

# Headwaters Farm 2024 Performance Evaluation



## Report Outline

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## Introduction: Why I Wrote This

The intention of this report is to provide a clear, honest, and independent review of Headwaters Farm. My motivation stems from my passion for farming and my desire to see the farm reach its fullest potential. Having dedicated my life to farming, I find fulfillment in helping others succeed in this field. The prospect of a farm with substantial resources serving as an educational hub for aspiring farmers is immensely inspiring. Witnessing untapped opportunities and envisioning the farm's role in

supporting other farmers fuels my dedication to serve in my elected position at the East Multnomah Soil and Water Conservation District.

As one of the five elected directors, my role is to ensure the optimal utilization of our capital and human resources. To fulfill this responsibility, I engage in active listening, questioning, challenging existing paradigms, and seeking independent information to inform our decisions. This report is born out of a commitment to transparency and a desire to address the disparity between the farm's perceived performance in our board meetings and my personal observations during farm visits. By offering a candid assessment, I aim to stimulate constructive dialogue and pave the way for meaningful improvements.

### **Executive Summary: Key Observations**

This report reflects insights gleaned from 14 farm visits spanning over four and a half years. Most farm visits were self guided with a few occasional guided tours that included staff and former ED Nancy. The predominant trend observed has been a steady decline in farm performance. By August 15 of the previous year, most farm plots were in a state of abandonment, with minimal economic activity and a negligible to zero presence of workers. Weed infestation had reached alarming levels, hindering crop growth and exacerbating soil health issues. The overall experience for farmers was dismal, resulting in wasted labor, resources, and a worsening of soil conditions.

The report is intended to reflect only on Headwaters performance. Farming type, style, methods and appearance are not commended on and irrelevant to this reports intention. Only how we are delivering and achieving outcomes to our participants and the tax paying community.

The discrepancy between the farm's actual condition and its portrayal in directors' meetings underscores the need for a transparent assessment to facilitate informed decision-making. Acknowledging the current state of failure is the first step towards envisioning a revitalized and impactful program that aligns with our mission. Incremental changes and the new weed management goals will not reverse our down trend.

### **Current Mission: Clarifying Objectives**

The absence of a clearly articulated and written mission statement poses a challenge in defining the farm's purpose and evaluating its performance. While the farm has historically served as an educational platform for beginning farmers to enter an incubator program, recent emphasis on merit-based selection criteria reflects a shift driven more by operational challenges than the evolving needs of the farming community.

To chart a path forward, it is imperative that we collectively define a mission statement to guide strategic decision-making, performance measurement, and communication with stakeholders.

### **Opportunities/Goal Setting: Insights from Conversations**

Drawing from extensive conversations with current and past participants, industry experts, and local farm community members, several key themes emerge:

- **Soil Health and Sustainable Management:**

Success hinges on improving soil health metrics in alignment with evolving scientific standards to optimize crop outcomes.

- **Economic Health and Sustainability:**

The farm's success should be measured by its impact on participants' financial viability, *facilitating long-term sustainability in the agricultural sector.*

- **Relevance to the Farm Community:**

The farm must align its practices with industry standards and empower established farmers through knowledge transfer and skill development.

- **Unifying Program for Land Stewards:**

The farm should cater to a diverse range of land stewards, irrespective of scale, farming methods, or crop types, to maximize its outreach and relevance.

- **Facilitator of Independent Expert Opinion:**

Leveraging external expertise can drive innovation and knowledge dissemination among participants, enhancing the farm's impact and relevance. Two program graduates expressed having access to established farmers would be helpful.

- **Dynamic Leadership and Mission Clarity:**

A well-defined mission coupled with adaptive leadership is crucial for steering the farm towards continuous improvement and relevance.

From these many conversations my mind has expanded towards what can be possible. This was constructed only to add voices to begin a conversation. Some of the conversations resulted in written reports. Those are included at the end.

### **Current Performance: Critical Assessment**

A cursory examination of four key performance indicators reveals alarming deficiencies:

- **Soil Health:** Crop vitality and weed proliferation point to severe degradation of soil health across all farm plots, undermining the viability of farming endeavors. Cover cropping has been absent, late or inadequate to be effective.

- **Economic Health:** Participants' financial struggles are pervasive, with minimal evidence of economically sustainable farming practices to achieve income. I have not viewed any farm plots as producing positive income.
- **Participation:** Poor class attendance, low farming activity and low farm plot utilization underscore a disconnect between the farm's offerings and participants' engagement.
- **Program Size:** The dwindling number of participants reflects a waning interest in the farm's offerings and highlights the urgency of intervention.

Blame-shifting to our participants fails to capture the systemic issues plaguing the farm, including mismanagement of fallowed acres and foundational issues undermining plot productivity. The root cause of the failures I observed were present before our participants began the program.

### Headwaters Website

The below are the stated goals of the Headwaters Program copy and pasted from the website. I included this to contrast our program's stated goals against our current observed performance. This to ask ourselves if we achieving our own goals?

- Conservation Agriculture at Headwaters Farm "*An application of modern agricultural technologies to improve production while concurrently protecting and enhancing the land resources on which production depends.*" "
- Cover Cropping, *Improving soil, creating habitat and reducing erosion*
- Soil Fertility, *Managing nutrients for healthy crops*
- Irrigation, *Encouraging responsible water use.*
- Equipment, *Low impact solutions for a viable crop.*
- Erosion Control, *Keeping viable soil in the fields.*
- Weed and Pest Management, *Low-impact and effective weed and pest control.*
- Pollinator habitat, *Providing habitat and attracting beneficial species.*

### Recommendations: Path to Revitalization

To reverse the farm's decline and realign with its mission, the following recommendations are proposed:

- **Define a Clear Mission:** Collaboratively articulate a mission statement that reflects the farm's commitment to education, sustainability, and community engagement.
- **Prioritize Soil Health:** Implement evidence-based soil management practices to restore soil fertility and vitality, laying the foundation for sustainable farming success for our participants. Include independent expert opinion.
- **Support Economic Viability:** Provide targeted support and resources to empower participants in achieving financial sustainability through diversified income streams and market access. Allow participants to begin with clean and healthy soil.
- **Foster Community Engagement:** Cultivate a vibrant community of land stewards by expanding outreach efforts and fostering knowledge exchange.
- **Embrace External Expertise:** Collaborate with industry experts, educational institutions, and extension services to augment the farm's knowledge base and innovation capacity.
- **Transparent Governance:** Foster a culture of transparency and accountability within the organization, ensuring that directors are adequately informed and empowered to effect positive change.

## **Starting Point**

I recommend the formation of an inclusive working group that will include staff, interested directors and expert opinion to hear, listen and recommend steps toward for our next general meeting.

## **Conclusion**

Headwaters is a large budget item. It is adequacy funded. Changes have been too slow, incremental and not enough to stop our rate of our program's decline. The proposed changes will continue this trend. There is a denial of our current and dire condition.

In acknowledging the current state of failure, we open the door to transformative possibilities. By embracing transparency, accountability, and collective action, we can revitalize Headwaters Farm into a beacon of sustainable agriculture, community engagement, and educational excellence. The current path we are taking will not get us there.

I would like to begin an exciting journey towards a brighter and more impactful future for Headwaters Farm and the broader farming community it serves.

# 2023 EMSWCD Headwaters Farm Walking Tour Attendee Statements

Included are 5 written reports from farm tour attendees.



21 February, 2024

Hello, my name is Brian Shipman, I am a graduate of the Headwaters Incubator Program (HIP) in 2019. I have been actively farming since then, with a total of fifteen years of small farming experience and most of that time has been as an owner-operator of Wild Roots Farm in East Multnomah County. (Disclaimer: I am no longer involved with Wild Roots (WRF) due to separation from my wife and farming partner Mary Colombo who currently operates the business.)

My experience within the Incubator was very positive, and I believe that WRF would not currently exist without the time we spent within HIP to build our business. When we entered the program, we had a number of factors weighing heavily in our favor to help us succeed: we had no debt, we already owned most of the equipment required to operate our business, we lived on family property nearby with virtually no rent, we had contacts in PDX to establish wholesale sales accounts, and Mary had a full-time off-farm job for the first two years we were in HIP. The regional economy at that time in 2014 onwards was another positive factor in our success, and we were able to leverage our position within the Portland restaurant community to grow our annual sales to around \$300k by 2019. The five years we spent in HIP were certainly not without challenges, and most of our challenges boiled down to both the nature of farming in general and the realities of farming the soil at Headwaters Farm, specifically. I believe the difficulties with soil fertility/tilth and weed control are well-documented within the HIP alumni.

As far as areas that I believe the Incubator could greatly improve, most of my criticism would relate to how the program trains its farmers and how it holds its farmers accountable for their actions and responsibilities. I believe that setting higher standards for stewardship and business management would help current and future incubator farmers succeed on-site. Weed control on the farm should be more of a central focus and I believe more incentive and responsibility should be put on the farmers to maintain their individual plots. For example, one of the most difficult decisions a farmer will make is the judgment call of when a young crop must be tilled in and scrapped because it is overtaken by weeds and the labor is not worth the return. More education on this boundary would aide current and future farmers by helping to minimize weed seed production. Holding farmers more accountable for weed control throughout the season should help the current incubator farmers through "tough love," and also serve to maintain the soil health for future farmers.

On the business side, I believe a more detailed and comprehensive curriculum would prepare farmers for long-term success. For example, a diverse panel of current owner-operator farmers in the region would be a valuable forum for Q & A, and for the experienced farmers to offer their stories and wisdom on their particular operations. I believe it is critical for incubator farmers to have a financially viable path forward for their businesses beyond the five year incubation period. Whether it is generational/familial wealth, savings, grants, loans, pure grit – everyone needs the economic support to realize their farming dreams and in today's economy that support is more difficult than ever to solidify. Most farmers don't already possess strong business acumen when they get into farming. Incubator farmers need more support in

navigating all the dynamic relationships that are inherent in operating a successful farming business today.

Mandatory attendance to educational meetings/classes for incubator farmers should be imposed if it is not already. In my experience, many of the classes were not well attended and I think that primarily came down to scheduling challenges with all of the individual farmers. Perhaps more remote attendance options are available and in place now. Curriculum should include instruction on a wide range of production scales: from micro market gardening on hand-scale, to larger acreage that is fully mechanized. Personally, I believe more weight and focus should be on advanced mechanization with four-wheeled equipment, as well as two-wheeled walk-behind tractors for cultivation. The physical realities of farming long-term dictate that saving our bodies should be of the highest priority.

Beyond improving HIP as it stands now, I believe that establishing a new "graduate-level" program and site should be a primary focus of EMSWCD. This step would not only benefit current and future farmers with the opportunity to access land beyond the five year HIP term, but it would also raise the stature of the program in general to attract a higher level applicant pool from the region and the country. The five year term is not long enough for most operators to establish their production and their businesses to a comfortable level where success feels within reach. Of course, I am thankful that we have several examples of Incubator farm businesses that are currently "successful" and actively producing, but I would argue that we would see a far greater level of success with some of the changes I have outlined.

It seems to me that HIP needs to solidify its identity and more clearly define its curriculum. I understand that working within the requisite framework of EMSWCD imposes certain structural and bureaucratic systems. Perhaps more freedom and responsibility could be given to the farm managerial team to implement changes more promptly. In some ways, it feels like HIP is a powerful tool that is being underutilized because of the restraints and boundaries that are imposed on it.

These are challenging times for farmers, for Portlanders, for humans trying to thrive. I am encouraged by the resilience of our farmers and our regional food systems, and I hope that HIP continues to take an active leadership role in our food and farming communities. I am here to continue to offer my support, experience and leadership in fostering diverse and vibrant food systems in our city and region.



January 26, 2024



RE: Headwaters Farm

My name is Michelle Armstrong, I have worked as an agronomist for almost 20 years in the Willamette Valley and I am excited to offer the Multnomah Soil and Water Conservation District my expertise in organic and conventional farming practices. I work with around 200 crops which has given me diverse knowledge and experience of multiple crops and cropping systems and I get the opportunity to learn more every day.

In my role as an agronomist, I look at the whole plant health picture from soil, seed, water, nutrition, pests and environmental allows evaluate the situation and determine the best solutions for the grower.

I was fortunate to be able to visit the Headwater in early October with Mr. Rossi.

Looking at the plots there were little to no harvestable crops and a good portion of the plots were evident of being abandoned before harvests were done or could be completed due to the state of the weeds and overall plant health. During our visits we were able to talk with one of the growers there and it was brought up that all of the 11 farm plots were either abandoned or only salvage harvesting on a few plots remained by August 25<sup>th</sup> because of the overwhelming weed pressure present on the farm. Weeds had grown above the crops and smothered the smaller and younger plants preventing them from growing and being able to develop a viable crop. I observed broccoli plants that were very skinny and 2-3x taller than a normal healthy plant and only developed a 1-2" sized head on them if any formed at all many just bolted and went to bloom. Of great concern is nutsedge as one of the main weeds present on the farm, this weed can choke out most any crop and spreads by both seeds and nutlets (below the ground).

Any cultivation equipment contributes greatly to the spread of this crop and thus has led to it being present in the majority of the plots. Sadly, there are many more broadleaf and grasses growing in excess in each of the plots as well. There is a strong possibility of other pests present such as multiple root rots, nematodes, symphylans and others. The soil sample shows a nutrient in-balance that would need to be addressed based on crop.

I would say the future of Headwaters farm would be to have each plot follow a start clean stay clean model with varying ways to accomplish this.

- 1) The use of Bio fumigant or fumigation can help with decreasing weed and weed seed pressure, the challenge is that these only work on pests down to the depth of incorporation of the fumigant. Nutsedge can live deeper in the soil and can survive in the nutlet stage of the crop easier.
- 2) Solarization – the use of thick black plastic to cover the ground for 1-3 years which essentially cooks the seeds in the ground. The longer end of the time frame is needed to help control weeds like nutsedge.
- 3) Fallow farming – providing moisture and continuously working the soil over the course of 1-2 years this allows for the seeds to come to the surface germinate and then be worked/killed before they can complete a lifecycle.
- 4) The use of herbicides to decrease the weed pressure – certain pesticides can be applied as pre and post emerge applications different timings would target different weeds, as well as multiple different chemistries for different species. This would take plots out of production for 1-2 years depending on the weeds present.
- 5) Monitor for soil pests such as nematodes, symphylans, root rot and others. These can be treated with varies methods such as biofumigants, biopesticides and cultivation.
- 6) Trapping/ monitoring for other pests like cabbage maggot flies, cucumber beetles and others
- 7) Nutritional needs get the soil in balance and ensure all nutrients are adequate and available, this will vary based on the crop. The pH is currently on the high side and will come down over time. Magnesium and potassium are in need of correction to balance the soil. Nitrogen looks to be a major deficit and looking at

alternative ways to get this nutrient to the plant is essential, alternative dry sources or water injection options. Each plot should have sample done ideally or using more modern technology such as soil optix to get a nutrient map of the farm.

The great news is that Headwaters Farm is located on fantastic soil and still has great potential to be a highly productive training farm in the future. Addressing the deficiencies and challenges will allow us to get there in a reasonable amount of time. This would make it so the Multnomah Soil and Water Conservation District can continue their goal of having a training farm for the future of food security.

Sincerely,

**Michelle Armstrong**

Michelle Armstrong



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# Rossi Farms 1996039

Headwaters Farm

General Crops w/Nitrogen Graphed

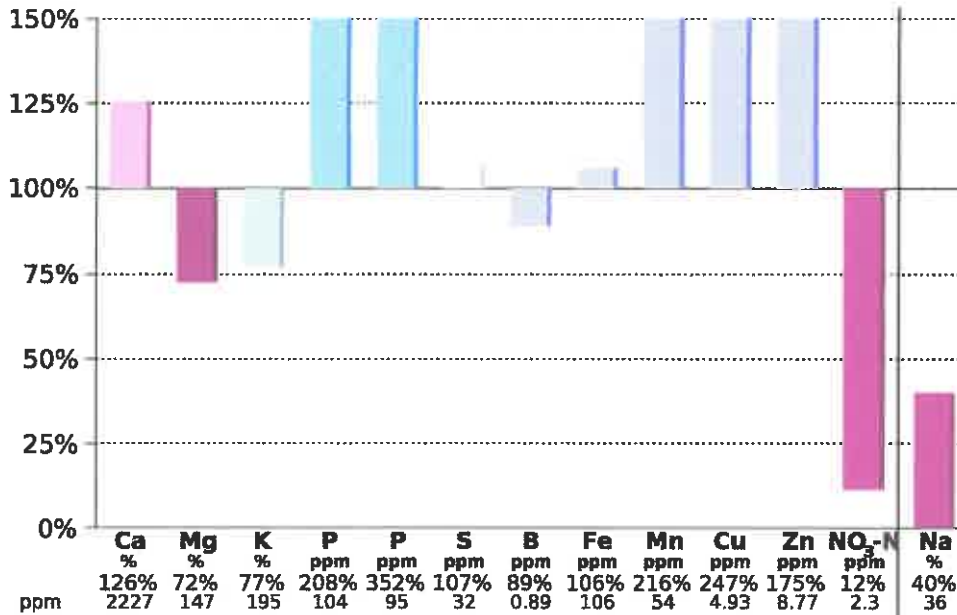
Field Representative: Michelle Armstrong

Branch Office: Wilbur-Ellis - Woodburn Branch

Date of Analysis: October 16, 2023



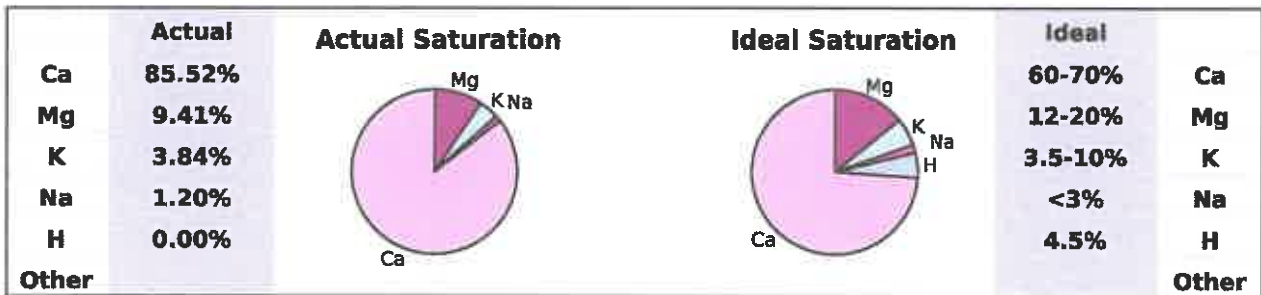
## COMPLETE SOIL



Organic Matter 4.32 %  
 ENR 93 ppm  
 pH Sikora Buffer 7.2  
 pH 6.9  
 Total Exchange Capacity 13.02 meq/100g  
 P Melch III 104 ppm  
 P Bray I 95 ppm  
 NH<sub>4</sub>-N 0.9 ppm  
 NO<sub>3</sub>-N 2.3 ppm

|    | Actual    | Desired  |
|----|-----------|----------|
| B  | 0.89      | 0.75-1.2 |
| Fe | 106       | 100-400  |
| Mn | 54        | 25-80    |
| Cu | 4.93      | 0.5-3    |
| Zn | 8.77      | 5-17     |
| Al | 1325      |          |
| EC | 0.12 dS/m |          |

## BASE SATURATION: KEY ELEMENTS



## Comments regarding the Headwaters Farm Program

I am Albert Garre, a semi-retired farmer, and resident of east Multnomah County. I have operated a fresh market vegetable farm for about 40 years and have been active in local agricultural organizations such as The Fresh Market Growers Association and Oregon Farm Bureau.

I was invited, by Joe Rossi, to tour the Headwaters Farm located just off Orient Drive. The timing of the tour was mid-September of 2023. What I noticed was:

1. Some plots were being actively farmed.
  - These plots were a small portion of the overall acreage of the farm with a minority of plots being well maintained and the rest being marginally maintained.
  
2. Some plots were in an abandoned condition overgrown with both over mature crops and weeds.
  - These plots were a significant portion of the overall acreage, and in their condition created a vector source of weed seed and insects to the other Headwaters farmers and to neighboring acreage.
  
3. Some plots were recently planted with cover crop.
  - This acreage was a significantly large portion of the farm. Cover cropping is an important practice for soil and water health, but is most effective when planted timely to the onset of the fall rainy season. Without knowing schedule limitations of the farm operation, my comment would be: "It should have been planted earlier".

Regarding my general impression of the facilities, I did expect to see more activity. Also, I had toured the farm about a year ago and noticed what seemed to be a level of under-utilization.

I assume the mission of the Headwaters Program is to supply our community with food producers who are good stewards of our soil and water. In pursuit of that goal, has EMCSWCD done a cost benefit analysis of this program, to determine the efficacy of its impact on improving soil and water within the district? Are there alternate strategies that would be more effective?

I appreciate the effort and the services that EMCSWCD provides to our rural and agricultural community and wish your organization continued success.

Regards  
Al Garre

2/4/2024

My name is Larry Bailey. My wife, Angi, and I have a tree nursery in East Multnomah County, and she is a fourth-generation farmer on ground that once belonged to her great-grandparents. Over the years, our property has been a homestead, a berry farm, and a tree nursery. Both of us grew up farming and have deep roots in the agriculture community. The two of us have been involved with Farm Bureau for over 15 years, and I currently serve as Multnomah County Farm Bureau President. Angi serves the agricultural community in numerous capacities, including as Oregon Farm Bureau President and as a member of the board of directors for the American Farm Bureau Federation, Oregonians for Food and Shelter, and the American Farm Bureau Foundation for Agriculture. In different ways, each of these organizations is designed to advocate for agriculture and advance opportunities for America's natural resource communities.

Last summer, I had the opportunity to tour Headwaters Farm with Joe Rossi. This was my first opportunity to tour Headwaters, and I was interested to see more regarding its potential to train new farmers. However, at the time of my visit, I was mostly struck by the significant challenges presented to the incubator farmers who choose to work that ground.

Headwaters is a large property, and a majority of it was fallow ground. The incubator farms that were present all were combined in close proximity in what I recall were two-three relatively small areas of the farm. While potentially convenient from a workflow perspective, this close proximity meant that every farm plot was significantly impacted not only by the condition of the fallow ground but also by the condition of all neighboring farm plots. Stated differently, I observed very little, if any, buffers between neighboring plots, which means that lack of care in any one area had a significant impact on everyone.

Given the fact that we were visiting the farm at what generally would be considered close to peak harvest season, I was surprised by the number of plots that appeared long-abandoned. I recall only a small fraction of the plots that

were in active production, with the remainder being overgrown with weeds and in a seemingly unproductive state. I acknowledge that I do not know how things got to that point, as I only observed the farm at a snapshot in time; however, it was sad to conjecture that many of the incubator farmers either had grown weary of farming or had determined that their plot was not going to produce a reasonable crop and simply had walked away. In any event, the condition of these plots contributed to contamination of all neighboring plots, making it harder for others to succeed. In addition, the observed abandonment is inconsistent with the attitude needed to become a successful farmer, and I found it unfortunate that these counter-productive behaviors, which are detrimental both to the farmer and to the farmer's neighbors, were so prevalent.

The farm has a large weed infestation together with what I assume is a correspondingly large weed seed bank in the soil. Weeds were present and reproducing in great numbers on all but the few of the incubator plots, as well as on the fallow ground. I even observed large weeds actively spreading seeds at the entrances to greenhouses. It would seem that enforcement of improved cultural practices, both in the incubator plots and on the fallow ground, would provide the incubator farmers with significantly improved chances of success.

I remain intrigued by the potential for Headwaters to provide the broader community with a greater appreciation for, and understanding of, farming in general and food production in particular. In addition to the above-discussed recommendations, I am left to wonder if some sort of structured internship program, where incubator farmers gain real-world experience on successful local farms, might be a significant asset to the program.

Sincerely,

Dr. Larry Bailey, PhD

Hello, my name is Deniece Tucker and I have farmed all my life on our 80 acres in Troutdale. Our market crops have been mainly raspberries and nursery stock but we maintain a wide range of fruit trees and seasonal vegetables on a non commercial basis. I have been on the Multnomah County Farm Bureau board since 1999 and have served on the ODA water quality local advisory committee.

I was offered a tour of the Headwaters farm by Joe Rossi and that took place in October of 2023. At that time the field plots looked pretty much abandoned. I saw lots of overgrown weeds that had gone to seed and some remainder of planted crops mostly covered by weeds. I also saw signs of pest damage.

After the tour I thought about what a great location you have for public access to market your participants crops. I had visualized how prosperous it could be if each of the plots available on your land could be planted and maintained to the best potential possible. By that I was thinking that a wide variety of vegetables and fruit could be grown seasonally so that consumers could come on a regular basis and purchase most any fruit or vegetable they are looking for. This could be a great asset to the growers and eliminate the painstaking marketing aspect of the business. Each grower could decide on and be responsible for their own variety of crops that work best for them.

One of the biggest challenges that was evident to me was weed control. I know firsthand how important weed control is not only for visual reasons but for plant health. Weeds take nutrients from the crops and can destroy a crop if left uncontrolled. If the best option for weed control is by hand removal after crops are planted, I could envision success if some growers could work together in a team effort to clean one plot at a time but getting to all plots in a timely manner before weeds get overwhelming.

Another challenge that may be a factor in some of the plots is soil health and nutrient balance. I think it would be cost effective to take soil testing to find out if nutrients should be added for a crop. I also think that growers need to have a plan on what to do to eliminate pests if they have a pest problem in their crops such as aphids or worms as I saw some leaves badly eaten by pests.

At the end of the growing season for each plot I think it is important to promptly mow down or cultivate up the plot to eliminate the potential for weeds to seed and spread. Cover crops could be planted promptly at this time.

I would like to see some crops planted such as strawberries, raspberries, blueberries, blackberries, grapes, fruit trees etc. to add to your program.

I want to conclude by saying that eye appeal has a lot to do with getting consumers excited about purchasing fresh fruit and vegetables and it would be beneficial to have a minimum standard of quality goals set and met for the fields.

Thank you for allowing me to provide my input.

**Deniece Tucker**







