather hide in mulch or plant. Trapping seems to be the remedy, or removal of all hiding places!
- 1B-Strawberry: 'Earliglow': Newly planted bed this spring on March 31. Plants took off; all buds were pinched to focus attention to root development. Strong producer of runners, most removed, and others planted between mother plants. Jury is out on production and taste, should know this spring! An interesting note, a volunteer cherry tomato grew along the fence line in this bed, and all the strawberry plants around it died. Perhaps they are not advised as companions.
- 2B- Carrots, Onions and Turnips: 'Touchon' and 'Scarlet Nantes' carrot, 'Red' and 'Sweet yellow' onions plants. 4 rows of carrots, with one center row of onions seedlings, were planted on April 9. Carrot production was good and good tasting (not too woody, but juicy...seems mostly 'scarlet nantes' were planted?) Onions did not fare as well, losing most of the red onions, could be due to the cold wet start to the season. Second crop planting, August 23, after a cover crop of buckwheat, was Turnip 'Purple Top Whit Globe'. Good harvest, ending mid November.
- 3B-Potato: 'Reddale', 'Caribe' and 'Corola'. Two planting this season, like last year, on March 31 and July 14. While the first crop production was good, the second crop was a disappointment due to voles, as previously discussed in the sweet potato bed 8A. We lost over 50% of the crop due to these pests. The first crop had some Potato bugs, but easily picked off. Second crop had no issues, other than what was going on under ground! The 2nd planting was not so deep; in fact, potatoes could be seen before digging after removal of heavy straw mulch. Perhaps deeper planting would have discouraged the voles? Also of note, Caribe are not resistant to scab, the second planting had a lot, and were distorted. While all 3 of these are good tasting, Corola is the best!
- 4B-Garlic, Peas and Beans: Soft and Hardneck Garlic were planted previous fall and harvested starting late June. A respectable harvest with mostly good bulb size. Pea 'Sugar Snap' was sown on March 17 and 19. Great producer and great taster! Yanked plants in July and planted Bush Bean 'Blue Lake' and 'Romano' on July 9 and July 23. The first planting of these two types of beans was in 7B in May, where the Mexican bean beetle began to get out of control, moving to all later

planting. The Romano was a bit more resistant, but the pest eventually devastated all beans in the Demo Garden. All plants in all beds were bagged, thrown away, and beds cleaned of all plant debris, hopefully, limiting the risk of such problems in the next season.

- 5B-Swiss Chard and Onion: Chard 'Luculles' and 'Rainbow' were sown on March 24 and 26. Outstanding plant, Chard keeps producing all spring, summer and fall. A wonderful Spinach substitute, we are also over-wintering this crop by covering it with row cover (along with some spinach and onions). Onions had the same problems as stated in 2B. Interesting note, in both onion beds, we found new young red onions in late summer....had to have been from those that we thought were lost from the spring? They are now planted in the Chard bed to overwinter...will see if they produce full bulbs.
 - 6B-Cucumbers: 'Sweet Marketmore' and 'Suhyo Tk' sown on 5/14 in hills cut into black paper mulch, covered with row cover until too large. White Icicle Radish planted as companions. Sweet Marketmore is a great producer and good tasting cuke. Suhyo Tk was not as good with production, also good tasting, long, spiny, curly and if picked young has few seeds. This cuke is a fun alternative to the normal looking cuke. Little problems in terms of insect damage. Plants eventually gave in to time and powdery mildew.
 - 7B-Bush Beans: 'Blue Lake' and 'Romano', first Bush Beans of the year planted, on 5/23. This is the bed that saw the infestation of Mexican Beetle manifest, even though we also had Pole Beans planted at this time, bush beans seem to attract the pest more. Used Surround on all beans in the garden, but this did not hinder the large numbers much.
 - Note: In the East Beds, or 'B' beds we began to test the theory of the moon calendar planting, thus planted half of the same crop on the correct moon date, and half on an incorrect day. We did this in the pea, bean, and chard bed. We could not detect any noticeable differences.
- ***Brambles***
 - Blackberries:
 - On the advice of the Commercial Horticulture Specialist at the Extension Office, in late winter/early spring we cut to the ground all the primocanes that had borne fruit in the previous year. The new growth from the previous year that had not borne fruit were pruned to about 5-6 feet in height and were tied to the trellis. Secondary shoots that emerged horizontally from these canes were pruned to leave only 6 shoots.
 - There had been no evidence of disease or insect damage in the previous season so no preventative measures were taken.
 - The blackberry harvest was very good.
 - Raspberries
 - The Horticulture Specialist recommended that the raspberries be cut to the ground in late winter/early spring. No other actions were taken for the raspberries except removing or tying canes that extended into the pathways. The harvest was very good.

- It may be necessary next season to thin the canes once the new canes have emerged. The recommended density is 3-4 canes per square foot. An additional option would be to leave half the canes for an earlier harvest while cutting back half for the late summer harvest. This would extend the harvest, though probably would not impact the overall yield.
- **Compost**
 - The 10 HP chipper was great for small dry material but does not handle large green/wet material very well. Still pondering how to correct the problem at little or no cost
- **Fruit Trees**
 - Peach:
 - Followed regimented spray schedule, thinned and pruned methodically and got a banner crop of 76 pounds!
 - Peach borer in base of tree despite implementing new cultural practices and placing several pheromone traps on the tree during Peach Tree Borer mating season
 - Brown rot. But not as bad as last year.
 - Apple/Pear:
 - Too much shade from being planted too close together as well as shade from P&R pine trees.
 - Trees subject to cedar apple rust and fire blight so cut out as much as we could and sprayed surround regularly. No crop from any of the trees.
 - Less disease on all fruit trees as result of changing cultural practices and implementing an all-year preventative spray schedule which included: winter dormant oil, organic fungicide & Surround spray schedule.
 - Removed plantings within driplines for the following trees: Peach, 1 Apple, 1 Pear.
 - Not simple or easy to adhere to spray schedule. Nature (rain, wind, or temperature) can easily throw schedule off.
 - Wrapping the base of the trees with netting caught a black snake and nearly killed it. Will use other methods next year to protect the trunk.
- **Turf Plots**
 - "Native" grasses leave a lot to be desired as a residential turf. We tried two varieties, neither of which is truly native to this area. (There are no grasses truly native to this area.) The first was buffalo grass, native to the western plain states and thrives at elevations above 8,000 ft; the second was blue grama, native to lower elevations in the southwestern plain states.
 - Both generally have to be started from seed. That's difficult because the seed does not germinate for 45 days or more. In that time, LOTS of weeds develop, and have to be removed by hand. No organic weed agent is effective under those conditions, and even if you chose to use synthetic agents -- 2-4D, for example -- it would likely kill the native grass seed as well as the weeds. Removing the weeds by hand is

laborious. Home owners probably will not choose to spend their evenings or weekends doing that.

- We had no luck at all with the buffalo grass. The blue grama grew, but developed in tufts that most homeowners would find objectionable. As a meadow grass, blue grama would probably work well. It is draught resistant and hardy once established.
- **Shade Garden**
 - Deep watering worked well when rainfall was sparse. The oscillator would run for three or four hours to irrigate plants if rainfall hadn't occurred for three weeks or so.
 - Early spring planting of Bleeding Heart, Columbine, Lenten Rose and Bear's Britches did well because of more frequent watering during dry conditions.
 - Straw covering as a mulch in early spring in the newly planted area helped conserve moisture throughout the growing season but wood mulch was used in the fall to protect the plants from winter freeze burn.
- **Grasses**
 - Dwarf zebra grass is actually 4 to 6' tall. Taking over part of the garden and shading other grasses so we will attempt to trim back next spring.
 - Pink Muhly didn't come back well this year. Very thin but it did bloom in the fall. Either due to shade from zebra plant or it was cut down too severe in the spring.
 - Hakone grass died. Not enough shade.
 - Carnation grass along edge spreading like crazy. We thinned it out to control.
- **Herbs**
 - Medical herbs suffered this year due to shade from figs and pergola. Research is being done to plant herbs for shady areas.
- **Wedding**
 - Serviceberry: Apple Cedar Rust. Sprayed.
 - Serviceberry trees shading lavender somewhat and impacting growth.
- **Drought**
 - Lavender is needing some attention after many years of growing. Bushes are large and there is quite a lot of dieback in the middle of the older plants.
 - Dwarf zebra grass is too large for area and will be moved next year.
 - Large zebra grass suffered from some rust this year but it wasn't detrimental to its growth. Will need to thin out to avoid for next year.
- **Ornamental Border**
 - Field grass/runner grass/crab grass extremely difficult to contain. Had to install 6" plastic edging and wooden timbers to block the spreading. We also put down black plastic for the fall/winter to kill the grass within the bed. We'll remove that in the spring.

- Smoke trees suffered damage from deer antlers. We had to put cages around them in the fall.
- **Other**
 - Figs: Unwrapped figs on CS day, Mid March. It was too soon as they suffered die back from a late frost. We cut them down to 12” and they rebounded nicely - just no ripe fruit this year
 - Figs can be wrapped after placing straw (not leaves) around base to protect it from the winter weather.
 - Lady Bank’s Rose at pergola suffered from late frost. The trunk was split all the way down to the ground. We cut it back but it didn’t rebound. We will need to replace with a hardier variety.
 - Other rose on pergola suffered from black spot and rose slugs. Need to spray earlier next year to prevent damage.

What we learned gardening in 2008:

- **General areas**
 - 2nd year rambling roses at pergola reached the roof, so next year perhaps we will begin to get shade cover.
 - Yellow Banks rose proved to be insect and disease resistant, no thorns, but wild in form! The other one needs to be monitored next year for leaf spot and rose worms. This thorn less Rambler does indeed have thorns, although not particularly nasty, but it’s habit is more typical of a rose, with long canes.
 - Wet spring worked wonders on the ornamental beds, as they were more robust than the drought yr 2007.
 - August drought this year brought back the watering hoses
 - Raspberry harvest was down, most likely due to this drought. We need to water brambles on a more regular basis when rain count is low...same with the kiwi.
 - We will prune back the figs significantly this fall to allow for more light to get to the center (also easier picking), the installation to the new deer fence and gates. This pruning will also allow more sun into the bed.
- **Containers**
 - As with any container they dry out very quickly and need constant watering during the dry weeks and months that follow. Next year maybe we could try something different that wouldn't require as much maintenance or expense.
- **Children’s Garden**
 - ABC garden letters did not fair well and we will need to redo them
 - Need better signage on perennials - if intending to keep plants each year
 - Plants on east side, in bench area, required daily watering. Will have to plant more drought tolerant plants next year in that area.
- **Heritage Garden**

- The tomato supports were inadequate - need to build something sturdier next year if tomatoes are grown
- The teepees for the scarlet runner beans were a little too sturdy for the size of the plants.
- We had problems with deer eating the peas, so we covered the peas with deer netting. Unfortunately, the peas became entangled in the netting and we lost most of the harvest trying to get to them. Also, I couldn't weed in that area due to the netting. We'll need to do something different next year.

Plants that grew:

- Arugula - grew well, but we let it go to seed so unfortunately no harvest
- Purple Calabash Tomato - long time to fruit, deer ate most of them
- Red Wethersfield Onion - successful, the onions were a nice size for having been grown from seed
- Early Jersey Wakefield Cabbage - cabbage bugs ate them, none harvested
- Italian Parsley - produced all season long, very successful
- Long Red Cayenne Pepper - produced beautiful peppers, even in partial shade
- Marrowfat Pea - deer ate them, but they were productive
- Sage - successful
- Winter Savory - successful
- Stevia - plants grew, but I didn't know what to do with them
- Scarlet Runner Bean - plants grew, but not as robustly as I thought they would
- Cypress Vine - beautiful red flowers along back fence, very successful
- Nasturtiums - beautiful, especially at the end of the season. They also served as bait for harlequin beetles and the plants survived!
- Larkspur - blue flowers looked beautiful with the orange poppies
- Zinnias - were beautiful in the center of the garden. They really filled the hole left by the larkspur and poppies.

Plants that didn't grow:

- Sesame - direct sowed, low germination, died
- Elecampagne - direct sowed, never germinated
- Costmary - direct sowed, low germination, died
- Great Blue Lobelia - germinated, started to grow, then disappeared
- Early Curled Siberian Kale - direct sowed, didn't do well, no harvest, probably planted too late

Plant that grew too well:

- Lady's Bed Straw - grew really well, but I think it's invasive and I won't plant again. The seed heads are like dandelions and spread everywhere.

- **Grandma's Garden**
 - Maggie tried some seeds (zinnias and others) that did not germinate. We made some room for them but the rest of Grandma's took over so the sun couldn't get through to them. Just a little rearrangement next year.

- **Vegetables**
 - Demonstrated 2 plantings of potatoes (spring/fall) in same bed; fall planting yield was much better.
 - Demonstrated 3 seasonal plantings of vegetables (spring/summer/fall) in majority of raised beds; requires a lot of coordination to make sure vegetable seeds and transplants get into the ground as is appropriate for season. Also, buy seeds being planted in the fall early in the spring.
 - Demonstrated black biodegradable mulch with squash and watermelon; it was noted squash plants without black mulch were much bigger. Watermelon plants were probably smaller due to an irrigation line which seemed to not be providing enough water; plants were water-starved some of the time especially with the kiwi vine and Rugosa rose roots close by.
 - Demonstrated silver mulch with cucumbers and peppers; supplemental watering was necessary even with irrigation lines under the mulch during dry periods in the summer. Also remember to put holes in the mulch to allow rainwater to soak in. Silver worked well for the peppers. In cucumbers no big difference was noted in production although silver mulch did an excellent job keeping weeds at bay
 - Demonstrated straw mulch with tomatoes in addition to new flat folding cages; cages were 4 ft high and needed to be stacked 2 high and further tying them together with ties. In addition they were staked with rebar early on and the cages held up nicely until a tropical storm came and toppled 4 of them in September. Straw mulch worked very well at holding moisture on plants.
 - Used 4 inches of straw mulch with potato vines to keep potato beetle infestation down and it has worked great 2 years running.
 - Strawberries (Year 3) died out with too little moisture and disease issues; plants pulled. This bed will be put into main veggie bed rotation for 2009 with bed 1B designated as the new strawberry bed in 2009
 - Demonstrated for the 2nd year the upside down tomato tower; should not be used again as results were the same as year 1. Tower needs to have partial shade conditions for tomatoes to thrive as it simply gets too hot for the roots in the plastic bag during high summer whether regular watering is done or not.
 - Demonstrated a consistent use of Surround on cucumbers, squash, potato vines, pole beans, select tomatoes and watermelon. Spray started early on young plants and seemed to retard somewhat the maturity of the plant on cucumbers, squash and watermelon. Do not spray on blossoms! Delayed the onsite of the typical destructive pest cycles for summer vegetables
 - Row cover demonstrated for broccoli and cabbage to thwart moth infestation. Row covers much more necessary in fall plantings as few

companion plantings remain to attract moths. Cover newly planted seeds in fall to ensure germination.

- Companion plantings used among vegetable plantings again this year and proved highly effective for attracting destructive insects such as flea beetles, Mexican Bean beetles, squash bugs and Harlequin bugs
- **Sq. Ft./Container Bed**
 - Demonstrated container irrigation system in vegetable container bed utilizing a rain barrel as the water source; worked well using hose and rainwater to fill (not attached to gutter system); public needs to be careful watering vegetables with rain barrels on gutters because of potential shingle contamination issues.
- **Compost**
 - The compost area just did what we do best and that is to produce as much high quality and weed free compost. We did obtain a two week reading of 160 degrees on the first bin that we will harvest first in the spring.
 - The 10 HP shredder has been able to do much more shredding of green material and not clog up.
 - Engine of shredder can overheat and cause clippings to catch on fire, therefore, we need to be very careful and watchful
- **Fruit Trees**
 - Pear: Brown rot, Fabraea leaf spot
 - Apple: Anthracnose, Apple Cedar Rust, Brown Rot, Fall Canker Worm, (not found definitively but will have to watch for leaf rollers and mites.
 - Peach: Shot hole fungus, Brown rot
 - Serviceberry: Apple Cedar Rust, Apple Scab.
 - Our plan for next year is to follow a preventive spray schedule with appropriate organic products, probably beginning with dormant oil in late winter, prior to bud swell, as per the PMG.
- **Shade**
 - For the 2nd year, three bags of planting medium were scored on one side for drainage, then flipped over and scored with seven x's and white impatiens were planted. They thrived in the shade garden as the pine tree roots didn't steal their moisture but the bags still required a lot of watering
 - It is surprising to learn that the plants in the Shade Garden require more water than the other gardens. That is because of the three big pine trees which give the shade but take up the moisture because of their roots. Thus, the other plants are thirsty and require water to be kept looking perky.
 - The soaker hoses used are not nearly as efficient a means of watering as the oscillator. I run the oscillator for three or four hours at a time and the plants get a nice deep drink while the soaker hoses, left on all night soak those plants only within the drip of the hoses.

- **Grasses**
 - It is nearly impossible to transplant part of a fully mature large grass. The man power to cut the grass at the base is 2 or 3 fold - even with a saw's awl.
 - Not enough shade provided in grass bed for the Hakone to take root. Will have to move it for next year either closer to a very tall grass or try in shade garden.
 - Grass bed was phenomenal with new plants this year. It may be attributed to the compost thrown in the holes when planting in the spring.
- **Herbs**
 - We lost the lovage plant in the kitchen herbs. It had been failing, but cannot help but wonder if the chocolate mulch was part of the cause. Will need to replace the plant in the spring and perhaps change the mulch.
 - Fig tree growth shaded majority of medicinal herb bed again this year causing plants to stretch toward sun and thwarted growth of most. Will adjust plants next year to demonstrate some shade loving vegetables.
- **Wedding**
 - The shrub roses in the wedding garden, facing gazebo need to be pruned back in the spring and kept lower through-out the season for view and light considerations. We lost lavender again planted behind them...2nd time. perhaps we will evaluate the conditions again in the spring for light and drainage and try a final time.
 - 2nd year in a row the native Serviceberry trees bloomed nicely in spring, suffered a bit in drought and contracted lace bugs in late summer. Sprayed with insecticidal soap to deter over wintering of insects.

What we learned gardening in 2007:

- **Overall Garden**
 - Drought impacts
 - Necessitated weekend water warriors. Need to establish a watering team & procedures for this year if in same situation.
 - Looking to install irrigation stations to ease hauling of hoses
 - Thwarted the growth and establishment of some plants and seeds in butterfly garden, Heritage garden as well as container bed
 - Lessened impact of Japanese beetles
 - Use of donated straw turned out to be hay and when used, seeds dropped and sprouted. Need to assure only straw is used.
 - Managed large intern class of 07 - extremely energetic and many projects were facilitated
- **Vegetables**
 - Beets - Poor germination of heirloom beets because of a cold April meant that the beets were replanted 3 times. Even then germination was spotty and harvest was not as expected.

- Broccoli - The heirloom brand “Di-Ciccio” plants all died within two weeks after transplanting but the heirloom “Calabrese” variety grew strong and gave a good harvest once the row cover was removed. Soil was not drying out with row cover on meaning damping off probably killed the “Di-Ciccio” transplants.
- Carrots - The heirlooms “Oxheart” and “Kuttiger” are better cooked than eaten raw although the harvest was bountiful.
- Snow Peas - The heirloom variety “Mammoth Melting Sugar” were the best producing vegetable pound for pound and will be a repeat performer next year.
- Cotton - An early variety selected by VT for Northern VA did well with most cotton balls bursting in Early - Mid October.
- Squash - Heirloom varieties “Cocezelle”, “Golden Crookneck” and “Early Bush White Scallop” were awesome performers and even though they were not hybrids performed much better than past hybrids grown. Leaves were sprayed with Surround before blooming started so this may have helped with pest and diseases issues early on.
- Cucumbers - Heirloom cucumbers “Early Russian” and “White Wonder” gave excellent harvests once again beating out many hybrids used in the past. “Early Russian” was the longest producer while the “White Wonder” produced huge fruits literally overnight.
- Tomatoes - Heirlooms “Red Calabash”, “Yellow Giant Belgium” & “Watermelon Beefsteak” were planted. Disappointing results! Red Calabash was first to go down in August followed by the others. The hot weather and an overly ambitious irrigation line contributed to the poor results.
- Peppers - Heirloom sweet varieties “Golden Summit” and “Jimmy Nardello’s” did well. Heirloom hot pepper varieties “Long Red Cayenne” and “Fish” also did very well although plants were extremely brittle and extraordinary care had to be taken when harvesting. Bio-degradable planter’s paper was laid down for mulch and weeds when transplanting and did an excellent job.
- Pole Beans - Heirloom varieties “Cherokee Trail of Tears”, “Kentucky Wonder” & “Blue Coco” were planted and all performed well. The best tasting bean was the Blue Coco with a slighter sweeter pronounced green bean flavor. A runner bean, “Painted Lady” was a great ornamental addition to the garden with the red and white flowers. Pole beans were also sprayed 3 times with Surround during growing season to prevent Japanese beetle and Mexican bean beetle infestations. Appeared to be successful as hungry deer seemed to do the only damage to the plants.
- Notes on other plants in main Vegetable area
 - Heirloom “Elephant Head” amaranth was also a great ornamental addition producing a brilliant display in September and October. Stems are brittle and must be tied up. (Caution most people will pull early on before flowering as it looks like a weed.)
 - Heirloom “Bi-color Broom Corn” gets very tall. Beware of planting location. Also tassels for broom making must be harvested before

tassels become too stiff and start to bend over, otherwise excellent fall color.

- The AAG garden of white petunias, blue salvia and red zinnia bloomed well during the first part of August but because of the hot and dry weather (even with irrigation), the white petunias died off early. The red zinnias, because of drought stress too, were attacked hard by powdery mildew and died off early as well.

- **Sq. Ft./Container Bed**
 - Good soil made a difference. The compost only containers probably performed the best of all.
 - Companion planting was an important element.
 - The self-watering containers, which didn't produce well last year, over-exceeded all of our expectations this year.
 - The hanging tomato planter, which had received rave reviews by other growers, dried too quickly and required more regular watering. The bag got too hot even with watering thus retarding the performance of the plant and when the deer discovered the "treats" on a hook, it was all over with!

- **Compost**
 - Temperature of the compost bin up to 140+ degrees during the month of July which killed the majority of any weed seeds
 - Use of shredder vastly improved the decomposition of new green and brown materials added to the bins during the growing season

- **Fruit Trees**
 - Six applications of Surround were sprayed during the growing season with good results for preventing insect damage. There was some codling moth damage even with the application of Surround
 - The apple and pear trees did not produce as much as the 2006 season, in part due to the warm late winter weather and then a very dry cold spell in late spring

- **Shade**
 - Three bags of planting medium were scored on one side for drainage, then flipped over and scored with seven x's and white impatiens were planted. They thrived in the shade garden as the pine tree roots didn't steal their moisture but the bags still required a lot of watering
 - The ginger lies flat on the ground and does not perform well, while the Lungwort grows extremely slowly and after having been in the garden several years, looks to be the same size as when planted.
 - Shade garden required 3 hours of a sprinkler 2-3 times a week during drought. We are planning to install drip irrigation to ease the man power.

- **Grasses**
 - Easier to identify grasses after they have produced their inflorescence
 - No significant impact of drought on growth of grasses. Pampas looked to be slightly shorter than last year and zebra grass didn't flop over as in past years so drought may have had a slight impacted growth.

- **Herbs**
 - Fig tree growth shaded majority of medicinal herb bed causing plants to stretch toward sun and thwarted growth of some. Will have to adjust plants for next year based on growth of figs.
 - Cocoa mulch was used in kitchen garden. The salvia seemed to react poorly to it so next year we'll try pea gravel.

- **Wedding**
 - Deer repellent spray was also human repellent but worked well. Spray when no one is going to be visiting as the smell is repulsive!
 - We lost a few lavender plants from either too much gravel mulch at base of plant, sun issues from trees or poor drainage/planting.
 - Native Serviceberry trees bloomed nicely in spring, suffered a bit in drought and contracted lace bugs. Sprayed with insecticidal soap to deter overwintering of insects.