Pedersen Garden Progress Report
for 2014 – the first year

Dan Svedarsky and Peter Phaiah  January 2015
Pedersen Garden Progress Report for 2014 - the first year.

Overview. The topic of a campus garden has been under discussion by students, faculty and staff since 2012. Chancellor Wood called for a launching of further discussions on 16 May 2013 which resulted in 4 meetings leading up to a final meeting summarizing finding on 10 July 2013. These sessions were to identify potential opportunities, locations, partners, advantages, and disadvantages of a campus garden. Notes from these meeting are contained in the Appendix. A series of informational seminars pertaining to gardening were also conducted in the 2013-2014 academic year and were supported by a Mini-Grant from the U of MN’s Institute on the Environment. These sessions included supper and considered the topics of High Tunnel gardening, local gardening initiatives in the greater community, the campus garden at U of MN Duluth, school and local gardens and college gardens. Allen Pedersen, a Master Gardener from Crookston contributed a $50K endowment in June of 2013 to help support a named campus garden with partial support for an intern and a horticulture scholarship program. He was also a special guest at some of the seminar suppers. The Chancellor’s Cabinet approved the campus garden project on 21 April 2014 to be located on the city land next to the Valley Tech Park with Peter Phaiah volunteering to be the point person. Dan Svedarsky would be the implementation assistant. Wordage for the signage honoring Allen Pedersen was also approved and a dedication date was set for 21 May 2014. A nice turn-out of perhaps 60 people showed up for the dedication in spite of a cold, blustery day in May, but was followed by a nice lunch in warm, Brown Dining Room. This cool day would be a sample of weather conditions to come in the spring-early summer of 2014. The garden was dedicated as the Allen and Freda Pedersen Garden to honor Allen and his late wife. In 2014, The garden was managed primarily by UMC’s Center for Sustainability in collaboration with the UMC offices of Academic and Student Affairs, Northwest Research and Outreach Center, Sodexo Dining Services, UMC Grounds Department of Facilities and Operations, U of MN Extension, a local gardening consultant, the city of Crookston, Polk County Public Health/Wellness Coalition, and volunteers. Over 6,500 lbs. of produce was grown; most of it processed through Dining Services. Two, 5’ x 2’ x 20’ raised beds were constructed to grow herbs commencing in 2015. A smaller raised bed was constructed for the UMC Children's Center as a learning aid. One of the larger grow boxes bears a sign, “Growing Good Food for Golden Eagles” and the one at the Children’s Center reads, "Kids eat what they grow." Two campus apple trees produced 39 apples this year and were part of the apple crisp served at the dignitary luncheon event in conjunction with the Wellness Center dedication on 22 September. Tashi Gurung, a fall 2013 graduate was a part-time Sustainability Assistant in spring and summer of 2014 working on the local foods initiative, CSSD projects, NW RSDP, and community engagement and outreach. The overall success of the gardening project in 2014 exceeded expectations and perhaps surprised some of the critics. Through hard work, committed problem solving, and the engagement of a team of resource personnel, the garden became a reality after a long discussion period. This report informs and illustrates some of what is possible for a campus garden on the University of Minnesota Crookston campus. Much more is possible with a committed campus community working together with local community partner
Acknowledgements:

There is a common saying, “It takes a village – (to do whatever).” Nothing could better describe what has transpired with the garden project over the last 2-3 years. First, the students who enthusiastically supported the idea of local foods that might be grown on campus and that could be served in Dining Services. Linda Kingery and the NW Regional Sustainable Development Partnership materially supported some of these student assignments. Craig Hoiseth, Executive Director of the Crookston Housing and Development Authority supported a cooperative University and community gardening project that would be located on the city land next to the Valley Technology Park on the north side of campus; this included the use of city water for irrigation. The guidance of Todd Cymbaluk and Terry Nennich was indispensable in the garden effort from the initial planning stage, to site prep, to planting, growing and irrigation, and harvest. The 50 K donation of local Master Gardener, Allen Pedersen, was key for encouragement and material support along with the benefit of Allen’s many years of experience. (To be able to honor someone within their lifetime was especially gratifying for a whole lot of people on campus and within the greater community.) The support of the staff of the NW Research and Outreach Center was key in the use of equipment. The active support of Albert Sims, NW ROC Director of Operations, was especially important as he allowed Svedarsky to take on the extra duties of launching the garden project in addition to other responsibilities. The many suggestions of attendees at the various input and discussion sessions were most helpful and appreciated. Horticulture lab services and Greenhouse coordinator, Theresa Helgeson, ably assisted in growing plants for transplanting and helping in many incidental but essential ways. Ron Del Vecchio, Department Head and faculty of the Agriculture and Natural Resources were supportive in many ways (use of greenhouse resources, gardening equipment, construction of storage building as a class project, and use of lab space for various construction projects). The UMC Facilities Department was helpful in assisting with grow box construction, moving resources to the site, sign installation, grounds maintenance, and a number of other items. Dining Services, through Sodexo Director, Doug Pedrick, was very supportive and adaptable in receiving garden produce at odd hours and preparing it in tasty and nicely presented ways. A number of student volunteers assisted with periodic maintenance and harvesting along with the more regular help of employees Alex Nemmers, Tashi Gurung, and Josh Bruggman; their learning, adaptability, and commitment is appreciated. Finally, and most importantly, the support and encouragement of UMC Chancellor Fred Wood and Vice Chancellor of Academic Affairs, Barbara Keinath made the successful launch of the Allen and Fred Pedersen Garden a reality. This has added measurably to UMC’s legacy and commitment to students and the greater community.

A big thanks to all of the above!  Dan and Peter.
Planting and Growing Season – a chronology of events. On 2 May 2014 the following implementation group met: Peter Phaiah, Terry Nennich, Barbara Keinath, Todd Cymbaluk, Dan Svedarsky, Tashi Gurung, and Eric Castle. Todd worked for the NW ROC for several years, including work on vegetable trials, some of which were located just east of the Valley Tech Park building. He lives ~ 3 miles NE of campus, now works for Am Crystal, has a large garden plot, and helped start the Farmer's Market in Crookston. He is very familiar with the local site conditions and was engaged as a technical consultant. Peter Phaiah knew Todd from being parents of children in sporting events and had the great idea of engaging Todd. Terry Nennich is an Extension Fruits and Vegetable specialist officed at Valley Tech and worked for several years with the vegetable trials at the NW ROC along with Todd. He has some 50 acres in a fruit and vegetable operation on his home farm near Bagley. He is an expert in the operation of high tunnels. The objectives of the meeting were to fine-tune the location of the garden and outline next steps for getting things in the ground.

On 1 May, Peter, Dan, and Todd met on site to view slope conditions, preliminarily flag boundaries, and discuss soil properties. Todd collected soil samples with his sampling truck for nutrient testing. He saw indications of soil disturbance in the past. Todd noted that due to the site slope, rows should run E-W with irrigation water coming from along the west edge. We should look around for used irrigation pipe. Todd has a 4’ plastic mechanical mulch installer and will do this for us when the time is right. Terry suggested that we need to develop a week by week plan of activities.

Site prep. Terry recommended 2 quarts of Roundup per acre supplemented by ammonium sulfate. This can be applied as soon as adequate green-up; perhaps around 7 or 8 May. Dan will coordinate the spraying. After spraying, a 10-day interval is needed before cultivation. Todd suggested a heavy-duty plow or digger first, followed by a couple passes of roto-tilling. Al Sims from the ROC volunteered to provide the heavy duty work and Todd and Dan will coordinate the roto-tilling.

Discussions as to what to plant and what varieties were on-going but Dan and Todd met with Theresa Helgeson, greenhouse manager to see what seeds we had on hand and the planting of melon crops for later transplanting. Tashi can assist with planting. It is too late to plant peppers for later transplanting but okay for melon crops.

Terry suggested not planting much before Memorial Day (26 May). Some crops and/or varieties mentioned included: Gold Star cantaloupes are good along with Goddess and Pulse Star. Honey dew melons are good. North Star Peppers are good. Paydirt corn is good. Danvers and Nance carrots are good. Beets should do well here but aren't popular with students nor are Brussels sprouts; Broccoli is popular though. Doug doesn't need us to grow potatoes.

Doug Pedrick mentioned that since crops will be processed for Dining Services that their appearances don't have to win a beauty contest. Doug also mentioned that he can buy a high-tunnel if needed, when the time is right. They have 5 at Bottineau and even grow Tilapia fish. Morris is also served by Sodexo and produce an excess of strawberries which Crookston could obtain.

It's okay to work up more ground than we will plant this year since we can use that as a site to apply manure. It's a simple matter to keep it black and control weeds for the following year if we don't need it for crops required a large amount of space, like melons.
Dan visited with Allen Pedersen and brought him up to date on progress. Wednesday, 21 May is a tentative date for the dedication of the garden and a sign. Dave Danforth is coordinating getting utility lines located and will install sign posts. Dan will make the sign and coordinate the planting of flowers around a rock bed base.

10 May. Dan applied Roundup herbicide to kill the sod after rigging up a shield to minimize drift and have sharp edges to the garden plot. He used his NW ROC ATV and sprayer unit with an application rate of ~ 2 quarts per acre and ammonium sulfate added as a surfactant. Had to wait for the grass to green up since it had been a cold “spring.”

20 May. The sod had browned so Dan borrowed a tractor and disk from Jeff Neilsen of the NW ROC and went over the ¼ acre site about 5 times from different directions. The heavy clay chunks were tough to break up.

21 May. Dedication of Pedersen Garden and ground breaking. It was a cold blustery day but we had a good turn-out of 50-60 people.

27 May. Dan borrowed roto-tiller and tractor from Jim Cameron of the NW ROC and tilled site about 5 times, again from different directions. In spite of multiple ground working, we were not able to work the ground more than 4-5 inches deep; at which point it was quite hard.

27 May. Todd Cymbaluk roto-tilled and fertilized the ground that would be covered by the plastic mulch. He flagged the strips where the plastic would go. He didn’t install the mulch since it was still quite lumpy and he thought it would soften a bit. Dan later applied fertilizer to the remaining area and roto-tilled. Todd lined out a plot plan as follows:

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< 135' >

North

Sweet Corn

Broccoli  Cauliflower

Cabbage

Beans  Pea edible pods

Carrots  Onions

<table>
<thead>
<tr>
<th>Buttercup Burgess Squash 80'</th>
<th>Pumpkins 50'</th>
</tr>
</thead>
</table>

| Buttercup Burgess Squash 130' |
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31 May 2014. **Planting Day!** Todd drove his tractor and mulch installer to campus early (< 6:00 a.m.) in the morning due to a forecast of rain. He installed the plastic mulch along with a plastic drip-tape line running down the center of the mulch strip. Peter and Dan recruited our summer helpers to get the transplants in the ground as soon as possible. Some transplants were hurriedly put in the ground after making a hole in the plastic near the drip-tape and some potting soil became dislodged from the plant roots making them susceptible to drying before we could get water on them. Planting in the hard clay chunks was really tough; the clay would stick to the bulb-transplanter used to make holes in the plastic. We later got some “compost
soil” from the Facilities pile and added that to the top of the transplants which helped the rescue. Dan got a hoe strung out from the hydrant of Valley Tech and watered the transplants in mid-afternoon. Rain commenced about 3:30 p.m. and it rained ~ 1”. Todd had advised to walk down the plastic from one plant to another to channel rainwater to the plants. Great idea! Todd loaned us a pressure regulator to connect up the 10 drip-tape lines (one at a time) to the hose. We let the hose run for 2-2 ½ hours on each line. I later connected a manifold system so that all 10 lines could be watered simultaneously; this worked super!

Tashi, Alex Nemmers, and I planted onions in the rain along the south end of the garden. Terry Nennich donated a box of 2 varieties of onion sets (900 of each); Sweet candy (sweet Spanish) type and Copra (hard winter storage).

Planted 2 rows of Imperator carrots in tough ground with the push planter. Todd suggested that the Chantenay variety might do better in the hard ground since they grow more like beets.

Todd recommended the following: plant peppers 1’ apart and staggered along both sides of the drip line; tomatoes and cucumbers 30” apart along the drip line. Direct-seed broccoli without plastic around 15 June for a fall crop along with corn. Seed lettuce around 15 June in rows 30” apart. Onions 3 rows together 8 inches apart, onions 3 inch spacing. Carrots - Imperator and Nantes, 5 inch wide rows 2 rows together 12 inches apart, solid seed. Single row of Chantenay carrots. Tomatoes - single row in plastic 2 1/2 feet apart. Watermelon, cantaloupe, Honey dew melons, Buttercup squash, cucumbers - single row in plastic 2 1/2 feet apart. Pumpkins - single row in plastic 4 feet apart. Zucchini single row in plastic 3 feet apart. Sweet corn seed 9 inch spacing 22 foot rows. Broccoli, cauliflower, cabbage transplants 12 inch spacing in single row 30 inch rows. Leaf lettuce and spinach 3 rows 8 inch apart. Romaine lettuce transplants 12 inch spacing single row in plastic.

1 and 2 June. Rained almost continuously but it was a big break due to the variable planting techniques with an inexperienced crew.

3 June. Site quite wet but some (~10%) plants were still wilted. Too wet to plant anything except perhaps along the west end which is better drained.

5 June. Site still too wet to plant seeds but irrigation components arrived.

9 June. Roto-tiled unplanted ground with 2 hand tillers and it helped to break up clods more. Did not till east edge since it was wetter in the swale. Planted the remainder of the onions and 4 rows of Chanteney carrots with rows 8-10 “ apart.

17 June. Inspected garden. Rained 2 “ over the weekend. Watermelons looking tough due to coolness and wetness, but tomatoes, cabbage, and peppers are doing fine. Getting UMC John Deere corn planter operational.

19 June. Todd’s assessment of garden. “Tomatoes, cabbage, onions, and vine crops look good; just need some heat. Carrots are spotty.” (Rained in p.m. and lots of standing water.)

23 June. Planted with corn planter; sweet corn - 16 rows of Ambrosia and 16 rows of Extra Tender; Green Beans - 4 rows of Strike and 2 rows of Derby. Had to hand roto-till before planting with the small Ford tractor and corn planter; otherwise the seeds stayed on top of ground. Tim Danielson of the NW ROC was a life-saver in helping repair the corn planter chain. Peas are looking pretty good. David Schwab did a really nice TV interview today and included footage of Allen Pedersen as well.
27 June. Hand roto-tilled open spots for weed control and spot hoed weeds, especially Canada thistle. Some spot-spraying of Quackgrass around perimeter to keep things looking tidy. Tomatoes, cabbage, onions and most of vine crops really taking off!

28 June. Inspection of garden with Todd. Cabbage may need to be treated with Asarna or B.T. Cucumber vines not looking too good but harvested the first 2 fruits! Made decision to establish raised beds for next year. Start broccoli in greenhouse for transplants this year; planted in greenhouse 7 July in hopes of a fall crop. The corn and beans are up. Getting the irrigation system rigged up due to recent 35 mph, dessicating winds. Delivered a 6” cucumber to Allan Pedersen and he was delighted with the overall progress of the garden. He asked if he could help with material cost for the raised beds and contributed $ 1,000.

11 July. Installed 2’ foot high chicken wire for peas to climb on. Started irrigation system. We had been having small showers but the plastic mulch limits how much moisture can get to the roots especially when the leaf and stem growth is extensive. Pulled 4 tomato plants that were infected with a tomato mosaic virus (Terry Nennich). Filled in voids in Ambrosia sweet corn; some damage, probably white-tailed jackrabbits

16 July. Irrigated with drip tape along with sprinklers on green beans, peas, and carrots. Took photos from “sky platform” of Facilities.

The Harvest.

17 July. Allen Pedersen toured garden and collected cucumbers and peppers to take to relatives at Valley City. The first produce was harvested for Dining Services!

22 July. Allen Pedersen and Allan Larson picked some cucumbers, onions, tomatoes, and a head of cabbage for his friends.

23 July. Terrible winds (~75 mph) but the garden didn’t get blown around too much. Picked a few cucumbers and onions for Dining Services.

30 July. Garden tour with Todd and Terry. There was a serious aphid infestation on the peppers so I applied Atari. It breaks down within 10 hours. Terry said some tomato plants were infected with tomato mosaic virus and should be pulled and discarded when symptoms appear. They suggested the application of supplemental urea (for nitrogen) but we never got around to it. “Discovered” a watermelon that was 10” long! I thought someone had played a trick on me and “salted” one from the grocery store.

3 August. Sprayed aphids on peppers with Atari; one ounce of pellets per one gallon of water. Pulled diseased tomato plants.

5 August. Harvested 15 cabbage heads for Dining Services.

18 August. Dan made trip to New York to view mobile pelletizer for biomass. Theresa Helgeson coordinated garden work with Alex Nemmers and Josh Bruggman as far as harvesting and watering. Some of the beans (especially towards the lower and wetter east end) got too much water in the big storm of a couple of weeks ago and are looking puny. We planted Broccoli and Cauliflower where there were opening in the plastic mulch. This was a mistake to do this where we had harvested cabbage that had high populations of flea beetles; they simply devastated the tender new cole crop transplants.
{Observations. We need to consider crop rotation and disease considerations for next year. Pumpkins, squash, and zucchini can take excessive rain water better than beans, carrots, peas, and corn. Sometimes water doesn't reach the ends of drip tape runs very well.}

20 August. Allen, Shannon Stassen, and Mary Cavalier were out picking green beans and peppers. Alex and Josh picked 40 lbs of green beans and tomatoes for Dining Services.

21 August. Picked more green beans and tomatoes for Dining Services. Picked the last of the peas and pulled the chicken wire. About ½ of the plants had senesced. The broc and cauliflower transplants got hammered by the flea beetles so I sprayed Atari. It tended to bead up on leaves which have a thick cuticle so I dusted with Pyrethrum. Some of the transplants had not been planted properly since they had “voids” around the root/soil mass which makes them subject to drying out.

26 August. Garden Assessment. The remainder of the cabbage can be harvested. A big harvest of tomatoes can occur in 2 days.

4 September. (Email from Dan to Doug Pedrick:) I made a recon of the garden this evening and reported the following: Tomatoes continue to ripen and my assistants are picking when they can; about every other day. The vines at the west end are dying back, apparently due to a virus disease; 60% of the vines are healthy and will produce tomatoes until we get a frost; average around 15 September. Onions are doing fine and we can pick as needed. They are not too susceptible to a light frost; same with carrots. Peppers plants are healthy and will produce until frost. There are 4-5 heads of cabbage which can be harvested any time. The broccoli and cauliflower transplants won't make it; just got in too late. Cucumbers are essentially done and most of the vines are drying up. Peas are done and vines have been pulled. Butternut squash are ripening and the vines appear healthy; should be 40 or so to harvest. There are 77 watermelons of decent size (12-20") and most will be ready next week with some ready now based on the "yellow bellies." Vines appear healthy. Most all of the cantaloupes have developed a powdery mildew (as mine have at home) and I doubt that we will get any fruit. They were doing nicely. Honeydew vines seem reasonably healthy but the fruit is small. I "think" we will get 25-30 melons. {It turned out I was wrong on both cantaloupes and honey dew melons; we got a pretty nice harvest of over a hundred of each.} The buttercup squash are thriving although some of the vines are dying. We should get 400 or so squash. Some seem to be developing mildew. There is one yellow pumpkin of nice size. We will call it the token pumpkin. The zucchini got hit by the mildew and are about done. Green beans are still producing and about 50% of the vines appear healthy. We may be able to harvest another 200 lbs depending on the timing of frost. The sweet corn is beginning to ripen and we should be able to harvest steady for a couple of weeks. About 30% got recently blown over but not quite flat. When did we have some wind?

10 September. Harvested more than 100 Honeydew melons; actually we were about 5-7 days late as some had developed rot spots. Washed and stored extras in walk-in Horticulture cooler. Cracked (slightly over-ripe) melons were okay with Melissa in Dining Services since they chunked them up anyway. Wow, were they sweet! The corn is ready, especially the variety, Extra Tender. Harvested a bunch of onions. Alex and Josh picked 214 lbs of tomatoes yesterday.

15 September. Horticulture Club helped harvest 22 or so Cantaloupes, Tomatoes, some Squash, and 35 or so Watermelons. Josh took a number of watermelons to Dining Services.
16 September. Grow box for the UMC Children’s Center installed and one by the Pedersen Garden. Barbara Keinath visited garden and was impressed with production and the fact that lots of good food is being served in Dining Services. Allen Pedersen and friends have been regularly sampling the garden produce.

22 September. Ground breaking of new Wellness Center where apple crisp made from campus produced apples was served to President Kaler and other dignitaries at a campus luncheon. I believe garden squash and tomatoes were also on the menu. Mary Ristenberg and I harvested ~200 cantaloupes! Apparently they continued to ripen even though the vines appeared dead due to the powdery mildew. Some were overripe and/or contained “varmint” holes so I salvaged by chunking up and shared at student occasions. Made for fine eating. Harvested remainder of Butternut Squash which were small since the larger ones had been harvested earlier. Ten or so Pumpkins continue to get orange. We still haven’t had a hard frost.

Table 1. Estimated Harvest (lbs.) of Produce from Pedersen Garden. 2014.*

<table>
<thead>
<tr>
<th>Produce</th>
<th>Estimated Harvest (lbs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tomatoes</td>
<td>2600</td>
</tr>
<tr>
<td>Watermelon</td>
<td>400</td>
</tr>
<tr>
<td>Honeydew melons</td>
<td>250</td>
</tr>
<tr>
<td>Butternut squash</td>
<td>60</td>
</tr>
<tr>
<td>Buttercup squash</td>
<td>500</td>
</tr>
<tr>
<td>Cantaloupe</td>
<td>300</td>
</tr>
<tr>
<td>Cabbage</td>
<td>100</td>
</tr>
<tr>
<td>Cucumbers</td>
<td>100</td>
</tr>
<tr>
<td>Green beans</td>
<td>350</td>
</tr>
<tr>
<td>Corn</td>
<td>800</td>
</tr>
<tr>
<td>Onions</td>
<td>400</td>
</tr>
<tr>
<td>Zucchini</td>
<td>100</td>
</tr>
<tr>
<td>Pumpkins</td>
<td>300</td>
</tr>
<tr>
<td>Peas</td>
<td>50</td>
</tr>
<tr>
<td>Carrots</td>
<td>250</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>6,560 lbs</strong></td>
</tr>
</tbody>
</table>

*Includes harvesting by Allan Pedersen as he shared with his friends and relatives. Perhaps 15% of total.

Table 2. Varieties in 2014.

- Green beans – Strike, and Derby
- Carrots – Chantenay and Imperator
- Peas – Sugar lace and Cascadia
- Sweet corn – Ambrosia and Extra Tender
- Zucchini squash – Black beauty
- Squash – Buttercup and Butternut
- Pumpkin – Howden
- Cantaloupe – Gold star
- Honeydew – Earli dew
- Watermelon – Sangria and Sweet favorite
Onions - Sweet candy (sweet Spanish) type and Copra (hard winter storage).
Seeds purchased but either not planted or not harvested due to rough soil: Broccoli - Lieutenant and Arcadia; Cauliflower - Snow crown and Candid charm; Lettuce - Red salad bowl, Green ice, Super red romaine; Radish - Champion.

Table 3. Budget for Pedersen Garden. 2014.

<table>
<thead>
<tr>
<th>Garden supplies</th>
<th>Cost in $</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATV fertilizer spreader</td>
<td>199.99*</td>
<td>Paid by donations at Walden Play*</td>
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<tr>
<td>Hose reel</td>
<td>97.99</td>
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<tr>
<td>Sprayer</td>
<td>38.98</td>
<td></td>
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<tr>
<td>Gloves and sprinkler hose</td>
<td>58.95</td>
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<tr>
<td>Produce containers</td>
<td>32.00</td>
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<tr>
<td>Irrigation system supplies</td>
<td>230.70</td>
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<tr>
<td>Poultry netting</td>
<td>35.98</td>
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<tr>
<td>Seeds</td>
<td>319.30</td>
<td></td>
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<tr>
<td>Roundup herbicide to kill sod</td>
<td>75.49</td>
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<tr>
<td>Fertilizer</td>
<td>456.67</td>
<td>Have some nitrogen left in storage</td>
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<tr>
<td>Push-planter and accessories</td>
<td>635.38</td>
<td></td>
</tr>
<tr>
<td>“Pedersen Hall” storage building</td>
<td>1,263.41*</td>
<td>Built by Paul Aakre’s class. Material costs split between CSA and SHIP.*</td>
</tr>
<tr>
<td>Pedersen Garden Sign</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Lumber</td>
<td>212.87</td>
<td></td>
</tr>
<tr>
<td>- Paint, bolts</td>
<td>184.65</td>
<td></td>
</tr>
<tr>
<td>- Landscaping stones</td>
<td>Donation</td>
<td>Dan Bertils</td>
</tr>
<tr>
<td>- Sign routering</td>
<td>Donation</td>
<td>Chris Trostad and Paul Dwyer</td>
</tr>
<tr>
<td>- Plant materials</td>
<td>Donation</td>
<td>Horticulture Department</td>
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<tr>
<td>Grow box materials</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Rough sawn oak lumber (to make 2, 5 x 20’ units and 1, 2 x 10’ unit for UMC Children’s Center.)</td>
<td>1,400.00</td>
<td>Supplemented with 1K donation *from Allen Pedersen. Some extra lumber in storage.</td>
</tr>
<tr>
<td>- Construction materials</td>
<td>394.51</td>
<td></td>
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<tr>
<td>- Sign painting</td>
<td>Donation</td>
<td>Gary Stegman</td>
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<tr>
<td>- Grow box soil</td>
<td>Donation</td>
<td>Bob Herkenoff</td>
</tr>
</tbody>
</table>

Expenses (out of pocket): $3,374

Income:

*Cash donations (not included in expenses) $2,463

Purchase of produce by Dining Services (Sodexo) $3,583

In-Kind (equipment loan, sign painting and routering) $2,000

Material donations (flowers, onions, grow box soil, landscaping rocks) $800
**Water usage** (From Valley Tech Building - City of Crookston) Unknown, perhaps $ 250.

**Labor.** In the 2014 field season, Svedarsky was physically involved about 35 % time from late May through September including after hours and weekends (cultivation with mechanical equipment, harvesting, planting, weeding, construction of grow boxes). Tashi Gurung was involved about 50% time from April through July (Special project support from Academic Affairs office). Alex Nemmers, Svedarsky’s summer intern through the NW ROC with partial support from “garden funds”* was involved about 50% from mid-May through mid-September. Josh Bruggman was Svedarsky’s summer research assistant with the NW ROC, and funded by outside grant funds to support the cattail biomass project; he worked in the garden probably 20% time overall, primarily in the harvest season in September and October. **Total of about 1.7 FTE’s from May through September.** The garden project was heavily subsidized by the NW Research and Outreach Center in 2014 since Svedarsky is ½ time research with the ROC and technicians were hired through the ROC with only partial reimbursement ($3,760*) through the Garden Funds administered through the Office of Development. Labor and other material costs will be less in 2015 since the garden plot has now been established involving initial site preparation; the storage building (“Pedersen Hall”) has been painted and installed on site; the 2, 5 x 2 x 20 foot grow boxes or raised beds have been constructed and installed on site along with a 1 x 2 x 10 foot smaller grow box installed at the UMC Children’s Center; and the Pedersen Garden sign has been constructed and installed along with flower plantings and landscape rock.

*Garden Funds. These funds ($3,760) were generated from the following 3 sources: the June Shaver endowment of ~ $30,249 K established in 2006 to partially support a summer intern to maintain the Shaver Butterfly Garden and other campus natural plantings including the Nature Nook; the Youngquist Prairie Garden Fund of $25 K+ established in 2012 to partially support a summer intern to maintain the Youngquist Prairie Garden and other campus natural plantings including the Nature Nook; and the Pedersen Horticulture Endowment of $50K established in June of 2013 with 55% of the earnings to go towards support of a summer intern to assist in the garden operations and the remainder to support a named Horticulture Scholarship. The total earnings from these 3 endowments will be directed to partially support one intern who worked to support the Pedersen vegetable garden and the natural plantings on campus and assist with maintenance at the Red River Valley Natural History Area.

**Labor summary.**

Svedarsky, 35% in-kind salary support to provide coordination from mid-May through September.

Peter Phaiah, 5 % in-kind salary support to provide coordination.

Todd Cymbaluk, $2,000 consulting fee which including soil testing, mulch installation, and numerous management suggestions.

Maintenance labor, 1.7 FTE’s from mid-May through September at ~ $14.00 per hour.

**Income from providing produce to Dining Services**

$3,583.00
Progress and Lessons Learned in 2014

Site preparation and conditions. It was difficult to establish a garden starting with sod conditions at the beginning of the production year on land that contained a former farmstead and which had had the topsoil disturbed for land grading to improve drainage around buildings. Consequently the heavy clay soil was not very mellow and was very lumpy. This made it impractical or difficult to direct seed small seeded plants like lettuce, spinach, cauliflower, broccoli, and carrots (although we did produce some carrots. Soil conditions did improve however as a result of multiple cultivations with disking, roto-tiling, and dragging along with wetting and drying cycles. It was fortunate that we did not break up more of the sod in the northeasterly portion of the garden since it was lower and wetter.

Fall tillage and site preparation in October. Plastic mulch was pulled and discarded. Diseased tomato plants were disposed of in the Facilities refuse pile. Corn stalks were first gyro-mowed and then roto-tilled with NW ROC equipment. I was pleasantly surprised at how well the vine crops and remnant melons were chopped up by the roto-tiller; I thought I might have to disk first.

Weather conditions. It was a cool and wet spring and early summer which delayed growth of most plants. This was ameliorated to a considerable extent by having black plastic mulch which caused the soil to warm faster. At last report, the folks managing the campus garden at the University of Minnesota, Duluth were doubtful if they would get any tomatoes! We did get a break as far as not getting a hard killing frost until mid-October.

Resource personnel. It was essential to have the consulting services of Todd Cymbaluk and Terry Nennich; two very experienced gardeners familiar with local conditions and appropriate varieties. Theresa Helgeson was indispensable in her supportive role of starting plants in the greenhouse for transplanting as well as looking after irrigation and harvesting coordination when Svedarsky was out of town in August. The staff at the Northwest Research and Outreach Center were indispensable as well in assisting with equipment repairs, roto-tiller and disc loan plus tractors, advice on setting up an irrigation system with manifold supply lines and controls. A special thanks to Jeff Nielsen, Jim Cameron, Jason Brantner, Hal Michelson, Tim Danielson, Ryan Altepeter, Dale Kopecky, Galen Thompson, Jason Brantner, and Albert Sims, Director of Operations at the NW ROC.

Storage Building and benches. Peter Phaiah worked with Paul Aakre whose Facilities and Maintenance class built an 8 x 12 foot building that was moved on site to store miscellaneous supplies and equipment associated with the garden. The cost of the building was split between the UMC CSA and the State-Wide Health Improvement Program (SHIP) through Kirsten Fagerlund. It was placed on 2 slabs of salvaged sidewalk and has a sign identifying it as “Pedersen Hall.” Painting was done by Alex Nemmers and Tashi Gurung. Two Leopold benches were placed on site compliments of the CommUniversity Trail Project and a picnic table was reconditioned from the Facilities Department “cast-off” yard.

Signage. The Pedersen Garden Sign was constructed by Svedarsky and his summer assistants along with Facilities staff who installed posts and added a soil pile. After Svedarsky assembled the sign blanks, Chris Trostad (Highland School Acting Principal) and Paul Dwyer carried out computer-aided routering at the Crookston High School as a donation. Finish routering and painting was completed by summer helpers. The sign for the grow boxes was constructed and installed by Svedarsky and assistants but lettering was for this sign and for Pedersen Hall and the Children’s Center was donated by Gary Stegman.
**Water supply.** A number of options were explored as to a supply of irrigation water; pump from the flood storage pond to the north, trench and connect to one of the Richie waterers in the livestock corral, tap into the water line at the SW corner of the garden plot, and activate the old well from the Lydon home site. The flood storage pond was ruled out due to it receiving manure runoff from livestock corrals and thus conflicted with Sodexo policy. The old well site was inoperable and would require drilling a new one of ~ $8K. For expediency, we connected to an outside hydrant of the Valley Tech Park Center building and agreed that this would be part of the city of Crookston contribution along with the use of their land.

**Damage issues.** Damage from insects included aphids on peppers which were effectively controlled with Atari. Flea beetles were a moderate problem on cabbage but were especially a problem after the cabbage heads were harvested and new transplants of Broccoli and Cauliflower were planted nearby; the young tender plants were simply overwhelmed by the numbers of beetles. These were controlled with Pyrethrum. White-tailed jackrabbits were suspected to have clipped off young corn plants and eaten an inch or so at the base and left the rest of the tops. Something, perhaps 13-lined ground squirrels, ate some golf ball to soft ball-sized holes in cantaloupe. Canada geese were in the neighborhood in the late summer but didn’t venture into the garden. Downy mildew affected most of the melons and squash but didn’t cause as much damage as I thought it would. While the crop was certainly reduced in production, we still had adequate amounts to supply Dining Services, although it tended to come all at once. Tomato mosaic virus affected around 20% of the Tomato plants more towards the west end of the garden in the better drained area. It is unknown if this was related to the variety or the site conditions. Diseased plants were pulled and discarded once they were diagnosed.

**Recommendations for the 2015 season.**

**Planting plan.** An overall coordinating meeting needs to occur in mid-winter where disease issues are evaluated to decide where to rotate crops along with matching moisture preferences of crops to site conditions. The quantity needs and preferences, along with storage capabilities of Dining Services for various crops should be matched to planting plans and seeds ordered accordingly. The receiving and inventory of vegetables by Dining Services needs to be fine-tuned a bit. It worked pretty well but could always be improved.

**Long Term Considerations in Management of the Garden**

1. Need for a practically oriented manager who knows basic biology of growing things, has mechanical savvy, and can manage summer help. Possibilities: the new Horticulture faculty member, existing staff person whose responsibilities might be modified, a new staff person who might work with Dining Services in the academic year and the garden in the summer (would simplify use of produce by Dining Services), someone from Extension like Noele Hardin, any connections with Northwest Regional Sustainable Development Partnership, Todd Cymbaluk, others? Could there be a summer joint appointment with Extension and some UMC campus position? Could work in combination with Terry Nennich. This manager will also address the need for continuity of information so it can be a continual learning enterprise for students, staff, faculty and the greater community. Svedarsky could assist during a transition in the summer field season of 2015 but has other research responsibilities requiring a greater portion of his time in the summer.
2. **Administrative oversight.** Associate Vice-Chancellor of Academic Affairs; Sodexo; Center for Sustainability; Ag and Natural Resources Department; Math, Science, and Technology Department; some combination thereof?

3. By necessity, there needs to be an on-going connection/coordination with the UMC Greenhouse operations due to the source of transplant materials and use of some basic equipment items.

4. Most of the equipment and infrastructure items are one-time purchases. These included the following: storage building, push planter, hand sprayer, fertilizer spreader, gardening tools, irrigation equipment, hose and reel, poultry wire and posts. Expendable items needed to be purchased annually will include seed, fertilizer, and chemical purchase.

5. **Grow boxes** will be used for planting small seeded crops such as spinach, lettuce, radishes, and herbs since soil conditions can be managed more precisely. A watering system will need to be worked out. Also, consideration needs to be given to management of the grow box at the Children’s Center.

6. **High Tunnels** have been discussed from time to time but this represents a significant commitment of resources and a space. Sodexo is involved in 4-5 high tunnels at the Bottineau campus of Minot State and has expressed an interest in having one at the Crookston campus as well. If this is feasible, Svedarsky suggests one candidate site be south and parallel to the Bergland Greenhouse. It is unused space, would be convenient to harvest produce in the early and later periods of the growing season, and it is close to campus electricity and water resources. Perhaps a local cooperator would be interested in managing a High Tunnel in exchange for a portion of the crop. Terry Nennich, is the state-wide High Tunnel expert with Extension and is based part-time at the Crookston campus.

7. **Composting** has been an on-going discussion but a definite plan on what is needed and a long-term plan with a site and personnel identified has not been worked out.

**“Ripple” effects.**

When a project such as launching a campus garden is initiated, there can be ripple effects, that is, actions that are stimulated to happen that may not be anticipated. The symbolism and reality to the campus community, especially students has been significant. This was an effort that several students had discussed and planned for over 2 years; and it finally happened. More recently grant monies were secured to fund a part-time **community sustainability outreach assistant** with the primary task of the city of Crookston attaining the designation of a “GreenStep City.” At the city council session where the resolution was presented, at least 3 city council persons had followed the progress and success of the garden over its inaugural year and made mention of it as an example of what could be done in Crookston as well. **Seeing is believing**, and active discussions are underway in the community to launch a community garden; one of the check-off categories to attain GreenStep status.

**Photo section.**
Growing Good Food for Golden Eagles

The Allen and Prisco Pedersen Garden
University of Minnesota Crookston

Location of the Pedersen garden on the north side of campus.

Soil testing and garden layout.
Todd Cymbaluk and Peter Phailah.

Site prep with Roundup, disking, and sign installation.

More site prep with roto-tilling, dragging, installing plastic mulch, and planting.

Pedersen Hall, storage building for the garden.

Use of plastic mulch to absorb heat, hold moisture, and reduce weeds.

Installation of irrigation system with valves to water individual rows if desired.

Melon crops on plastic and poultry netting for climbing peas.

Signage and reconditioned picnic table and Leopold bench.
The very first ceremonial cucumber! 28 June. Allen Pedersen, Craig Hoieth, and Peter Phaiah.

Green beans growing.

Lots of Honey dew melons.

Lots of watermelons.

UMC students and the bountiful harvest.

Harvesting corn for a cook-out at the Natural History Area.
Lots of cantaloupes and a pumpkin!

Delivering produce to Dining Services.

Garden Grow Boxes!

Constructing grow boxes in the shop and installing on site.

Tashi Gurung and outreach session.

It's about eating good food!

Mary Cavalier and Allen Pedersen.
Appendix.

Appendix 1. Notes from background discussions leading up to launching of the garden.

UMC Campus Garden Discussions. 2013

Chancellor Wood calling a group together on 16 May 2013 to discuss the prospects of land use involving a campus garden. From the invite memo: "As you know, there have been various discussions about a campus garden for some time by students, faculty, and staff at UMC. Craig Hoiseth, Executive Director of the Crookston Housing and Economic Development Authority (CHEDA) at the Valley Technology Park building has been approached about this and is amenable to having a campus cooperative garden on the city land next to their building. You have all been identified as stakeholders or individuals with insight in this initiative, so given CHEDA's interest, we are calling a meeting together of all of you to discuss this and the possible win-wins."

Chancellor Wood asked that Dan Svedarsky coordinate discussions from this point forward that would include straight-forward expressions from all as to their concerns/desires regarding a campus garden and the use of the city land next to Valley Tech Park. The mission was to gather information to inform options, formulate these options, and present this information base to the Chancellor for a decision. Svedarsky proposed that the group have a short document by 10 July which has 2 parts; statement of the situation and presentation of options.

To stay on task, Svedarsky suggested another meeting the first week of June and planned to ask Chris Winjum if he could assist. He proposed another meeting the 3rd week of June to discuss inputs and outline alternatives for refinement by 10 July. Attendees were asked to volunteer for the on-going committee but not everyone raised their hand. Svedarsky invited Laura Gabrielson, Sami Benoy, and Adam Switzer to provide student input since they were all on campus that summer.

Highlights from 16 May 2013 meeting:

**Attendees**: Chancellor Wood, Ron Del Vecchio, Peter Phaiah, Phil Baird, Doug Pedrick, Noele Hardin, Linda Kingery, Craig Hoiseth, Sue Jacobson, Corby Kemmer, Rich Connell, Rob Proulx, Dan Svedarsky

Chancellor Wood welcomed the group to discuss the prospects and mechanics of a campus garden. He had been approached about a campus garden for some time by campus students, staff, and faculty. It is important that such a garden be an asset to the campus community and be well-kept up, a show-piece of sorts, and
accent our academic programs. In order for real progress to be made in discussions, frank expressions of concerns and wishes need to be expressed in the spirit of win-win and moving the campus and community forward. To be successful, the garden project needs a "champion."

Craig Hoiseth: In speaking for the Crookstion Housing and Economic Development Authority (CHEDA) and the city of Crookston, Craig is amenable to the concept of a cooperative garden next door on the city land. He would also welcome the possibility of a cooperative arrangement where UMC might maintain the grounds of Valley Tech in exchange of use of the city land. Currently the city has to transport mowing equipment out to the site which is not very efficient.

Peter Phaiah: If a cooperative land use agreement is forged, a "general services agreement" would need to be signed to cover conditions of use and liability. Such an agreement was developed to facilitate the use of the Valley Tech Park building by the archery club.

Phil Baird: Worked with a "campus garden" in the summers of 1984-85 under the direction of Gary McVey, former Head of the Agriculture Division. The Small Fruit and Vegetable Demonstration Project was funded by a grant from the Governor's Council on Rural Development. The project was located on NWROC land - the first research range behind the chain-link fence just east of the soccer field. Varietal and cultivation demonstration plots of strawberries, raspberries, broccoli, cauliflower, Brussels sprouts, peppers, sweet corn, melons, cucumbers, tomatoes, onions and carrots were grown. Irrigation was installed for the research range as part of the project and several types of drip irrigation systems were used and displayed. After 2 years, the project evolved into a commercial broccoli production project headed by Dr. McVey and Extension Specialist, Sam Bigger.

Ron Del Vecchio: Another option for the use of the city land would be to have it "mowed" by grazing animals.

Sue Jacobson: There is increasing interest being expressed by UMC Horticulture students in fruit and vegetable production. Interestingly, "ornamental" horticulture does come up much. Students are also into "organic" these days as a priority. Theresa Helgeson should be included in these discussions. (Sue will be retiring in a year or so.)

Corby Kemmer: There is a local potential donor interested in creating a scholarship fund with Horticulture connections. At the "11th hour" another option came forward that would involve the establishment of a named internship in connection with a campus garden. Discussions are on-going.

Noele Hardin: Noele is a Community Foods Systems Educator with Extension and a graduate of the Sustainable Gardening Program at the Fergus Falls Community College. Noele is based out of Crookston but is on the road a lot. "There is a ground-swell of interest by young people in gardening and healthy eating. I do not have any changes to your notes - I thought you captured the essence of the meeting well...thank you! I did not raise my hand to participate in future discussions, but I am interested in doing so if you think it would be appropriate. Since our meeting last week, I have had several thoughts about the garden and think that there are some other examples from other universities I have attended that could be very instructive for the group. Between you and me (and Linda) I also wish I had spoken up in defense of organic bananas! Have a nice, long weekend."

Linda Kingery: It is important to start small enough so as not to get over-extended beyond management capabilities. The U of MN, Morris received a "Healthy Eating" grant to partially support a student-run
garden, which is separate from, but complementary to, the horticultural gardens of the West-Central Research and Outreach Center. (The latter is a show-case which attracts over 800 people on the 3rd Thursday evening of July. The community support of volunteers for maintenance and donations is noteworthy.) There is a campus organic garden on the St. Paul campus called the "Cornercopia." Courtney Tchida, MISA staff is manager of the garden; research funds, food sales at farmers market and to a lesser extent to Aramark provide revenue. Terry Nennich, the state Extension specialist in high tunnels and commercial fruit and vegetable production has an office in the Regional Extension Office in Crookston.

Doug Pedrick: Sodexo is very interested in a campus garden and would take items grown in it for serving on campus. There is a current effort to implement a collection/distribution system for campuses served by Sodexo. There are 6 high tunnels currently in operation at the Bottineau campus of Minot State. Sodexo could supplement summer garden worker expenses.

Rich Connell: Facility Management is on-board with being a partner in the project. "We are about students."

Rob Proulx: There have been discussions about composting in the DTS fraternity which Rob advises. There could be a connection with a garden project.

Dan Svedarsky: I'm convinced that once a garden project is launched that additional synergies will emerge for support and commitment. It's somewhat embarrassing that we don't have a campus garden going on our campus given our abundance of land. All other campuses are engaged except Rochester and they are an urban campus just getting out of the starting blocks. The source of management labor is a concern but the summer intern supported by the Shaver Butterfly Garden and the Youngquist Prairie Garden could assist. The likely support from the donor mentioned earlier plus Sodexo funds could cumulatively support the equivalent of one full-time person.

**Garden Discussion Notes from 4 June 2013.**

**Attendees:** Corby Kemmer, Vanessa Lane, Ron Del Vecchio, Theresa Helgeson, Rob Gustafson, Rob Proulx, Dan Svedarsky, Phil Baird, Peter Phaiah, Katy Smith, Linda Kingery, Noele Hardin, Craig Hoiseth, Adam Switzer, Rich Connell, Deb Zak, Noele Hardin, Vanessa Lane.

**Agenda:**

1. Go around the room for comments, and comment on comments from 16 May meeting.

2. Ron Del Vecchio presents an overview of his perspectives on land use in the Valley Tech neighborhood. (Google Earth map of the land on the screen for discussion purposes.


4. Looking ahead: Another meeting in later June. Wrap-up meeting around 10 July to clarify alternatives/options and present to Chancellor Wood and his cabinet for decisions.

Dan opened the meeting by hosting introductions by all and reference to revised comments from 16 May meeting which were distributed. As instructed by Chancellor Wood, these discussions will work best, when folks express their honest concerns and ideas as we seek the win-win solutions to the opportunities presented.
Katy Smith: “It was interesting to review the comments from the first meeting. There are lots of things that we could do on campus, thinking holistically. It would be neat to have more edible fruits on campus and smaller beds of edible things here and there. What about a high tunnel on campus as an educational demonstration? These can be aesthetic features. There are a couple near Fertile with a U of MN sign on them. What about bee hives on campus to produce our own honey? There could be a course offered in bee-keeping.” Honeyberries and choke-berries (Aronia spp.) could be planted on campus.

Linda Kingery: “It would be useful to think of the campus in a holistic, integrated way.”

Theresa Helgeson: “I have concerns about who would do the work in a campus garden if it were someone other than students with regard to possible union labor considerations.” (Would this be a concern if the campus garden were located on the city land being discussed? wds)

Adam Switzer: There has been a lot of student interest in a garden. Composting was discussed considerably by the DTS fraternity but no implementation action yet.

Deb Zak: There is a resurgence of interest in food preservation techniques and Extension is responding to that programming interest. (Craig Hoiseth: “My wife and I were just canning chickens last night.”)

Rich Connell: “The garden idea is a noble concept but I’m concerned about the mechanics of how it can all work.”

Theresa Helgeson: “I would be embarrassed for the potential donor if the resulting garden didn’t look excellent!” (Absolutely, the garden needs to be a showcase and something that the campus and community can be proud of. wds.)

Corey Kemmer: “Dan and I have been meeting with the potential donor and discussions are currently revolving about the support of a named scholarship and an internship. The donor has a high priority on honoring his late wife. We need a business plan to ensure the sustainability of a garden operation for the benefits of all concerned.”

Noele Hardin: “I’ve experienced highly successful campus gardening efforts on three campuses that I’ve been associated with; U of WI-Madison, U of MN-Twin Cities, and the U of Oregon. This is also related to the concept of “urban farming.” Key to the success in all cases is the involvement of students. There can be student and faculty research projects supported by work study funds, UROPs, and UROCs.” (Noele will provide a synopsis of these 3 operations for the group. wds)

Rob Gustafson: “It’s important to have things well planned out ahead of time as far as spatial arrangement of facilities and functions.” (Rob is a new landscape architect in town and has been working with the design of the “Town Square” project at the site of the former Crookston high school. This is the current location of the Farmer’s Market and other community events are being planned. Construction of a structure will commence soon. wds)

Vanessa Lane: I like the notion of canning of locally produced food in order to have food around in the off-season. (Discussion then focused on quality control and food safety aspects of locally canned food if it is to be served by Sodexo. Perhaps canning could be done as an educational activity with students then consuming what they preserved. Ron D pointed out the problem with serving campus-grown meat in Food Service due to the necessity of having government inspected slaughter facilities. wds)
Rob Proulx: “I like the idea of things planted around campus in a dispersed way. We do need to make sure that what’s planted is going to get used. It is important to tie plantings to academic programs wherever possible. Could the stormwater pond to the north be used for irrigation?” (I will attach some information from the Duluth campus where they have implemented the model of theme garden dispersed around campus. Facilities plays a key role in managing the operation at UMD. wds)

Peter Phaiah: “For all of this to work, we need 3 things; academic buy-in, student involvement, and money.”

Ron Del Vecchio: Ron presented an alternative which he has been working on for some months with input from Rich Connell and a local engineer. This option might be termed, the animal science priority. Ron expressed the serious need for additional pasture space for beef, sheep, and horses, an outdoor exercise arena for horses, and emergency corral space should there be a fire. He proposes additional corrals/paddocks to the west of UTOC, to the east of the beef and sheep barn and north of Valley Tech Park, and the use of all of the space to the west of the Valley Tech Park building. Ron is not adverse to a campus garden but has a problem with it being placed on the city land next to Valley Tech on land that could be part of a livestock paddock. He, like others, is concerned about maintenance issues of such a facility as he doesn’t presently have personnel that he could assign to assist. “The campus garden needs a point person, a champion, to ensure that things are properly managed. As Corby mentioned, we need a business plan in order to move forward.”

Craig Hoiseth, on the long-term plan for use of the adjacent city land: “The initial building was designed as a business incubator with the notion of providing start-up space and then new businesses would move to their own location. Extension is now housed here. The adjacent land could be thought of as expansion land for another structure but I don’t see that happening in the near future and would rather see a garden or horses grazing than just being mowed.”

Rob Proulx: “We need to be clear as to why we want to do this; a novelty project or one where we can engage in serious production of fruits and vegetables. We may not be able to produce as much as Sodexo wants.”

Vanessa Lane: “How much land is required to produce what’s needed?”

Peter Phaiah: “Sodexo will take whatever we can produce.”

Katy Smith: “With Sue Jacobson retiring next year, might her replacement be a 12-month, tenure-track Horticulturist who could engage in fruit and vegetable research as well as program leadership? This person could have some involvement with a campus garden.”

Ron Del Vecchio: “We are starting to talk about possibilities for that future position.”

Corby Kemmer: “What would be the estimated start-up costs for a garden?”

Dan Svedarsky: “You could get started by preparing the site with roundup application, cultivation, fertilization and have plants in the ground within a couple weeks. Fencing would be needed for rabbit control and perhaps deer. Initial costs would be under $1,500 considering machinery, labor, and cost of plants.

OTHER CONSIDERATIONS, not necessarily discussed to this point:

1. There is an apparently functional well at the site of the Lyddon property near the large cottonwood tree. It could be used as a source of livestock water as well as irrigation water; cheaper than city water.
2. A high tunnel could be constructed in conjunction with the garden along the south end of the city land and the site of the former Lyddon home site with the well. They don’t take up too much space and are a nice interest and functional feature.

3. What are the needs of Facilities as far as a place to store aggregate supplies, wood trimmings, landscaping mulch, compost materials to use in garden beds? Some space, somewhere, will be required for this. This could be compatible with student interests in composting as manure is generated nearby which could be added to leaves, etc. This function would be very compatible with a garden/high tunnel location but would need to be planned out for functional utility and aesthetics.

4. What about access to a garden site if along the south edge of the city land? There may very well be limitations to using the Valley Tech parking lot. Consideration of using the existing road access to the “storage yard” would be merited.

5. The north end of the city land can get quite wet in spots which could limit certain uses.

**Garden Discussion Notes from 19 June 2013.**

On Sun, Jun 16, 2013 at 10:35 PM, Dan Svedarsky wrote: Since our last meeting, I've had a couple of comments:

Landscape architect, Eric Castle: "From my academic perspective I will be teaching the advanced landscape design course this spring and the design of a single large garden or overall design of several smaller gardens across campus could be used as a project for that class."

Noele Harden: "Please a few notes from the community garden examples I shared last week at the meeting. My apologies for the delay - I am continuing to add to this list, in particular am looking for more small, rural examples.

Review of College and University Gardens

**Example 1: Corncopia Student Organic Farm – University of Minnesota, St. Paul Campus**

- [http://www.horticulture.umn.edu/StudentLife/Student_Organic_Farm/](http://www.horticulture.umn.edu/StudentLife/Student_Organic_Farm/)
- Began in 2004 through “student vision and initiative. The farm began from two horticulture students asking, ‘Why isn’t there anywhere on campus for us to grow stuff…?’” ([http://corncopiafarm.blogspot.com/p/about-farm_17.html](http://corncopiafarm.blogspot.com/p/about-farm_17.html))
- Sponsored by Dept of Horticultural Science, Dept of Agronomy, and Minnesota Institute for Sustainable Agriculture
- HORT 3131: Student Organic Farm Planning, Growing, and Marketing
- 2.34 acres, entirely USDA Certified Organic
- 100+ varieties of fruits and vegetables are marketed on the Twin Cities campus
- Research opportunities through UROP, Johnson grant program
- 3-5 student interns hired each summer

**Example 2: FH King Student Farm – University of Wisconsin, Madison**

- http://fhkingstudentfarm.com/
- FH King Students for Sustainable Agriculture began in 1979
- 1.75 acre farm, organic practices (not USDA Certified Organic)
- Also a small rooftop garden on top of the Pyle Center (a campus building)
- 2 Garden Directors, mostly volunteer student labor
- Board of Directors – Undergraduate and graduate students
- Small scale CSA supplements produce donations (75% of harvest donated back to students)
- 2900 lbs of produce grown each season
- The Center for Integrated Agricultural Systems at UW Madison provides some support for the garden

**Example 3: The Urban Farm – University of Oregon, Eugene**

- http://landarch.uoregon.edu/programs/urbanfarm
- 29 years old
- Offered as a course through Landscape Architecture Dept.
- 80 students in Fall, Spring, and Summer terms supplies labor for the farm
- UO students were also involved in the creation of the Courthouse Garden, a 2 acre lot owned by the City of Eugene used to grow food for low income residents
- http://courthousegarden.uoregon.edu/

**Other Examples**

- University of Maryland - http://umdcommunitygardens.com/
- Carolina Campus Community Garden - http://ncbg.unc.edu/carolina-campus-community-garden/
- Northwest Indian College - http://www.tulaliptribes-nsn.gov/LinkClick.aspx?fileticket=mQOf63KDyvo%3D&tabid=805
- United Tribes Technical College

Vanessa Lane: "Here are some further thoughts from the 4 June meeting:
• I think it would be wise to develop a couple of options for the Chancellor and Facilities to think about. Do we want to have one large garden, several small gardens scattered across campus, or a medium-sized main garden and several small highly visual gardens (edible campus) style? Each has its own benefits and challenges, for example:

• Benefit of one large garden: Easy access for equipment, centralized location, can be more intensively managed. Challenges: Locating a piece of land that isn't currently planned for use. I realize the Tech building is on county land, but I believe Ron does have a very valid concern regarding pasture for the animals in his care. The IACUC recommendations in particular are a real necessity for him to consider.

• Benefit of several small gardens: Very visible, good way to actually have a use out of 'ornamental' plants, could spur student participation simply through incidental encounters, good talking points for campus staff. Challenges: Getting permission from Facilities may be a challenge, especially regarding the issue surrounding campus maintenance brought up by Theresa. It may be more difficult to get students to maintain several separated gardens rather than one big one, although the idea that dorms can adopt one of these gardens is a great idea during the school year.

• The mix of a medium-sized garden and several small gardens may be an option. Sprawling crops (squash, melons, etc.) will probably "not play nice" with the smaller gardens scattered across campus, and the ground vines aren't as visually appealing as other crops. Several small gardens across campus could grow the standard tomatoes, peppers, etc. that grow in easily controlled 'shrub' forms, but if we want a more diverse harvest we could plant a larger garden elsewhere.

I really think we should make a campus map for each of the alternatives listed above, with Rich's help."

Deb Zak: I like the idea of having one focal point garden on or near campus on city property to meet the goal of the donor and complementing that garden with several demonstration gardens on campus. The American Indian students could help design the three sisters garden while other students and faculty could design the straw bale gardens, raised garden beds, therapy gardens and a children's garden. I have a book, "Roots, Shoots, Buckets and Boots" that is filled with ideas for children's gardening designs.

Once I am done with the summer program at White Earth, I will be more available to get involved in this project. Please check out this link to UMD's edible campus gardening initiative:
http://www.d.umn.edu/sustain/land_water/ediblelscp.html

AGENDA FOR WEDNESDAY, 19 June 2013:

A. Eat

B. Review new comments contributing between now and then.

C. Refine the following working draft of alternatives from the 4 June meeting:

1. The do-nothing alternative. Continue to leave things in limbo with no action.

2. The animal science alternative with maximum development of corrals and paddocks as outlined by Ron Del Vecchio.

3. Have no specific campus garden but smaller theme gardens dispersed across campus.
4. Have a specific campus garden on the city land, named for a donor, and develop smaller theme gardens on campus as the interest and commitment is generated. Develop as many corrals/paddocks as the remaining space north of the road would facilitate. (A win-win alternative.)

5. Develop a specific campus garden at another location. (Apparently the use of NW ROC land that would be logistically close to equipment storage and greenhouses is not a viable option. wds)

6. Others?

D. Plan for the wrap-up meeting around 10 July to finalize alternatives to present to Chancellor Wood.

Notes from 19 June 2013 meeting:

Noele Hardin: She earlier distributed examples of gardening initiatives which she personally experienced at the U of Oregon, U of MN - TC, and U of WI - Madison. There is a huge wave of interest by students around the country as to where their food comes from. We need to clarify what our overall goals are with respect to the garden discussions. Should we broaden the discussions campus-wide in the fall to gain further input? (From my view, we have been discussing a campus garden for a couple of years and since we have a broad representation in our current discussion group, hopefully we have identified enough of the major concerns to move ahead with some fundamental decisions. Thoughts? wds)

Laura Gabrielson (Student sustainability assistant and CSA member): The idea of raised beds is intriguing. Lots of student interest in campus gardening. There is an on-going committee within CSA that pertaining to food issues and extends to campus gardening.

Peter Phaiah: It would be timely to get going on site prep for a garden, somewhere, this summer to demonstrate action.

Linda Kingery: The campus garden could have connections to a "food shelf" initiative as far as donating extra production. A food shelf is the interface between those who need food and those who have it (grocery stores, Food Banks, processors, etc) and/or those who can grow it (community, nurseries/truck farms, campus or individual gardens). The Bemidji Food Shelf has around 35,000 clients per year! Fresh food is usually in short supply.

Craig Hoiseth: Finding an outlet for extra produce would not be a problem.

Theresa Helgeson: A concern about continuing maintenance of a garden if it were adopted by a club or residence hall. When the Beautiful U Day initiative was active there were some projects that got off to a great start but then students moved on and efforts fizzled. She likes the idea of a central garden at an agreed-upon location.

Peter Phaiah: As far as garden produce being served in campus dining, the city land would qualify as University land.

Doug Pedrick: Things produced off-site could also be served on campus so long as it was a specific university project.

Noele: There were 2 community garden projects funded in the Crookston area this year.
Dan: Update on the local donor. Allen Pedersen from the local community has made a donation that will fund an ongoing horticulture/gardening scholarship, an internship to work in a campus garden, and the understanding that a campus garden will be a named memorial to his late wife, Freda (with Allen's name added to a marker sign at the insistence of Corby Kemmer and myself). If for some reason in the future, the named garden site needed to be moved, the name would follow.

Doug: It seems we have all the pieces in place to move ahead; a piece of land we can use, funds to provide maintenance, and a market for the production.

Craig: The idea of a cooperative garden involving the city and UMC is a popular idea. The donor aspects are especially nice as well.

Theresa: When we say, "community garden," what are we talking about? One where anyone can get an assigned garden plot and involving memberships; or a cooperative project where the city would provide the land and UMC would do the management in growing items for UMC food service and the UMC community? (In my view, the assigned garden plots option would add extra management that we don't want to get involved in just now. wds.)

Rob Proulx: How specific do we need to get with our recommendations at this time? Seems like a combination of raised beds and a central garden plot could work. (I would think we can somewhat generic at this time and not worry about where the beans and peas would be planted but instead line out general guidelines to expand on the alternatives. wds.)

Laura Gabrielson: Students would like to see something going this fall.

Peter: We could start out on the smaller side and expand as appropriate.

Theresa: In a garden, it is important to rotate crops from year to year for the sake of disease control.

Doug: It is important to act now while we have funds.

Other: Would the existing Valley Tech parking lot be large enough to accommodate garden traffic if the garden were located adjacent?

The campus needs a designated location for a compost pile.

**WHAT NEXT?**

1. Discussion group members review this email and correct/add to as appropriate.

2. Dan will summarize discussions to date, elaborate on alternatives, and send out to participants to review prior to wrap-up meeting on 10 July 2014.
To: Doug Pedrick <pedri013@crk.umn.edu>, Ronald Del Vecchio <delve004@crk.umn.edu>, Eric Castle <castl047@crk.umn.edu>, Corbet Kemmer <ckemmer@crk.umn.edu>, Noelle Harden <harde073@umn.edu>, Theresa Helgeson <helg0145@crk.umn.edu>, Katy Smith <katys@crk.umn.edu>, rich connell <rconnell@crk.umn.edu>, Peter Phaiah <phaiah@crk.umn.edu>, Vanessa Lane <vlane@crk.umn.edu>, Theresa Tahran <ttahran@crookstonheda.com>, Susan Jacobson <sjacobso@crk.umn.edu>, Deborah Zak <dzak@umn.edu>, Chris Winjum <cwinjum@crk.umn.edu>, Craig Hoiseth <CHoiseth@crookstonheda.com>, Adam Switzer <switz026@crk.umn.edu>, Linda Kingery <kinge002@umn.edu>, Rob Proulx <prou0041@crk.umn.edu>, Philip Baird <pbaird@crk.umn.edu>, Laura Gabrielson <gabri176@crk.umn.edu>, Brian Dingmann <dingm021@crk.umn.edu>

Cc: Fred Wood <fewood@crk.umn.edu>, Barbara Keinath <bkeinath@crk.umn.edu> UMC campus garden discussion group:

Thanks for meeting on 10 July. I've cut and pasted my earlier message and tweaked it as following. There were no suggested corrections/additions to the attached, "UMC campus garden discussion."

As you all know we've had meetings on 19 May, 4 June, 19 June, and 10 July 2013 to discuss the prospect of developing a campus garden. There are many different factors to consider and Chancellor Wood asked us to be straightforward and thoughtful as we lay out various considerations. Not everyone was able to attend every meeting but hopefully with 3 meetings and email distribution of minutes with solicitation of additional comments, everyone had ample opportunity to contribute. I tried to capture the essence of everyone's comments and have compiled these in the attachment. I've also attached a google map of the site for reference. Thanks to all who made a special effort to contribute to the meetings and discussions during the off season.

I see the primary questions revolving around the following:

1. **Location.** Positioned entirely on the land adjacent to the Valley Tech Park building, a portion of the city land and the UMC land in that area, or another site somewhere on the UMC campus. Some selection criteria include; availability, close to related functions and infrastructure, visibility, appropriate soil conditions, "showcase" values of the setting, appropriate site to be named after the donor, and I'm sure there are other criteria.

2. **Management considerations.** A "champion" or coordinator is needed along with a management committee to maximize the effectiveness of the operation. If it is located on the city land, a representative of that stakeholder group needs to be a member of the management committee. A business plan is needed.

3. **Academic aspects.** (It was suggested that this be a separate category.) Could/should this operation be tied to one or perhaps all of UMC's academic departments? How could the campus garden enhance existing program(s) and be an attractant for additional new students?

4. **Funding.** Where will the financial support come from to support equipment and maintenance personnel? I would suggest that UMC is well equipped with equipment. Support for maintenance personnel include the endowed Shaver Fund, Youngquist Prairie Garden, and the newly established Pedersen Garden Intern. Sodexo has pledged support for some summer help. There may be community volunteers as well.

We've discussed the following alternatives;
1. The do-nothing alternative. Continue to leave things in limbo with no action.

2. The animal science alternative with maximum development of corrals and paddocks (on the land adjacent to Valley Tech) as outlined by Ron Del Vecchio. Under this option, there would be no campus garden and associated developments (future high tunnel, compost pile, landscaping material piles) developed north of the road in the Valley Tech neighborhood.

3. Have no specific campus garden but smaller theme gardens dispersed across campus.

4. Have a specific campus garden on the city land, named for the donor, and develop smaller theme gardens on campus as the interest and commitment is generated. Develop as many corrals/paddocks as the remaining space north of the road would facilitate. (A win-win alternative.)

5. Develop a specific campus garden at another location on University land. (Apparently the use of NW ROC land that would be logistically close to equipment storage and greenhouses is not a viable option.) Some suggested alternative sites by Ron Del Vecchio;

   a) the property off the southwest corner of the UTOC office area (corner of Hwy 75 and Co Rd 71) is a perfect location for the garden. It has high visibility, ample sunlight, and hasn't already been earmarked for another use. There is parking available, water available, bathroom facilities available, etc. (SEE FURTHER DISCUSSION BELOW)

   b) the property just west of the heating plant is another prime location with high visibility, ample sunlight, and hasn't already been earmarked for another use.

   c) I believe the site south (ACTUALLY THIS SITE IS EAST OF THE EXISTING SOCCER FIELD) of the soccer field where the previous garden was located is another option.

   d) There is a small site to the east of the Greenhouse near the location of the former putting green, however this belongs to the NW ROC. (wds)

6. Others?

DISCUSSION FROM 10 JULY 2013:

The question was raised as to how compatible a garden site would be with UMC's Master Plan.

Alternative site b, sw of the UTOC building was discussed. Phil Baird indicated that it has high visibility from 2 roadways which would be good for program visibility and as a site for the Pedersen memorial garden. Theresa Helgeson pointed out that the soil needs work as a result of grading for UTOC construction. (Perhaps composting using nearby livestock manure and campus leaves could help address site fertility.) The parking lot is larger than the one by Valley Tech and, as Del Vecchio has previously noted, it has water, electricity, access to a classroom if needed, and bathroom facilities. Equipment and tractor storage would be close at hand. Some trees (some of which aren't doing well) may have to be removed at some date. Would there be a union issue with University staff doing work on this site since it is University land as opposed to the city land next to Valley Tech?

Brian Dingman suggested that a visible garden project could enhance existing enrollment in related majors and be a strong statement that things are happening.
High tunnel facility. This is somewhat related to the garden discussions since these facilities can result in stretching the season out 6 weeks at both ends of the season. Theresa pointed out that these are labor-intensive operations. Linda Kingery pointed out that the NW Regional Sustainable Development Partnership has supported these operations and that Terry Ninnich, the state specialist is located at Crookston.

Site next to existing greenhouse for a theme garden or high tunnel? It is size limited and a large box elder tree limits the sun exposure. Theresa thinks the tree is pretty cool. It is on NW Research and Outreach Center land (as are the existing greenhouses.) A small perennials garden was located here at one time.

Corby Kemmer pointed out that it would be advantageous if this process could keep moving right along in identifying a site since Allan Pedersen is 97 years old. Svedarsky plans to do a video-tape interview with Allen soon for posterity.

Craig Hoiseth relayed to the group that all of the conversations that he has had with folks in the community have been totally positive about a garden site on the city land.

**BY A COPY OF THIS MEMO TO CHANCELLOR WOOD, THIS CONVEYS THE RESULTS OF OUR DISCUSSIONS TO DATE. THANKS EVERYONE.**

**DAN SVEDARSKY**