

2020 Farmer's Manual



Headwaters Incubator Program

Cultivating Farms and Future Stewards

East Multnomah Soil and Water Conservation District

1/16/2020



2020 HIP Farmer's Manual
East Multnomah Soil and Water Conservation District
January 16th, 2020

For more information about this manual or to receive a hardcopy, please use the contact information below.

All questions or comments pertaining to this document or the general operations of the Headwaters Incubator Program and Headwaters Farm should be directed to:

- Rowan Steele, Headwaters Farm Program Manager (rowan@emswcd.org / 503.935.5355)

Emergency backup contact:

- Andrew Brown, Conservation Legacy Program Supervisor (andrew@emswcd.org / 503.935.5354)

East Multnomah Soil and Water Conservation District
5211 N. Williams Ave., Portland, OR 97217
Tel: 503-222-7645

The East Multnomah Soil and Water Conservation District (EMSWCD) prohibits discrimination in all of its programs and activities on the basis of race, color, national origin, age, disability, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisals, or because all or part of an individual's income is derived from any public assistance program.



Table of Contents

1.0 Welcome	1
1.1 Purpose of Farmer’s Manual.....	1
1.2 What is a Farm Incubator Program?	1
1.3 Headwaters Incubator Program Structure.....	1
1.4 Why a Farm Incubator?.....	2
1.5 About Headwaters Farm	2
1.6 Conservation Agriculture	3
1.7 Equity and Inclusion	3
2.0 Learning Objectives.....	4
2.1 Farm Development Plan.....	4
2.2 Site, Equipment, and Safety Trainings	4
2.3 Classes & Workshops	4
2.4 Farm Business Plan.....	5
2.5 Program Partners & Local Farmer Development.....	5
2.6 Mentorship Program.....	5
2.7 Market Support.....	6
3.0 Headwaters Farm and Headwaters Incubator Program Guidelines.....	7
3.1 Conservation Farming Guidelines	7
3.1.1 Organic Practices	7
3.1.2 Integrated Pest Management (IPM)	8
3.1.3 Soil Fertility.....	8
3.1.4 Cover Crop.....	8
3.1.5 Crop Rotations and Blocking	8
3.1.6 Soil Testing	9
3.1.7 Water Usage	9
3.1.8 Problem Weeds and Management Incentives	10
3.2 Safety Guidelines	12
3.2.1 Safety Gear.....	12
3.2.2 Wash Station Cleanliness and Food Safety	12
3.2.3 Safety Trainings.....	13



3.2.4 *First Aid and Fire Extinguishers* 13

3.3 Incubator Program Guidelines 13

 3.3.1 *Lease Agreement*..... 13

 3.3.2 *Insurance Coverage*..... 14

 3.3.3 *Meetings, Gatherings, & Participation* 14

 3.3.4 *Record Keeping*..... 14

 3.3.5 *Community Farm Hours* 14

 3.3.6 *End of Season Responsibilities* 15

 3.3.7 *Equipment & Infrastructure Availability* 15

 3.3.8 *Publicity*..... 15

 3.3.9 *Graduate Support and Expectations* 16

3.4 Headwaters Farm Guidelines 16

 3.4.1 *Field Storage and Management Access* 16

 3.4.2 *Structures* 17

 3.4.3 *Compost* 18

 3.4.4 *Food Storage & Curing* 19

 3.4.5 *Driving, Parking, and Roadway Access* 19

 3.4.6 *Spring Tillage*..... 20

 3.4.7 *Facilities & Common Areas* 20

 3.4.8 *Dianna Pope Natural Area* 22

 3.4.9 *Children at Headwaters Farm* 22

 3.4.10 *HIP Farmer Workshops, Gatherings, and Events* 23

 3.4.11 *HIP Farmer Employees and Labor* 23

3.5 Program Participation Incentive 23

3.6 Facility Management Decision Making 24

4.0 Headwaters Farm Conduct 25

5.0 2020 Costs & Payment Schedule..... 27

 5.1 Program Amenities and Associated Costs..... 27

 5.2 2020 Fee Breakdown and Payment Schedule..... 27

 5.3 Graduated Land Cost-Structure 27

 5.4 Equipment, Costs, and Usage 28

 5.5 Infrastructure & Costs..... 30



5.6 Services & Costs	33
5.7 Payment Standing and Hardships	34
5.8 Graduate Access to Farm Facilities	34
6.0 Indemnification and Violation Recourse	35
6.1 Adaptive Management	35
6.2 Access to Headwaters Farm	35
6.3 Fines	35
Headwaters Farm Plot Map	I
Community Farm Hour Tracking Log	I
Irrigation Log	II
Input Tracking Sheet	II
Agreement to Participate.....	V
Authorization for Photo Release	VI

1.0 Welcome

East Multnomah Soil and Water Conservation District (EMSWCD) would like to welcome you to the 2020 growing season with the *Headwaters Incubator Program* (HIP)! We are pleased to have you on board as we seek to aid the establishment of new farm businesses and provide a host of resources to farmers in our district.

1.1 Purpose of Farmer's Manual

The *Farmer's Manual* is designed as a first-stop reference for policies, costs, guidelines, and expectations of HIP. It is also intended to be a resource for the type of information you should be considering as you launch your fledgling business. The Farmer's Manual is a living document that evolves from year-to-year. To assist returning farmers and those already familiar with previous editions of the Farmer's Manual, [content changes have been made in blue](#). Text color for non-content related editing will remain black. All program participants are encouraged to read the entire document and direct questions, concerns, and suggestions to the Headwaters Farm Program Manager.

1.2 What is a Farm Incubator Program?

A farm incubator program (FIP) is a *"land-based, multi-grower project that provides training and technical assistance to aspiring and beginning farmers."* That broad description leaves a lot of discretion for each program as to whom they work with, what services they provide, and what specific beginning-farmer barriers they seek to address. Due to this, there are a wide range of FIPs, each with unique approaches and challenges.

According to the National Incubator Farm Training Initiative (NIFTI) in 2016 there were:

- 130 operational FIPs
- 90 potential FIPs
- 1,565 farmers in FIPs
- 19,694 Acres of agricultural land being managed by FIPs
- 9 participants on average in each FIP

[In 2020, HIP will likely be host to 15 farm businesses operating on roughly 14 acres. These businesses are primarily mixed-vegetable operations, although there are HIP farms producing cut flowers, medicinal and culinary herbs, plant starts, and rabbits.](#)

The vast majority of FIPs are operated by nonprofit organizations. Very few conservation districts host an incubator program for beginning farmers.

1.3 Headwaters Incubator Program Structure

The Headwaters Incubator Program seeks to launch new farm businesses by making farmland, equipment, infrastructure, and learning opportunities available to program participants at EMSWCD's Headwaters Farm. These items are rented out at a reasonable rate, typically at or below market value. Farmers in HIP can stay at Headwaters Farm for up to five years. After that they graduate out of the program to another site where they will continue to grow their business. By graduation, HIP participants should have well established markets and sales accounts, efficient and effective production methods, a broad understanding of critical farmer skills including good stewardship and business management, a well-established farm support network, and a detailed business plan with financial records.

1.4 Why a Farm Incubator?

EMSWCD's vision is that our lands and waters are healthy and sustain farms, forests, wildlife, and communities. So, it should come as no surprise that EMSWCD has a stake in making sure farmland is kept in production and that the next generation of farmers is prepared and capable of managing working lands in a responsible manner. Furthermore, EMSWCD recognizes that farmers have a critical role in maintaining healthy, productive natural resources. If good stewardship is the goal, there is no better population to engage than beginning farmers, who have a long tenure of land management in their future.

1.5 About Headwaters Farm

Headwaters Farm is a 60-acre property just outside of Gresham, Oregon that is owned by EMSWCD (see *Figure 1 – Headwaters Farm*). The term *Headwaters* refers to tributaries that feed a larger moving body of water. One of the more notable features at Headwaters Farm—and a primary reason EMSWCD purchased the property—is the North Fork of Johnson Creek. In this instance, *Headwaters* also serves as a symbol for incubator farmers, who are fledgling operations during their tenure in the Headwaters Incubator Program, but will eventually move off and become robust, established farms serving their markets and communities.

One of the main objectives of Headwaters Farm is to use the site to demonstrate the relationship between conservation and viable, productive agriculture. The area around the North Fork Johnson Creek at Headwaters Farm was put into EMSWCD's StreamCare program, which restored the riparian buffer and protected onsite natural resources. This zone has been designated the Dianna Pope Natural Area (DPNA) and is managed in accordance of the Dianna Pope Natural Area Site Conservation Plan (available upon request).

Figure 1 – Headwaters Farm

The 60-acre property is located near Gresham, Oregon. About 65% of the site is dedicated to the development of beginning farm businesses by making farmland available for rent. The Dianna Pope Natural Area accounts for 25% of the farm and serves as a protected riparian corridor. The remaining roughly 10% are fields earmarked for future projects or program expansion.



1.6 Conservation Agriculture

In addition to launching successful businesses, HIP exposes program participants to the benefits of conservation agriculture, which for program purposes can be defined as: modern farming practices that improve production while protecting or enhancing natural resources.

Conservation agriculture can have positive impacts on natural resources and a farm's bottom line. EMSWCD looks forward to working with HIP program participants and partners to demonstrate conservation agriculture, as well as using these practices to improve growing conditions at Headwaters Farm.

1.7 Equity and Inclusion

Sustainable farming can have incredibly positive environmental and social benefits. However, it's critical to recognize that all agriculture in the United States operates on lands stolen from indigenous peoples and that farmworkers of color have and continue to be routinely exploited for cheap labor. Moreover, healthy, fresh produce is often inaccessible to those who need it most. These inequities, and many others baked into our food system, are systemic and intertwined with complex issues related to race, class, and oppression. While no single intervention can solve these problems, EMSWCD is utilizing Headwaters Farm to lower farming barriers to a diverse range of growers and as a tool to creating positive environmental and social justice outcomes.

EMSWCD is dedicated to Headwaters Farm providing a safe and welcoming space for all program participants, their employees, farm visitors, and EMSWCD staff. The Headwaters Incubator Program is committed to supporting passionate growers from a vast array of backgrounds in their effort to establish a farm business. We value differences and encourage people from all communities to engage with EMSWCD and our unique farm development and education resources.

2.0 Learning Objectives

EMSWCD will provide valuable agricultural learning experiences for program participants. This may include workshops, classes, hands-on projects, farm tours, peer-to-peer teaching, or other structured activities. Program participants are expected to participate in scheduled activities whenever possible and appropriate. Specific safety and equipment trainings may be mandatory. The Headwaters Farm Program Manager will work with participants to identify what learning opportunities are most applicable to their farm and development needs.

Learning objectives can be broken into several categories:

General	Business	Production
New Farmer Orientation	Record Keeping & Finances	Nutrient Management
Safety Trainings	Loans, Grants, & Financing	Irrigation Management
	Land Access	Integrated Pest Management
	Business Resources	Post-Harvest Handling
	Crop Planning	Equipment/Tool Trainings
	Coop Establishment	
	Bookkeeping	
	Business Planning	
	Marketing	

The table above lists the variety of trainings, classes, and workshops that participants will be exposed to during their tenure in the program.

2.1 Farm Development Plan

Upon entry into HIP, the Headwaters Farm Program Manager will work with each individual farm business to create a Farm Development Plan. This plan will identify priority development goals and outline a strategy for each business to follow. This will include learning objectives, business plan benchmarks, and any other developmental expectations. Like all plans, this will be a living document that incubator farms and EMSWCD staff will revisit as need dictates.

2.2 Site, Equipment, and Safety Trainings

First-year HIP farmers will receive a Headwaters Farm and HIP orientation at the beginning of the season. This will cover the basics of safety, farm systems, and facility etiquette. There will also be individual trainings on specific rented equipment. Those will be provided as needed but must be taken prior to equipment operation. Training topics will be based on farmer need and instructor availability. Much of the information regarding safety at Headwaters Farm can be found section 3.2 *Safety Guidelines*.

2.3 Classes & Workshops

EMSWCD works with partner organizations to provide incubator participants exposure to a range of new farmer educational opportunities. Given the dynamic nature of farming and the wide range of skills and knowledge needed to be successful, it's unrealistic to expect adequate training to occur over just one season. Instead, HIP's goal is to provide multiple opportunities for farmers to engage on these critical topics over their tenure in the program. In many cases farmers will be exposed to key subjects more than once. This redundancy is an opportunity to go deeper into a subject than a single class may allow and to better understand the intersection of complex farming and business topics.

To the extent possible, classes and workshops will be scheduled during non-peak season times to allow incubator farmers to focus on production and sales during the growing season. However, some classes are impractical to teach out of the growing season and therefore require flexibility on the participant’s part.

2.4 Farm Business Plan

All accepted participants have created and submitted a Farm Business Plan as part of the HIP application process. This is expected to be a living document that farmers revisit with the Headwaters Farm Program Manager as appropriate. Incubator farmers will follow their Farm Business Plan as closely as possible. EMSWCD recognizes that farming is a fluid activity and that farmers must adjust when situations change. In these instances, incubator farmers may adapt accordingly. However, major deviations from a client’s Farm Business Plan—those that take the farm in a different direction, for example, adding a CSA to the marketing approach—should include the Headwaters Farm Program Manager’s feedback. The value of a current Farm Business Plan is that it helps the farmer identify needs and opportunities, but it also serves as critical information for potential financiers.

2.5 Program Partners & Local Farmer Development

EMSWCD greatly values its partners and actively works with various organizations to meet farmer, farm, and program needs. A list of some of these key partnerships includes:

Organization	Role in Local Farmer Development
Bridge City Farm School	Private farm education program
Clackamas Community College	Workshops, trainings, and tours
Ecotrust	Ag of the Middle Research; Ag accelerator program
Friends of Family Farmers	Farmer offsite transitions (Oregon Farm Link); Outreach and advocacy
Mudbone Grown	Advance opportunities for Farmers of Color; Training and tours
Multnomah County	Linking incubator farmers with potential land lease options
Natural Resource Conservation Services	Cost share; Resource management
OSU Extensions Service	Growing Farms course; Workshops; General support
Rogue Farm Corps	On-farm entry-level farmer development program with apprenticeship program
Xerces Society	Pollinator and beneficial insect habitat development
Zenger Farm	Entry-level farmer development program; urban grange; commercial kitchen

Several of these groups play an active role in assisting to select HIP farmers each year. In addition, some of the programs act as incubator “feeders,” helping to develop entry-level farmers who might be strong HIP candidates for future years. Over the past few years, many of these organizations have begun to work closely together to streamline services and ensure a wide range of opportunities for beginning farmers.

2.6 Mentorship Program

First year incubator farms will be matched with one or more established program participants. These mentorship arrangements are designed to provide smooth transitions into HIP, facilitate community building, and ensure that new farmers are supported and utilizing on-site resources appropriately. Topics that may warrant mentorship include:

- Production feedback
- Business development feedback
- Facility or equipment guidelines and etiquette
- Program guideline support

HIP mentors can track their time working with the new farmers in their [Community Farm Hour log](#).

2.7 Market Support

A pilot partnership has been developed between HIP and the Portland Farmers Market (PFM) to provide booth space to establishing market growers at the Portland State University Farmers Market. As part of the agreement, HIP provides many of the key tabling items, including tents, weights, tables, signage, and a HIP display. In addition to bringing product and any remaining tabling supplies, HIP participants are responsible for the following:

- Sign and operate within the PFM use agreement.
- Represent EMSWCD and PFM in a professional manner.
- Meet with Market Staff for a ten-minute check-in before each market opens and communicate with staff throughout the market as necessary.
- Set-up and tear-down the booth before and after each market.
- Bring appropriate amounts and denominations of change for the cash box.
- Pay booth fee to PFM, by end of each scheduled market day.
- Maintain and demonstrate proof of insurance.
- Display a farm sign no bigger than 11in x 17in or smaller than 8.5in x 11in.

For the 2020 growing season, HIP will offer vending opportunities to a handful of incubator farms based on demand, experience, and fit. Vending opportunities will be determined by the Headwaters Farm Program Manager through a fair and transparent process. Recent program graduates will be considered as part of this process.

PFM staff will work with HIP farmers on tools and techniques to establish themselves at the market.

3.0 Headwaters Farm and Headwaters Incubator Program Guidelines

Guidelines have been put in place to promote efficient, effective, safe usage of Headwaters Farm. The goal of these guidelines is to improve the overall HIP experience and increase the likelihood of participant success. For the sake of clarity and organization, these guidelines have been broken into different categories: conservation farming, safety, incubator program, and Headwaters Farm.

3.1 Conservation Farming Guidelines

EMSWCD utilizes the following general land use guidelines to improve the overall quality of the farm—building soil, managing water, reducing weed pressure, and controlling pests—for current and future HIP participants. These include:

3.1.1 Organic Practices

Incubator farmers will work within the standards set by the National Organic Program (NOP), meaning: no synthetic fertilizers, no Genetically Modified Organisms (GMO), and only OMRI- or WSDA-listed inputs or sprays ([for more information on the NOP, visit: https://www.ams.usda.gov/rules-regulations/organic](https://www.ams.usda.gov/rules-regulations/organic)). The one exception to this rule is that with approval from the Headwaters Farm Program Manager, HIP farmers may use the honeycomb Paper Chain Pots for the Paperpot Transplanter. It will be up to incubator farmers to decide if they would like to pursue organic certification. **Farmers are required to keep an Input Log of all products applied to their fields and crops.** A template is provided in the back of this document. This log is to be shared with the Farm Incubator Manager at the conclusion of each season.

Pressure treated lumber is not approved of organic production and is therefore not allowed in the fields.

There are instances when EMSWCD may use non-organic certified herbicides at Headwaters Farm to manage hedgerows, the Dianna Pope Natural Area, or other non-production locations. For each of these applications the following conditions will be met:

- Farmers notified at least 24 hours in advance;
- No herbicides will be applied outside of the defined management zones (natural area, hedgerows, etc.);
- Suitable environmental conditions (wind speeds under 12mph, dry weather, temperatures between 40° - 85°F);
- Application will be carried out by backpack sprayer and solely to the targeted problem plants;
- All applicators will be licensed;
- EMSWCD staff will be present to oversee the application process;
- Dyes will be used during herbicide application to improve visibility of sprayed plants/areas;
- Herbicide use will be limited to:
 - Garlon or Element 3A (triclopyr amine, EPA Reg. #62719-37)
 - Rodeo, Accord, or equivalent (glyphosate, EPA Reg. #62719-324);
- Mixing of herbicides will be done within the natural area and well removed from fields and food processing, including the Headwaters Office.

The use of acetic acid (30% agricultural-grade vinegar), which is approved for organic use in non-production areas, may be applied around the farm to manage weeds in locations where hand and mechanical weeding are impractical and it's too close to fields or food processing and storage zones for regulated herbicides.

[In 2020 EMSWCD staff will trial the organic-certified herbicide Weed Slayer on problematic weeds around the farm. Weed Slayer is a non-selective, broad-spectrum herbicide derived from clove oil. It also includes a biological amendment](#)

called Agro Gold WS (considered a minimum risk pesticide and exempt from EPA registration) that expedites the decomposition of weed root masses through stimulating microbial activity. If effective, EMSWCD will incorporate Weed Slayer into the invasive weed management strategy for the farm. The 2020 trial won't include areas in active production.

3.1.2 Integrated Pest Management (IPM)

IPM is a series of evaluations, decisions, and controls that are used in conjunction to suppress or eliminate pest problems. It's based on the premise that least-impactful pest management solutions (e.g., identification, monitoring, physical barriers) should be used before broader, more impactful approaches (biological or chemical controls). In accordance with IPM strategies, even OMRI-listed pesticides should be a last resort. All incubator farmers are expected to have a written IPM strategy and apply it.

3.1.3 Soil Fertility

EMSWCD will ensure that when farmers receive access to new cropland that it has a pH of 6.0 or higher. It will be the responsibility of incubator farmers to maintain a satisfactory pH and to apply any needed nutrients. Since synthetic fertilizers are not allowed (see 3.1.1 *Organic Practices*), farmers should consider various plant- and animal-based amendments. Compost is great for improving soil structure, adding organic matter, sequestering carbon, and jump-starting microbial activity, but it's important to note that compost is *not* a good source of quick nitrogen and can be high in phosphorus, which may have adverse environmental impacts when over-applied. *Any fertility inputs should be part of a broader nutrient management plan.* EMSWCD staff and various HIP partners can assist in forming this coordinated approach to soil fertility. ***Farmers are required to keep an Input Log of all products applied to their fields and crops*** (see 3.1.1 *Organic Practices*). A template Input Log can be found in the back of this document. A copy of it will be required at the end of the season.

Farmers are expected to maintain or improve soil organic matter. This can be done by adding compost, reducing or eliminating tillage, applying mulches, and growing green manures. EMSWCD staff are available to help determine what approaches to building organic matter are most appropriate for your application and budget.

3.1.4 Cover Crop

The use of cover crops is the primary tool for protecting soil, suppressing weeds, and adding organic matter throughout Headwaters Farm. Except in areas of active production, ***farmers must seed a cover crop of legumes and cereal grains by October 1st*** at a rate no less than 100lbs/acre to 50lb/acre, respectively. EMSWCD recognizes that each season is different, especially in an era of changing climates, and there may be instances where the cover crop deadline is adjusted to reflect the true conclusion of the main growing season. However, unless otherwise stated in writing by the Headwaters Farm Program Manager, October 1st will remain the default deadline. If this deadline is unachievable, it is the responsibility of the farmer to discuss their cover crop timeline and strategy with the Headwaters Farm Program Manager at least a week prior to the deadline. EMSWCD will arrange a bulk purchase of cover crop seed each season. Farmers may elect to use this seed or source their own, if the seed meets program requirements.

3.1.5 Crop Rotations and Blocking

There are two general levels of rotations to consider: fertility and pest. The most basic fertility rotation involves not growing plants with similar edible parts (leaf, root, flower, and fruit) in the same place consecutive years. Pest rotations consist of avoiding successions of plants within the same family. The Headwaters Farm Program Manager will be sensitive of individual investments (e.g., soil quality, perennials, reduced weed pressure) made to the land by each client and look to keep farmers producing on the same plot year after year. However, if a farmer is not able to rotate crops effectively they may need to be relocated to a new plot.

Blocking crops together with similar irrigation needs allows farmers to develop a practical Irrigation Strategy. EMSWCD staff can help farmers develop such approaches. They are now part of the water pricing system at Headwaters Farm (see irrigation section in *5.5 Infrastructure Costs*).

Each farm will **provide EMSWCD with a field map at the conclusion of each season** that illustrates what crops were grown where over the course of the season.

3.1.6 Soil Testing

Soil samples are the primary tool for creating sound Nutrient Management Plans to maximize yields with minimal inputs. Nutrient Management Plans also help farmers monitor their usage of Nitrogen, Phosphorus, Boron, and other nutrients that can be harmful to plants or people in higher levels.

Incubator farmers will be responsible for taking at least one soil sample for each rented growing space (individual plot or hoophouse) in October before the rainy season begins. The exact deadline each season will be provided by the Headwaters Farm Program Manager at least two weeks in advance. The Headwaters Farm Incubator Manager will be responsible for getting the samples to the lab and farmers will pay for the analysis fees in their fourth-quarter invoice. Farmers who fail to take their sample(s) by the noted seasonal deadline will be **charged \$50 per management zone** (individual plot or area that has different fertility plan or past use). This fee is to cover the cost of analysis and the time it takes staff to garner the sample(s).

3.1.7 Water Usage

Incubator farmers will have access to a reasonable amount of water (as judged by EMSWCD). The Headwaters Farm Program Manager and other EMSWCD staff can work with individual farmers on determining the appropriate amount of irrigation. Access to irrigation water will be available adjacent to each field block. The charge for irrigation water is based on how long a participant has been in HIP. However, those fees are waived for farmers who follow the Irrigation Strategy incentive detailed in the irrigation section in *5.5 Infrastructure and Costs*.

It is possible that at some point in the season there will be a need to allocate dates and/or times in which farms can irrigate. This will be worked out when this threshold is reached. However, EMSWCD reserves the right to set an irrigation schedule as demand necessitates. Until irrigation scheduling is implemented, the irrigation water protocol includes:

- 1) Understanding the gallon/minute impact of an irrigation set and its anticipated duration.
- 2) Checking the flow meter at the well head to determine if the proposed irrigation set will overwhelm pump capacity (110gpm).
- 3) Noting irrigation set “in-progress” with magnet on the irrigation board or queuing-up to irrigate on the irrigation board at the well head (if irrigation set impact will go over the 110gpm pump threshold).
- 4) If queuing, it is recommended to communicate with farms that are actively irrigating.
- 5) Noting on irrigation board when the irrigation set has concluded.

Opening irrigation valves slowly—over the course of 20 seconds—will keep pressure higher and reduce the likelihood of system shutdown. Infrequent irrigation shutdowns will ensure that irrigation scheduling is unnecessary.

Only authorized farmers are allowed to touch the Variable Frequency Drive.

Farmers are responsible for monitoring and repairing punctured, detached, or poorly connected drip tape. This is a criterion of the Program Participation Incentive (section 3.5 *Program Participation Incentive*).

Drinking water is available at the barn, office, and shade structure. *Do not drink irrigation water.*

Timers

Irrigation timers pose a challenge at Headwaters Farm for several reasons:

- They don't consider watering conditions or current irrigation output.
- They may run at times when nobody is around to monitor the irrigation system and address issues.
- They keep the filters and pressure regulators under constant pressure if placed downstream of this hardware.

Despite these challenges, the use of irrigation timers *is* permitted if the following conditions are **annually** met:

1. The farmer gets prior approval from the Headwaters Farm Program Manager to install a timer.
2. The timer is installed on the riser in place of the ball valve (upstream of the pressure regulator and filter).
3. Timers operate during non-peak irrigation hours, as deemed by the Headwaters Farm Program Manager.
4. The farmer has an Irrigation Strategy noting timer usage and/or provides EMSWCD with a basic written watering plan, including:
 - Type of irrigation (drip or overhead)
 - Emitter/sprinkler spacing
 - Number of lines open during the set
 - Number of zones (if applicable)
 - Set duration
 - Gallons per minute for the set
 - Inches of water per hour being put down
 - Timer cycle settings (this should also be posted at the irrigation whiteboard at the well head)
 - Watering goals (e.g., one inch of water per week from July to September)

The objectives with these guidelines are to ensure that HIP investments are protected and that farmers are watering for need, as opposed to solely for convenience. Farmers using timers are still responsible monitoring their system for leaks, breaks, and areas of excessive wetness. Farmers onsite at Headwaters Farm get watering priority over those using timers.

3.1.8 Problem Weeds and Management Incentives

The most common weed issues at Headwaters Farm are Canada thistle and yellow nutsedge, although there is increasing pressure from pig weed and crabgrass. EMSWCD is committed to greatly reducing the pressure from these weeds but requires incubator farmer assistance to accomplish this. To incentivize good weed management, incubator farms that properly manage thistle, nutsedge, pig weed, and crabgrass from June through September—as deemed by EMSWCD staff—*will have \$50 removed from their Participation Fee for each month the incentive is achieved.* This equates to a potential savings of \$200. Additionally, *EMSWCD will purchase winter cover crop seed for any HIP farmer who sufficiently manages these weeds in their plot throughout the entire growing season.* Participants who fail to keep up on proper weed management will not receive these incentives. In flagrant cases of inadequate weed management farms may see repercussions in the form of relocation, fines, or termination of their lease.

Weeding incentives are based on several criteria:

1. *Invasive Weed Pressure* — how intense are the invasive weeds in that plot?
2. *Invasive Cleanliness* — how well are the invasive weeds being managed?
3. *General Field Cleanliness* — how many weeds (not just invasives) are in the plot and what is their growth stage?
4. *Invasive weeds going to seed* — are invasive weeds forming seed?

The first three criteria are rated one-through-five (one being lowest). If the sum of these three criteria equals nine or higher than the farmer has sufficiently met the standard and will receive the incentive for that month. However, regardless of the score, if any invasives are observed going to seed (criterion number four), no incentive is awarded. [The Weeding Incentive scoring system is:](#)

Existing Invasive Pressure	Invasive Cleanliness	General Weed Cleanliness	Invasives Going to Seed	Total
1 = Extremely Low	1 = Absolute Neglect	1 = Extremely Poor	"No" = Incentive Achievable	Minimum score of 9 needed each month to achieve incentive
2 = Low	2 = Worsening Conditions	2 = Unsatisfactory		
3 = Moderate	3 = Maintaining Conditions	3 = Satisfactory		
4 = High	4 = Improving Conditions	4 = Above Average	"Yes" = Incentive Not Achievable	
5 = Extremely High	5 = Optimal Management	5 = Outstanding		

The Farm Incubator Program Manager will inform farmers of their weeding incentive scores as they occur throughout the season.

The following is an overview of the invasive weeds monitored at Headwaters Farm:

- *Canada thistle* — a perennial that propagates from rhizome and seed. Ideal Canada thistle management involves killing shoots before they reach eight leaves. This is a vigorous plant and will resurface after cultivation. Continued weeding on a regular cycle (within every 21 days) will eventually exhaust the rhizome. Digging up larger portions of the roots—as opposed to cutting it at the soil surface—will increase the length of required weeding cycles. It’s preferable that plants are weeded at a young stage. EMSWCD is conducting tests with Canada Thistle Rust as a possible future biological control. [The first year those tests proved unproductive, but it can take a couple years for the rust to take hold.](#) For more information on Canada thistle management see: <https://cropwatch.unl.edu/organic/thistle>
- *Nutsedge* — ideal management involves digging up the “nuts” (which are actually tubers) and removing as much of the rhizome as possible. In most cases it’s prudent to place nuts and rhizomes in a bag or bucket and dispose of them in municipal waste, although they will dry out and die after about four days under strong sun. Thorough nutsedge weeding is particularly important early in the season, as the aggressiveness of the plant decreases with lesser amounts of moisture. If digging the nuts up isn’t an option, then removing the foliage in less than 21-day increments will prevent further spreading. For more information see: <http://ipm.ucanr.edu/PMG/PESTNOTES/pn7432.html>

- *Pig weed* — common annual problem weed which is becoming more prominent at Headwaters Farm. Pigweed is an amaranth and that propagates by seed. A single plant can generate as many as 600,000 seeds that can be dormant for extended periods of time. The best management approach is to cultivate at the cotyledon stage. Flame weeding is also a practical management approach. For more information visit: <https://articles.extension.org/pages/65208/weed-profile:-pigweeds-amaranthus-spp>.
- *Crabgrass* — a summer annual that propagates from seed or rooting out at nodes that touch the ground. The best management approach is cultivation at an early stage. Flame weeding can be part of the management plan but requires more heat than many other young weeds and follow up cultivation. Once the plant goes to seed it will drop a huge number of hearty seeds that can last up to three years in the soil. It's critical this seed drop doesn't occur in the field. For more information visit: <http://ipm.ucanr.edu/PMG/PESTNOTES/pn7456.html>.

Given the quarterly invoice schedule (see 5.2 2020 Fee Breakdown and Payment Schedule), the entire Participation Fee will be payable in the final quarter. This allows the weed management incentive to be applied in part or full in that final invoice, depending on a farms' ability to keep up on invasive weeds during the summer months.

EMSWCD staff intends to conduct trials of the organic herbicide Weed Slayer on nutsedge, Canada thistle, and other problematic weeds. For more information on this herbicide and trial, see 3.1.1 Organic Practices.

3.2 Safety Guidelines

Safety is a paramount concern at Headwaters Farm. All farm activities must be done with careful consideration to safety, including that of the individual, other farmers, neighbors, EMSWCD staff, any visitors to the farm, farm product consumers, as well as farm equipment and infrastructure. Alert EMSWCD staff immediately if dangerous conditions are observed.

3.2.1 Safety Gear

Farmers must use good judgment when it comes to wearing basic safety gear. This includes, but is not limited to:

- Appropriate clothing (sturdy, protective, not too loose, and good coverage; raingear as needed).
- Proper footwear (no open-toe shoes or bare feet; boots preferred).
- Gloves as needed.
- Eye and ear protection when operating machinery.
- Dust mask or respirator when working in areas with poor air quality.
- Hat and sunblock as appropriate (but wash hands thoroughly after sunblock application).

Farmers are responsible for purchasing and using their own safety equipment and always having it available at the farm.

3.2.2 Wash Station Cleanliness and Food Safety

Food safety is a critical component of all agricultural operations. Incubator farmers will need to ensure that their practices work to minimize risk of contact and spreading of food borne illness. In accordance with the Produce Safety Rule in the Food Safety Modernization Act (FSMA), HIP will develop a Food Safety Plan for Headwaters Farm. This will be done with the input of HIP farmers and can be referenced by farms that lack their own plans.

Barn and Auxiliary Wash Station **clean-up protocol** includes:

1. Scrub food contact surfaces with EMSWCD-provided cleanser (dunk tanks/spray tables/barrel washer).
2. Thoroughly rinse the cleanser off with water.
3. Apply Sanidate 5.0 to clean food contact surfaces and leave to dry.

4. Leave dunk tank upside down to drain completely.
5. Sweep floor. Do not hose it down.
6. Empty any food waste generated into green compost trailer.
7. Clean out the gutter screen after each use.

Other wash station food safety guidelines include:

- Don't wash vegetable waste or sediment from the gutter into the catch basin.
- Wash hands in designated handwash stations before handling food.
- No produce storage in the wash station. Any produce left overnight in the wash station will be composted.
- Only crops are to be placed on food contact surfaces.
- No bin washing within the wash station. Bins are washed at the Bin Wash Stations.
- Clean, dry bins are stored in the curing shed along the western wall.
- Farmers must have separate containers for harvest (field use) and packing (storage and transport).
- All farms who use the wash station should occasionally take the compost trailer to the main compost pile.
Farmers can allocate 20 minutes of Community Farm Hours for each trip.

3.2.3 Safety Trainings

Some equipment requires training prior to rental or farmer use. Information on which tools or pieces of equipment fall in this category can be found in section 5.0 2020 Costs & Payment Schedule.

3.2.4 First Aid and Fire Extinguishers

There are two quarterly serviced first aid kits on the farm. They can be found:

Facility	First Aid Kit Location
Barn	On the east side of the barn wash station mounted onto the cubby rack
Container	On the south side of the blue Field Container under the BCS awning

Fire extinguishers can be found in:

Facility	Fire Extinguisher Location
Office	Hanging on the wall in the back of the meeting room near the kitchen
Barn (2)	One near the sliding door to the wash station; one on the western wall near the workbench
Container	Under the BCS awning on the south side of the container
Curing Shed	Hanging on the pallet racking upon entering the human-door
Prophouses	Mounted inside each propagation house on the eastern end
Forklift	Attached to the forklift in the barn
Farm Truck	In the black outside toolbox on the driver's side, which is always unlocked.

A fire extinguisher will be mounted in the equipment shed once that facility is operational. Staff checks the pressure on each extinguisher monthly. The extinguishers are professionally serviced once a year. Backup extinguishers are onsite if stand-ins need to be taken off-site for servicing.

3.3 Incubator Program Guidelines

The following are other guidelines pertaining to HIP.

3.3.1 Lease Agreement

All participants sign a lease prior to each growing season. The lease is a legally binding contract and covers issues pertaining to land allotment, payment, termination, and other pertinent issues. Incubator farmers are encouraged to review the lease agreement and refer to it as needed. In some instances the lease references sections of the Farmer's

Manual. Determination of plot size and location will be by EMSWCD staff. Farmer plots may vary in size and location from year-to-year.

3.3.2 Insurance Coverage

All farmers are required to carry at least a million-dollar liability insurance policy that covers *both* general and product liability. Incubator farmers will provide EMSWCD with a Certificate of Liability Insurance that lists *East Multnomah Soil and Water Conservation District* as “additionally insured.” Recommendations on cost-effective plans can be made by current or previous incubator farmers.

3.3.3 Meetings, Gatherings, & Participation

As in all situations with shared space and facilities, it is critical that incubator participants communicate effectively and work with a cooperative spirit. Regular incubator meetings may be set up to help facilitate open dialog and to develop schedules, determine protocols, resolve conflicts, build community, and improve the overall HIP experience.

It is customary for the incubator program to have an End of Year Gathering to discuss the season and celebrate successes and community. This is also an opportunity to weigh in on upcoming changes and provide feedback.

The Headwaters Farm Program Manager will meet with each farm for both a Mid-Season and End-of-Season Check-In. These meetings are designed to gauge the progress of a farm, acquire program and site feedback, and to provide farm guidance and direction.

Incubator farmers are expected to attend all applicable HIP meetings, gatherings, and events. If a farmer cannot attend it is their responsibility to inform the Headwaters Farm Program Manager in a timely manner.

3.3.4 Record Keeping

Keeping accurate records of pertinent farm activities is an important farm business skill. Program participants are expected to keep records pertaining to yield, finances, and successes/failures, and provide requested data to EMSWCD at the end of each season. The Headwaters Farm Program Manager can meet with farmers to help determine what records are to be captured. This is a good practice to get into for tracking expenses and revenue, setting up farm plans and budgets, and preparing taxes.

For 2020 HIP will continue to participate in a time-trial based recordkeeping system that has been developed by Tanya Murry at Oregon Tilth/Oregon State University Extension Service. All vegetable farms are encouraged to partake.

3.3.5 Community Farm Hours

As part of the program, each farm is responsible for a total of 12 person-hours toward the maintenance or betterment of Headwaters Farm or HIP during the calendar year. Some activities may be incentivized to encourage participation. Here are a few of the reoccurring Community Farm Hours tasks that incubator participants are encouraged to partake in:

Task	Community Farm Hours
Write a publishable blog post for EMSWCD website	6 hours
Empty wash station compost trailer at compost site	20 minutes
Official farm and program planning meetings	Duration of meeting
Weed pollinator habitat	Duration of activity
Clean up in or around facilities	Duration of activity
Various farm projects	TBD or duration of activity
Take full vehicle-load of agricultural plastics to recycling facility	Duration of activity
Mentorship to new HIP farmers (see 2.6 Mentorship Program)	Duration of activity

Community Farm Hours can be front- or back-loaded in the season. A *Community Farm Hour Tracking Log* can be found toward the back of the Farmer’s Manual and is to be submitted to the Headwaters Farm Program Manager at the conclusion of the season. The Headwaters Farm Program Manager can provide other Community Farm Hour projects upon request.

3.3.6 End of Season Responsibilities

Farmers will plant a winter cover crop in all appropriate areas of their allotted space—those *not* in active production—by October 1st or the seasonal date specified by the Headwaters Farm Program Manager (See section 3.1.4 *Cover Crop* for more details).

Each participant is responsible for cleaning up their plot by December 1st. This includes removing or neatly containing (preferably on pallets) all farm tools, supplies, waste plastic, and other trash. If this deadline is unachievable, farmers [must inform the Headwaters Farm Program Manager at least a week in advance](#) to discuss the plan and timeline for cleaning their plot(s).

To help the continued improvement of HIP and to assist the accumulation of incubator data, all incubator farmers are to complete an End of Season Questionnaire. EMSWCD requests that farmers submit the questionnaire with as much content as possible. *All responses will be entirely anonymous and no responses in the questionnaire will be held against any participant.* The End of Season Questionnaire will be conducted through Survey Monkey.

3.3.7 Equipment & Infrastructure Availability

All shared equipment is available on a first-come-first-serve basis, although in special circumstances the Headwaters Farm Program Manager’s may use their discretion to make equipment available for need or equity. Program participants are encouraged to coordinate equipment and infrastructure usage with other farmers, when appropriate, and be efficient with their time when using shared resources. [A cleaning protocol sign will be posted at the container.](#) *All HIP equipment must be returned clean to its designated location at the conclusion of each use.*

In many cases EMSWCD staff use the same equipment (e.g., tractors, handtools) as incubator farmers. Staff will work diligently to ensure that all resources are available to farmers as much as possible, but in some cases will need to utilize equipment for farm maintenance or projects. Communication is encouraged if staff are tying up equipment that is needed by HIP participants.

The outdoor walk-in cooler will be unavailable to HIP farmers from early-February to mid-March. Check with Headwaters Farm Program Manager for exact dates.

Making any physical changes or alternations to Headwaters Farm equipment or infrastructure without prior consent from the Headwaters Farm Program Manager is strictly prohibited. This includes risers.

3.3.8 Publicity

Each farmer is asked to provide a basic farm bio for the EMSWCD web page and occasionally contribute to a Headwaters Farm blog or other EMSWCD-based outreach efforts. This is done to help build the visibility of the program but is also a method of joint advertising. Unless otherwise noted, HIP farmers agree to allow EMSWCD to use photos containing their likeness.

3.3.9 Graduate Support and Expectations

A graduate of HIP is a farmer who has been with the program for five years or is prepared and capable of transitioning their business away from Headwaters Farm. HIP is committed to the long-term viability of incubator farms with the goal to generate successful, sustainable farm businesses. Not all graduates will be able to immediately sever the connection between EMSWCD services and their young operation. To the extent possible, HIP will continue to provide support to program graduates in the form of business and production training, as well as access to Headwaters Farm’s resources and local farmland.

- *Business and Production Training* – HIP graduates can attend trainings and workshops offered to current program participants. The Headwaters Farm Incubator Manager (and in some cases other EMSWCD staff) will also serve as a resource for specific feedback and discussion regarding their new site and developing farm business.
- *Access to Headwaters Farm Resources* – First priority for all resources (facilities and equipment) at Headwaters Farm goes to current program participants. However, program graduates may rent HIP resources if there is availability and, if applicable, a clear way to safely move the resources off-site. The rental charge for HIP graduates is 150% the current farmer rate. As the program matures and there are a greater number of graduates in the area this support service will be reevaluated.
- *Access to Market Opportunities* – HIP graduates may have the opportunity to utilize beginning farmer market opportunities developed by EMSWCD.
- *Access to Farmland* – To the extent possible, HIP will play an active role in helping incubator farmers secure access to viable farmland. This may be through non-EMSWCD channels (Oregon Farm Link, Multnomah County, or word of mouth) or possibly facilitated through EMSWCD’s Land Legacy Program via long-term ground leases, lease-to-own arrangements, or a sale of land to graduates in fee. For any of these land access arrangements, it is possible that HIP farmers may need or want to use a formal or informal co-operative model with other farms.

HIP will continue to be connected to program graduates through an annual survey. This will be similar to the online End of Year Questionnaire that incubator participants fill out during their tenure at Headwaters Farm. The goal of this survey is to track graduate farm progress and to better understand how best to prepare and support incubator farmers. The survey will be conducted through Survey Monkey, however, hardcopies can be mailed or delivered if that is preferable.

EMSWCD will seek ways to keep close connections between graduates and HIP. This could include workshops, farm tours, consulting services, or other engagement opportunities.

3.4 Headwaters Farm Guidelines

The following guidelines are to ensure that Headwaters Farm remains useable and accessible to all HIP farmers.

3.4.1 Field Storage and Management Access

Staging of equipment, materials, and other farm resources (including compost and other bulk resources)—those that don’t belong in the container or barn—must be done within a farm’s leased area or within a pre-agreed zone directly adjacent to a leased plot. Weed management and mowing of any storage area outside of a farm’s leased acreage will be the responsibility of the farmer.

EMSWCD recognizes the need for farmers to have ample and diverse storage options. To balance farmer storage needs with general farm operations and management, farmers are asked to utilize a variety of storage locations. See the table below for an overview of Headwaters Farm storage facilities and appropriate usage.

Facility	Storage For...	Fee	Notes
Barn	Farm materials, tools, and other resources; processed, contained produce	Y	<ul style="list-style-type: none"> A rolling staircase is available for access to higher shelves. All stored items must be kept within the footprint of the pallet rack shelves. Any items stored in the barn outside of a farm's rented pallet racking space must receive approval from EMSWCD staff.
Cubbies	Small, personal, non-valuable items	N	<ul style="list-style-type: none"> Each farm has a tote container outside the barn for storage.
Walk-In Coolers	Cold storage crops	Y	<ul style="list-style-type: none"> Coolers are kept at 36° unless farmers leasing that space come to consensus on a different temperature setting. Any rotting items must be removed immediately.
Above Coolers	Bundled drip tape and new rolls of floating row cover	N	<ul style="list-style-type: none"> Please keep the condenser free from obstruction. Label anything that is stored above the coolers.
Propthouse	Propagation supplies & materials (soil, trays, etc.)	N	<ul style="list-style-type: none"> Please locate propagation supplies under rented table(s). All items within the propagation house will be removed during the winter and sanitized before reintroduction.
Container	Tools and other field items that require regular and convenient access	Y	<ul style="list-style-type: none"> The container is also home to rentable items Anyone who opens the container is required to close and lock it once they are done, unless they get verbal confirmation from another farmer assuming responsibility.
Field	Implements, trailers, delivered bulk resources (compost, straw, etc.), large, heavy, or bulky weather-tolerant items (t-posts, sandbags, etc.)	N	<ul style="list-style-type: none"> Field storage must be done in a farmer's rented plot, <u>unless</u> agreements have been made with the Headwaters Farm Program Manager. Farmers are responsible for managing grass and weeds field-stored items prohibit mowing. Field-stored items should be placed on a pallet whenever possible.
Curing Shed	Curing crops and processed produce that does not require cold storage; clean bins	Y	<ul style="list-style-type: none"> Floor space below racks is allocated to pallet boxes. Farmers will rent shelf columns. If all shelves are not needed farmers can barter with others who require more space. EMSWCD will provide materials for drying racks if farmers build the racks to spec. These racks can be used by the farm but will stay with Headwaters Farm once the farm graduates. The smaller door (for personal access) has been damaged due to unsecured flapping in the wind. Please use the rope system to keep this from becoming worse. Any rotting items must be removed immediately.

3.4.2 Structures

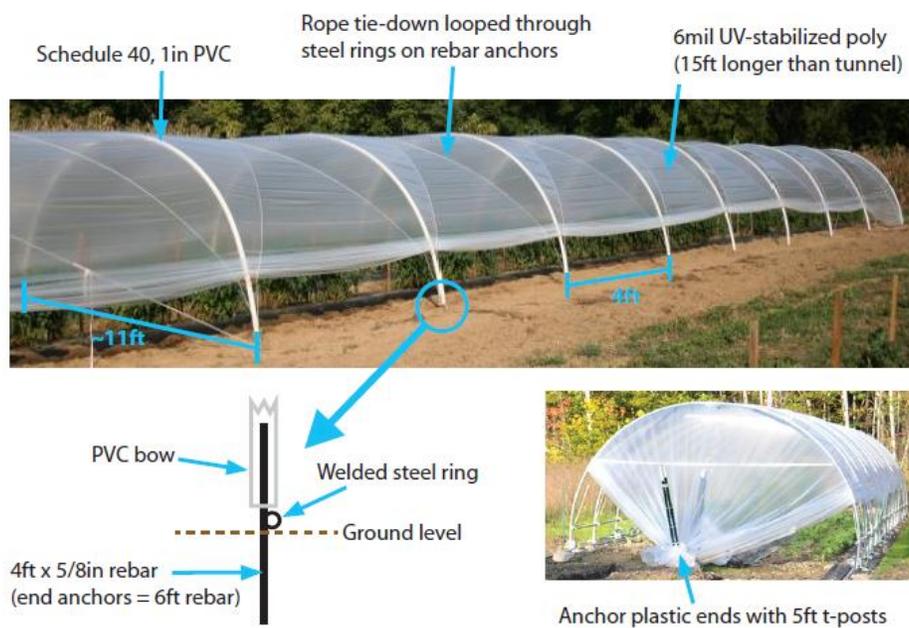
Unless given explicit approval from the Headwaters Farm Program Manager, incubator farmers are prohibited from constructing or erecting structures of any kind at Headwaters Farm. This includes, but is not limited to, greenhouses, sheds, and shade structures. All approved structures must be broken down and removed from the premises at the conclusion of a client's lease, or in some cases, at the end of each season.

The use of pop-up canopies for shade is permitted, although they are not to be left up overnight. All canopies must have at least 20lb weights at ground level firmly secured to each leg.

Field tunnels (also known as caterpillar tunnels) may be utilized when built to the following specs (see *Figure 2*) or purchased as a kit from a reputable supplier (e.g., Farmer’s Friend LLC):

- Bows — 1" SCH 40 PVC piping (20ft) bent to approximately 11ft in diameter placed 4ft apart along the length of the tunnel (using 1" gray electrical conduit is a better option because it’s UV stabilized and will last longer).
- Affixing to the ground — 5/8-inch rebar:
 - 6ft lengths for the end wall anchor points pounded to 3ft depth;
 - 4ft lengths for the rest of the bows pounded to 2ft depth;
 - Steel rings, chain links, or other tie-downs should be welded to the rebar at ground level prior to pounding.
- Plastic — 6 mil, UV stabilize poly skin that is at least 15ft longer than the house and bunched and secured to 5ft t-post at either end. Plastic is secured to the bows with two ropes that alternate across the house from bow-to-bow and are threaded through the welded steel rings at the base of the rebar.

Figure 2 – Field Tunnel Spec Diagram



Top image courtesy eXtension’s Low Cost High Tunnel Construction, Tim Coolong, University of Kentucky (<http://articles.extension.org/pages/18356/low-cost-high-tunnel-construction>)

Lower image courtesy of Johnny’s Seeds (<http://www.johnnyseeds.com/tools-supplies/quick-hoops-moveable-caterpillar-tunnel-bender-7000.html>)

3.4.3 Compost

Farmers can compost in their rented plots, either in piles or, preferably, incorporating debris into the soil as a green manure. EMSWCD has an aerated compost box system that processes local feedstocks and plant waste primarily from the hoophouses and wash stations. Currently, the management of this facility is done by EMSWCD staff. Interested HIP farmers should enquire with EMSWCD staff about system design, function, and management. Finished compost will be applied in fallowed fields. If finished compost supply exceeds demand, the excess may be applied in the hoophouses. A formal process will be created to equitably allocate finished compost if many incubator farmers request the resource for their rented hoophouse space.

Vegetative waste and soil generated in the wash station should be taken to the compost area at the west end of the small hoophouse. The green dump trailer in front of the barn is available to help facilitate this process. Anyone who empties the trailer can note 20 minutes in their Community Farm Hour log (unless the task takes longer, in which case note the actual time).

3.4.4 Food Storage & Curing

There are several places where food is stored at the farm: coolers, curing shed, and barn.

- *Coolers* — there are two coolers: one inside the barn and one outside. They are both be set at 36° **unless all farmers renting space come to consensus on an alternative baseline temperature**. Produce in the cooler should be stored in bins, bags, boxes, buckets, or other product-appropriate containers.
- *Curing Shed* — this space is designed to hold products that don't need refrigeration to preserve shelf-life or quality. It is also a space where produce can cure or dry. Farms renting the space can determine what product is appropriate. However, EMSWCD reserves the right to exclude products that significantly clash with other stored items or the space's best use. The doors in the curing shed must be closed when not in use to keep out pests.
- *Barn* — this serves as the backup food storage option if the curing shed and/or the coolers are at capacity. Large item food storage, like pallet boxes of winter squash, must be authorized by EMSWCD staff. All food in the barn must be stored in appropriate containers and within a farmer's rented space.

Farmers are responsible for monitoring and removing any rotting items from storage and curing areas.

3.4.5 Driving, Parking, and Roadway Access

Please park in designated locations around the barn (see [Figure 3 – Facilities Parking Map](#)) and in areas around the farm that don't block roadways (**dirt or gravel**), entrances, or other access. Parking inside the barn is for short term loading & unloading, and should be done within the "loading zone," which includes up to the yellow line. Anyone driving at Headwaters Farm must have a valid driver's license. There is no driving on the fields. The speed-limit anywhere on the farm is 10 mph, unless otherwise posted. This is strictly enforced.

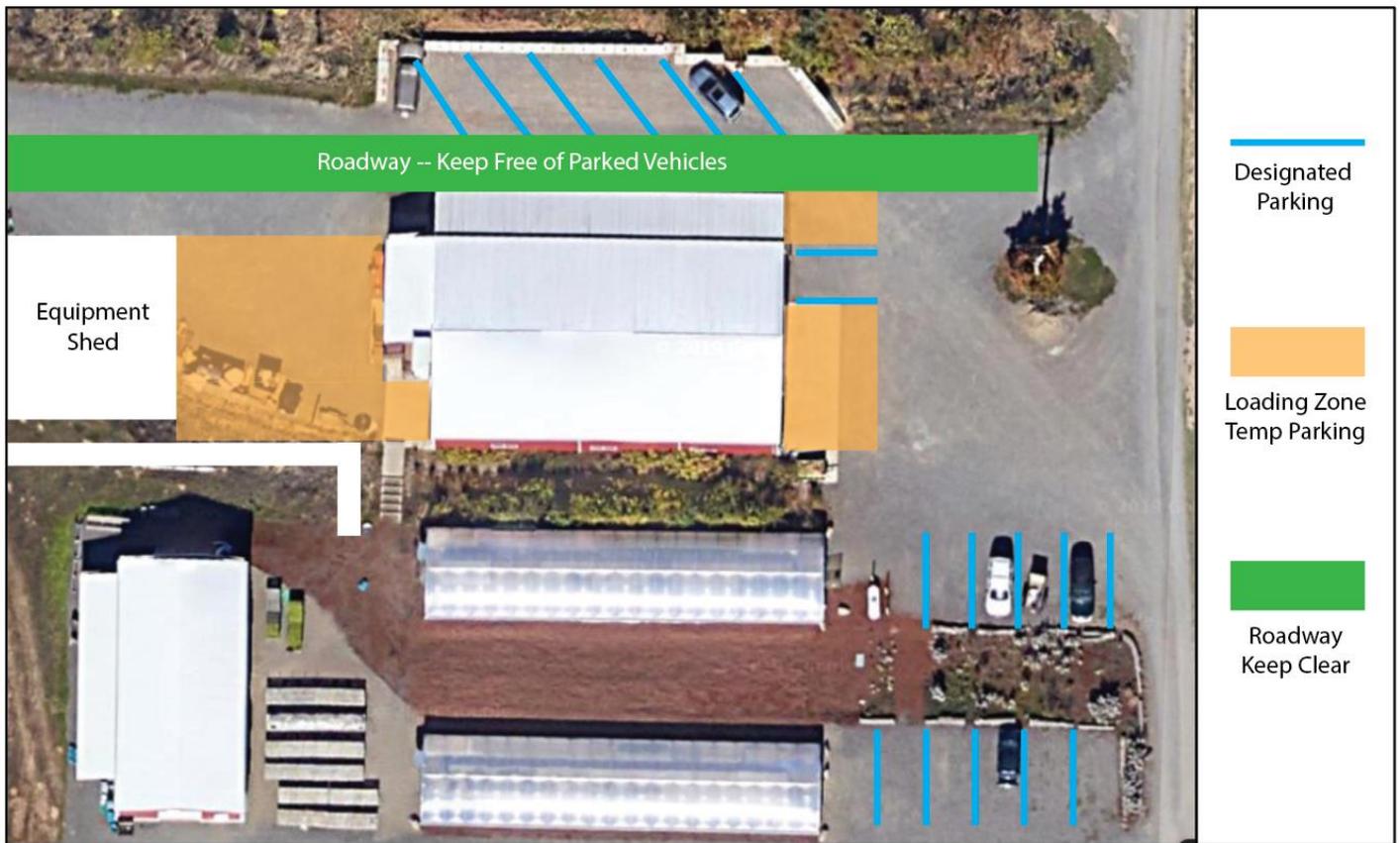


Figure 3 – Facilities Parking Map:

Parking in loading zones should be limited to the duration of loading/unloading. Please keep roadways clear of parked vehicles.

3.4.6 Spring Tillage

In the past EMSWCD has provided primary spring tillage using the 22ft John Deere disc pulled by the D4E Caterpillar crawler tractor. As the farm has filled-in and as a greater number of HIP farmers have overwintered crops and employed silage tarps, this has become increasingly challenging. As a result, EMSWCD staff still offers to disc fields in the spring, but only in areas that are at least a ¼ acre in size (~70ft of most plots) or where the D4E can be pulled straight through without need for turn around. Spring tillage is weather dependent and will not happen until the soil has sufficiently dried. If desired, final tillage can be done with the Till an’ Bedder—a non-rototilling bed making implement. If farmers want a finer finish, they will need to accomplish that with the BCS or tractor (see section 5.4 *Equipment, Costs, and Usage*). Fall tillage to prep for cover crops is the client’s responsibility.

3.4.7 Facilities & Common Areas

Incubator farmers will lease specific plots of land—as noted in individual’s lease agreement—but will also have access to various other areas on the farm. This will either be through renting or open access. Both types of common areas have protocols for usage, maintenance, etiquette, and safety. Rental and payment information can be found in 5.0 *2020 Costs & Payment Schedule*, whereas other details pertaining to usage and safety can be found below and in other sections of this document.

General rules for all shared space:

- Label everything with your farm's name (bins, amendments, rolls of floating row cover and agricultural plastic, t-posts, and other items that could be confused for someone else's).
- Remove all rotting product and put it into the compost pile.
- Don't enter another farm's space or impact their rented areas.
- Don't move or handle another farmer's belongings without prior explicit permission. If something is in the way, out of place, or otherwise problematic, please [reach out to that farmer](#) or inform staff.

Important usage protocols for the main facilities include:

Propagation Houses – Guidelines for shared propagation space:

- All trays and other plant containers must be sanitized at the onset of the season.
- Farmers are responsible for weeding under their propagation tables and around the aisles.
- All trays going into the germination chamber must be labeled with the farm name and date sown. Trays without details clearly visible will be removed from the germination chamber.
- Only store-bought soil mixes or germination mediums can go into the germination chamber.
- Occasional meetings will be held to determine automated irrigation set times, durations, and frequency. All farmers using automated irrigation are encouraged to participate.
- [The prothouse doors must remain closed at all times \(with exceptions for moving items in/out\) unless the EMSWCD-provided thermometer on the eastern side of the prothouse reads above the temperature noted on the sign mounted to the eastern door. The default threshold temperature is 80 degrees. Never leave the western doors open as that undermines the ventilation systems' ability to cool the prothouse and reduce humidity.](#)

Food Storage (cooler and curing shed) – See [3.4.4 Food Storage & Curing](#) for details.

Barn – Guidelines for shared storage space:

- Barn floor must remain open and all shelves accessible with the rolling staircase and forklift.
- A thorough cleaning of the barn is conducted during the winter months.
- Canopies can be set up in the barn to dry but must not be left for over 24 hours.

Wash Station – issues pertaining to wash station safety can be found in section [3.2.2 Wash Station Cleanliness and Food Safety](#). Other important rules include:

- Don't leave produce unattended in the dunk tank or other place in the wash station.
- The hand washing area is not for produce.
- Keep the gutter and gutter screen clean.
- Don't intentionally wash soil and other particulate from the gutter into the catch basin.

There are whiteboard calendars in both washstations to allow farmers to communicate their anticipated washing needs at specific dates and times. Farmers are encouraged to keep the whiteboard current, especially in the earlier part of the season when harvest and wash/pack flows are being sorted out. *The washstation whiteboards are not a washstation reservation system, but instead a communication tool to help farmers anticipate space availability and avoid conflicts.*

Hardening-Off Tables – This area is for everyone. Table space won't be assigned and can't be "claimed." *Any open hardening-off table space is can be used by any farm.* If a farm purchases and installs poly or shade cloth over the table(s) it will be considered an investment in community space and will remain available whenever openings occur.

The following table is an overview of the free and fee-based common spaces:

Free-Access Common Areas	Rental-Based Common Areas
Office	Propagation Greenhouses
Wash Stations	Walk-in Coolers
Roadways, Parking	Storage Facilities (barn & container)
Shade Structure	Curing Facility
Hardening-Off Tables	Hoophouses

3.4.8 Dianna Pope Natural Area

Headwaters Farm is fortunate to have an almost 15-acre Dianna Pope Natural Area (DPNA) surrounding the North Fork Johnson Creek (See Headwaters Farm Plot Map in the back of this document). Due to this special designation and the robust ecosystem services provided by the riparian buffer, specific management practices are in place. Incubator farmers and their guests must stay out of this area. There is no dumping of any materials or wildcrafting within the DPNA. More information about the DPNA can be found in *1.5 About Headwaters Farm*.

The DPNA is managed by EMSWCD’s Rural Lands team. In some cases, management includes the application of non-organic herbicides to control weeds and allow native plants to establish. These applications will always follow the herbicide best management practices detailed in *3.1.1 Organic Practices*.

3.4.9 Children at Headwaters Farm

Children play an important role in our community and in many of our families. As a public entity committed to outreach and education, EMSWCD recognizes its responsibility in helping expose children to information and experiences that will aid their understanding and valuing of natural resources and contribute to the development of thoughtful leaders, teachers, consumers, and stewards.

Like all working lands, Headwaters Farm has a host of normal farm hazards that can be especially dangerous to children. These include, but are not limited to: operation of heavy equipment, vehicular traffic, harmful chemicals and products, uneven ground, wildlife, sharp or hot objects, and potentially dangerous tools and machinery. Headwaters Farm also hosts the Dianna Pope Natural Area and other environmentally sensitive spaces like pollinator habitats, hedgerows, and a beetle bank that need to be protected from negative human impacts. In addition, there are items and places around Headwaters Farm, like private property or land and facilities leased by other program participants, which necessitate security and respect.

Due to these factors, it is important that children are supervised by an adult while at Headwaters Farm, and that parents or guardians help enforce the farm rules as well as the additional more stringent rules that pertain to youth under the age of 15 (EMSWCD’s definition of a child) listed below. Our goal with these rules is to ensure that children remain safe while at Headwaters Farm.

Children Liability and Responsibility Agreement

Parents or guardians who bring children to Headwaters Farm, or as an incubator farm that has visitors with children, will ensure that:

- Children adhere to all rules, regulations, and guidelines listed in the Farmer’s Manual.
- Children are not within or around the barn, propagation houses, curing shed, hoophouses, or the implement staging areas unattended.
- Children are mindful of motorized vehicles on or around gravel roadways and parking lots.
- Children do not enter the Dianna Pope Natural Area or other environmentally sensitive habitats.
- Children do not enter another farmers’ plot without permission.

- Children do not handle or disturb other farms' belongings.
- Children do not climb on equipment, racks, tables, or other farm facilities.

EMSWCD is not liable for any injuries incurred by children, supervised or other, at Headwaters Farm.

3.4.10 HIP Farmer Workshops, Gatherings, and Events

Some HIP farms benefit from hosting gatherings at their plot. To navigate the unique challenges of a shared farm, any gatherings at Headwaters Farm in which there are more than 12 non-HIP farmer/employee attendees requires:

- Prior approval from the Headwaters Farm Program Manager at least two weeks before the event.
- Noting the details of such events in the farm's Business Plan *or* a written strategy for parking and other applicable visitor and crowd management necessities.
- **At least two emails to other HIP farmers: one at least several weeks out noting event details, possible impacts to farm operations, and proposed remedies to those impacts, and the second as a reminder a few days prior.**
- Ensuring that all guests follow the rules and guidelines of Headwaters Farm and abide by the Visitors Policy listed in *4.0 Headwaters Farm Conduct*.

Gatherings beyond 30 non-HIP farmer/employee attendees or those not related to farm activities will be subject to EMSWCD's space rental application and fees. These events must be discussed with the Headwaters Farm Program Manager at least a month prior to the event date.

3.4.11 HIP Farmer Employees and Labor

Program participants who bring labor onto Headwaters Farm (hired, volunteer, or other) are responsible for ensuring they operate within the guidelines and etiquette of the farm and incubator program. It is recommended that regular employees review the Farmer's Manual at the onset of the season and that they have a copy to review for reference. Hard and/or electronic copies can be provided by the Headwaters Farm Program Manager.

Incubator farm helpers may utilize HIP tools or equipment under the supervision of a HIP farmer (someone on the lease). Any tool or equipment requiring training can only be used after a staff-provided training. The Headwaters Farm Program Manager may decline to train any HIP employee/helper or require additional steps to utilize HIP tools or equipment. If HIP employees, helpers, or guests damage HIP resources, the cost(s) to fix the problem will be passed along to that HIP farm.

3.5 Program Participation Incentive

If starting a farm wasn't challenging enough, HIP requires an additional level of time investment on the part of the incubator farmers. This commitment is because the nature of the incubator format often requires unique considerations compared to an individual private farm. In addition, EMSWCD seeks to ensure HIP participants are exposed to topics and resources that will make them better farmers.

All HIP farmers are responsible for paying a \$500 Program Participation Fee in the 4th quarter invoice. The cost is intended to offset a portion of the program's costs as well as encourage program participation. Recognizing that HIP requirements may at times be onerous, EMSWCD has implemented the following incentives:

- End of Year Responsibilities (\$200 incentive)
- Weed Management (up to a \$200 incentive)
- Good Stewardship (\$100 incentive)

The table below illustrates the specific tasks and deadlines needed to receive each of these incentives.

Task	Activity	Due Date	Incentive: Potential Participation Fee Savings	Details
<i>End of Year Program Responsibilities</i>			\$200	Section 3.3.6
	Sow Cover Crop	10/1		Section 3.1.4
	Soil Sample	10/15		
	Fill out Questionnaire	12/31		
	Provide EMSWCD Field Map	12/31		
	Provide EMSWCD Input Log	12/31		
	Attend End of Year Meeting	12/31		
	Achieve 12 Community Farm Hours and provide CFH Log	12/31		Section 3.3.5
<i>Invasive Weeds</i>	Keep up on problem weeds	10/1	\$200	Section 3.1.8
<i>Good Stewardship</i>			\$100	
	Time tractor work with adequately dry soil	12/31		
	Repair irrigation system leaks	10/15		
	Improve or maintain plot's organic matter above 4%	10/15		
	Clean loose plastic and trash	12/1		

Farms that fail to achieve any of the above criteria will be provided an explanation of what disqualified them from the incentive(s) and any approaches or strategies for future improvement.

3.6 Facility Management Decision Making

The Headwaters Farm Program Manager will organize meetings or facilitate conversations when management issues or key decisions arise. These meetings and conversations will be open to all HIP farmers who are, or plan to be, using the resource(s) being discussed. These meetings and/or discussions will commonly include issues pertaining to propagation, shared tools and equipment, food storage, and space usage. However, other topics may arise that warrant farm-wide discussion.

4.0 Headwaters Farm Conduct

The following guidelines are necessary to ensure a good experience for all incubator farmers, EMSWCD staff, neighbors, and the surrounding community.

Cooperative Spirit — Incubator farmers are expected and encouraged to cooperate and coordinate with one another while working on the farm. Farmers will share parking, infrastructure, an irrigation system, and other EMSWCD-provided resources. If any problems arise that farmers are not able to mediate on their own, they should contact the Headwaters Farm Program Manager for assistance with conflict resolution.

Legal Compliance — All farm activities on EMSWCD property will be in accordance with federal, state, and local regulations. It is entirely the responsibility of the incubator farmer to maintain compliance. To that end, even if the federal status on marijuana changes, due to security and perception concerns the production and consumption of this crop will remain prohibited at Headwaters Farm.

Community Consideration — Farmers will be respectful of Headwaters Farm neighbors and any concerns they may have. Incubator farmers will be cordial ambassadors of the program and EMSWCD both on the farm and within the surrounding community.

Drugs and Alcohol — Headwaters Farm is a drug and alcohol-free zone. This includes recreational marijuana.

Farm Access — Farmers have access to the fields at Headwaters Farm seven days a week during daylight hours. Access to the barn and its surrounding facilities are available from 5am until 11pm. Farmers may request after-hours access from the Headwaters Farm Program Manager if specific needs arise. Farmers will not enter another farmer's plot without permission.

Fires — Due to a heightened risk and danger of wildfire, no fires are permitted at Headwaters Farm. BBQ grills and gas stoves are allowed when set up in a safe area and managed closely.

Tools/Equipment — Farmers are responsible for the HIP tools and equipment that they or their employees or guests use. Inappropriate use or failure to properly care for, clean, or return rental tools will result in fines, limits on future use, or EMSWCD not replacing broken tools. Farmers will need to replace—at their own expense—any tools or equipment that is lost, broken, or damaged with a new tool of comparable quality and utility, as determined by EMSWCD.

Failure to clean and/or return hand tools after use has historically been a problem at Headwaters Farm. Current farmers have indicated a desire to observe and remind each other of proper tool usage and upkeep.

Trash & Recycling—EMSWCD provides a two-yard trash container for general farm use. Trash generated at Headwaters Farm may be disposed in it. If the container is being used for trash from other sources (e.g., home, other farm sites) then the container will be removed or the cost to retain it will be passed along to incubator farmers.

EMSWCD facilitates the recycling of standard glass, plastics, paper, and metals. This is done on a monthly basis for items placed in the appropriate recycling bins in the barn. *Agricultural plastics not processed by Portland-area recycling facilities (e.g., drip tape, silage tarps, floating row cover, poly pots and trays, field film) are the responsibility of incubator farmers.* This involves containing, staging, and removing these items from Headwaters Farm. To promote recycling of agricultural plastics, EMSWCD offers HIP farmers Community Farm Hours for taking full loads of agricultural plastics to an appropriate recycling facility. The closest being AgriPlast in Brooks, Oregon. Questions about what can be recycled onsite can be directed to the Headwaters Farm Program Manager or Facilities Manager.

Note: waxed cardboard is not recyclable and must be disposed of in the trash. Single-use plastic liners can be employed to lengthen the lifespan of waxed cardboard boxes, however, neither option reduces waste as much as rigid, reusable food-grade plastic delivery vessels.

On-farm Sales — Unless authorized by the Headwaters Farm Program Manager, no on-farm sales are permitted. This includes CSA pick-up.

Restrooms — There are four restroom facilities on the farm: a two-stall composting toilet and [ADA porta-potty](#) on the west side of the barn, a flush-toilet in the farm office, and a field porta-potty by the shade structure. The composting toilet can be used like any other flushing facility. Follow the instructions listed in each stall. Please don't throw trash of any kind into toilets (even if it's biodegradable).

[Everyone is required to wash their hands with soap and water after using the restroom \(sanitizing alone doesn't comply with FSMA standards\).](#) Hand washing facilities are available at all the Headwaters Farm restrooms.

Please notify EMSWCD staff or the Headwaters Farm Caretaker if any bathroom supplies are running low or if other restroom issues are observed.

Pets — [Headwaters Farm is a no-pet zone, with the exception of registered service animals. If bringing a pet is unavoidable, please keep the pet confined inside a vehicle. There are various dog parks locally for pet exercise and bathroom breaks.](#)

Visitors — Farmers are responsible for any visitors or helpers they bring to Headwaters Farm. This includes employees, volunteers, guests, buyers, students, contractors (e.g., deliveries), specialists, or anyone else associated with the farm or farmer. Visitors are required to abide by the same guidelines as farmers. Uninvited visitors are not allowed at Headwaters Farm.

With the increased number of people on the farm, additional safety and security concerns have arisen that may warrant future actions like employing a sign-in system and/or requiring visitors to wear identification badges. EMSWCD reserves the right to employ these measures at any point if deemed necessary. Non-employee visitors, including volunteers, are not allowed in the barn, washstation, prophouses, curing shed, hoophouses, coolers, or container without being accompanied by an official HIP participant (a HIP farmer on the lease).

Children — Children should always be accompanied and supervised by a guardian. See section 3.4.9 *Children at Headwaters Farm* for more information.

Smoking — [Headwaters Farm is a smoke-free space.](#)

Deliveries — Farmers must be present to accept deliveries. If a forklift is needed to unload, farmers should inform EMSWCD staff as early as possible to improve the changes of availability.

5.0 2020 Costs & Payment Schedule

EMSWCD will make available land, equipment, infrastructure, and some services to incubator farmers. The cost of these items and the time of which payment is due will vary. Below is a list of the pricing for the 2020 growing season. Contact the Headwaters Farm Program Manager if there are questions pertaining to rentable items and their associated costs.

5.1 Program Amenities and Associated Costs

Many of the items to rent are optional and will be determined by the client's operation and the resources incubator farmers personally have available. The goal of charging for equipment and infrastructure is three-fold:

- Promote joint-ownership and responsible usage,
- Encourage incubator farmers to invest in personal equipment when appropriate, and,
- Recoup a significant portion of the item's cost prior to exhausting its usefulness.

5.2 2020 Fee Breakdown and Payment Schedule

	Fee	Payment Schedule	Fee Includes
Land Lease	\$750/acre/yr Adjustments made for year in program (see below)	Invoices will be sent out quarterly (April, July, October, and January). Each invoice will include 25% of the land lease. Fees for equipment and infrastructure rental and services accrued during their respective invoice period will also be included, except for annual payment items (see below), which will be paid in full during first quarter of use. The Participation Fee will be due in full during the final quarter (see <i>section 3.1.8 Problem Weeds and Management Incentives</i>)	<ul style="list-style-type: none"> • Primary spring tillage (as space & weather permits) • Access to wash stations • Cubby outside of the barn • Beginning pH of 6.0 or higher • Riser to connect to irrigation system • Access to farm office
Participation Fee	\$500/year		<ul style="list-style-type: none"> • Property maintenance & upkeep • Staff time
Equipment Fees	varies		See Equipment, Costs, & Usage below
Infrastructure Fees	varies		See Infrastructure & Costs below
Service Fees	varies		See Service Costs below

Invoices are emailed quarterly at the onset of each invoicing month (April, July, October, and January). Farmers have 30-days upon receipt of the invoice to make payment. For example, if *Farmer X* racks-up \$100 in equipment rental fees and \$200 in land lease fees from July - September, *Farmer X* will receive that bill within the first week of October. The full balance will be due within 30 days (see Section 1.H, *Penalties* in the lease). *Farmers who use space will pay for the entire billing cycle, regardless of how long or often the space is being utilized.*

5.3 Graduated Land Cost-Structure

Land will be leased in 2020 at \$750/acre/year. This will include several amenities (see 5.2 2020 Fee Breakdown and Payment Schedule table above for a complete list). Land costs will incrementally increase each year a participant is in the program. The first year a participant is in the program, land rent will be charged at a fifth of market value (i.e., 20% of \$750/acre/year, or \$150/acre/year) and increase an additional 20% each season. By fifth year of the program participants will be paying full market value for their land. This graduated cost structure only applies to the land lease. Charges for equipment, infrastructure, and services are set at a fixed rate each season. Fields 7 and 8, in the northeast and northwest corners of the property, respectively, lack irrigation and may be rented at a different rate as determined by EMSWCD.

5.4 Equipment, Costs, and Usage

Equipment Costs Quick Reference Table

Item	Cost	Billing Schedule	Notes
Handtools/Wheelbarrow/Wheel Hoes	Free	N/A	Cost include in land rent
Paperpot Transplanter	Free	N/A	Farmer provide their own propagation materials
Flame Weeders	\$5/hr	Quarterly	Farmers provide their own propane – <u>Training Required</u>
Backpack Sprayer	\$5/hr	Quarterly	Only NOP-compliant sprays – <u>Training Required</u>
BCS Walk-Behind Tiller	\$10/hr	Quarterly	<u>Training Required</u>
New Holland Tractors	\$25/hr	Quarterly	Includes implement costs – <u>Training Required</u>
Tractor Implements	\$15/hr	Quarterly	For individuals with tractors – <u>Training Required</u>

Handtools/Wheelbarrows/Wheel hoe — Cost included in land fees

Basic handtools (shovels, hoes, rakes, forks), wheelbarrows, and a wheel hoe will be available without any training or clearance needed. Farmers are responsible for returning all handtools cleaned to their respective storage location at the end of each period of use. EMSWCD will provide very limited maintenance of these tools, so please treat them with care and remind fellow farmers of this when neglect or abuse is observed.

Paperpot Transplanter – Cost included in land fees; farmers pay for their own compatible propagation supplies

The paperpot transplanter is the main tool in the Paper Chain Pot transplanting system, which allows one person to rapidly transplant starts. Other components include trays, honeycomb paper chains, and spreading bar and frame. These components are the responsibility of the farmers and can be sourced from various online suppliers.

Flame Weeders — \$5/hour and farmers pay for their own propane and tank

Two options exist: a 48-inch Pyro Flame Weeder, a five-torch two-wheel walk-behind flame weeder, and a single wand flame model. Flame weeders are designed to kill seeds and thread-stage weeds. Improper application can result in dangerous conditions and risk of fire. The standard operating procedure must be followed at all times.

Farmers must be trained on either tool prior to operation.

Backpack Sprayer — \$5/hour

The backpack sprayer will be primarily for foliarizing starts and crops, however, it may be available for certain organic-certified sprays. The standard operating procedure must be followed at all times. There is a hidden filter in the handle that must be cleaned after each use.

Farmers must be trained to use tool prior to operation

BCS Walk-Behind Tiller — \$10/hour

Headwaters Farm has two BCS 749 gas walk-behind tractors. *BCS A* has a power harrow attached as the default implement and *BCS B* has a flail mower as its default implement. Gasoline is included in the rental cost. Each farmer is required to provide and utilize their own safety gear when operating the BCS. The standard operating procedure must be followed at all times and the BCS must be cleaned after each use, including implement tines and blades.

Farmers must be trained to use tool prior to operation.

New Holland Tractors — \$25/hour

There are two New Holland tractors:

- *TC40* — 40hp front wheel assist with a bucket.
- *TN75* — 75hp two-wheel drive utility tractor.

Both machines are available to HIP participants in at least their second year of the program or who have at least three years of prior farm tractor experience and who:

1. Attends the Tractor Safety Course (offered once each spring),
2. Takes a one-on-one tractor training with the Headwaters Farm Program Manager (for each machine the farmer wishes to operate), and,
3. Passes a tractor test (for each machine the farmer wishes to operate).

Farms that have completed the tractor training in previous years may pass on the Tractor Safety Course but must annually renew the training and test requirements for the tractor(s) they wish to operate.

All tractors must be returned clean. The tractor cleaning area is near the riser on the grass immediately east of Field 3 but [may be relocated closer to the equipment shed](#).

The standard operating procedure must be followed at all times. Each farmer is required to provide and utilize their own safety equipment when operating these machines. Fuel and implement use are included in the rental.

Renting of EMSWCD tractors is still in a pilot phase. If these machines are abused, neglected, used improperly, or subject to frequent additional maintenance or repairs, this policy will be revisited and possibly reversed. It is critical that all tractor users act in a safe, responsible manner to ensure continued access of these powerful tools.

Farmers must be trained on either tractor prior to operation.

Tractor Implements — \$15/hour

EMSWCD will rent implements to individuals who already own appropriately sized tractors and who:

1. Have attended the Tractor Safety Course, and,
2. Demonstrate an understanding of the appropriate and safe application of each implement to be used.

See the table below for an overview of the appropriate use(s) for each implement. All implements must be returned clean. Inquire with the Headwaters Farm Program Manager regarding the appropriate location for implement cleaning.

Farmers must be trained to use these tools prior to operation.

Implement	Tractor Requirements	Appropriate Use
Middlebuster	Cat 1 Three Point	Cutting furrows/digging potatoes
Rototiller — 5ft	Cat 1 Three Point/40hp/PTO	Bed prep/turning in crops
Rotary Mower — 6ft	Cat 1 Three Point/30hp/PTO	Mowing field periphery, cover crops (not field crops)
Chain Harrow — 8ft	Cat 1 Three Point	Removing trash/setting seed
Subsoiler — three 20in shanks	Cat 1 Three Point/40hp	Breaking dry hardpan
Front Forks	Bucket Mount	Lifting items up to 300lbs
Rear Forks	Cat 1 Three Point	Lifting pallets up to 2,000lbs
Bedder Layer Combo — 5in raised bed with ~bed top at 28in; single line drip	Cat 1 Three Point/40hp	Shaping bed, laying mulch, laying drip tape
Broadcast Spreader — 300lb capacity	Cat 1 Three Point/PTO	Spreading of granular fertilizer or seed
Flail Mower — 5ft swath	Cat 1 Three Point/PTO/40hp	Mowing thick vegetation up to 1in diameter
Disc — 5ft	Cat 1 Three Point	Discing of fields
Disc — 9ft	Draft/75hp	Discing of fields, primary tillage
Chisel Plow — 5ft	Cat 1 Three Point	Breaking hardpan, primary tillage
Chisel Plow — 8ft	Cat 2 Three Point	Breaking hardpan, primary tillage
Drop Spreader — 10ft	Draft	Spreading granular fertilizer and amendment

5.5 Infrastructure & Costs

Infrastructure Costs Quick Reference Table

Item	Cost	Billing Schedule	Notes
Irrigation	\$100/year in HIP	Annually	Incentive exists for receiving free irrigation water
Cooler	\$5/ft ²	Annually	
Wash Station	Free	N/A	Included in land fees
Propagation Tables	\$30/table	Annually	Options for automated & non-automated irrigation
Heat Mats	\$30/mat	Annually	Limited number and distribution of prothouse outlet
Bottom Heat Table	\$30/section	Annually	Requires automated irrigation
Germination Chamber	Free	N/A	Cost included in table rental; requires training
Hardening-Off Tables	Free	N/A	Cost included in table rental
Field Storage	\$40/section	Annually	Storage section within container
Barn Storage	\$50/shelf	Annually	Keep items within the footprint of racking
Office Space	Free	N/A	Included in land fees
Small Hoophouse	\$800	Quarterly	Can be rented as whole- or half-house
Large Hoophouse	\$1,200	Quarterly	Can be rented as whole- or half-house
Curing Shed Middle Rack Column	\$30	Annually	Column includes 2 pallet box space & shelves above
Curing Shed East Rack Column	\$15	Annually	Column includes all racks from floor to ceiling
Curing Shed Extra Pallet Box	\$10	Annually	Western wall racking or miscellaneous locations

Irrigation — \$100 for each year a farmer is in HIP with incentive opportunities for free water

It is the goal of EMSWCD to promote and encourage the use of conservation practices. For irrigation, this means using the least amount of water to achieve maximum yield and high-quality crops. Historically, HIP has advocated for exclusive use of drip irrigation, as overhead irrigation poses several challenges at Headwaters Farm and is less efficient. However, overhead irrigation does have a variety of relevant applications in sustainable agriculture and should be viewed as a viable tool in a farm's irrigation plan. To strike a balance between drip, overhead, water conservation, and other farm-specific crop needs, HIP charges \$100 for each year a farmer has been in the program. For example, a fourth-year farmer will be charged \$400 for water at the conclusion of the season. An Irrigation Incentive has been established to provide HIP farmers with free irrigation water in accordance with the following criteria:

- **First Year Farmers:**
 - Purchase and use a drip irrigation system
 - Track irrigation sets in an Irrigation Log (optional template at the end of the Farmer's Manual)
 - Submit the Irrigation Log at End of Year Meeting
- **Second Year Farmers:**
 - Use low-output irrigation system (i.e., drip, micro-sprinklers)
 - Track irrigation sets
 - Work with EMSWCD on developing an Irrigation Strategy
 - Submit the Irrigation Log and Irrigation Strategy the End of Year Meeting
- **Third Through Firth Year Farmers:**
 - Implement Irrigation Strategy
 - Track irrigation sets
 - Work with EMSWCD to refine Irrigation Strategy, as necessary
 - Submit the Irrigation Log and updated Irrigation Strategy at the End of Year Meeting

EMSWCD will determine appropriate levels of Irrigation Strategies and support farmers in developing and implementing them. More established farms will be expected to maintain more detailed Irrigation Strategies.

For 2020, HIP farmers beyond their second year of the program will need to meet second-year farmer criteria if they wish to receive free irrigation water. However, they may apply overhead irrigation as detailed in the Irrigation Strategy they will be developing.

Farmers using overhead irrigation are responsible for purchasing and installing a pressure regulator that is suitable to overhead output. Keep in mind that the Headwaters Farm Program Manager must approve any permanent modifications to EMSWCD property, including risers.

Cooler — *\$5/ft² of shelf space/year*

Walk-in cooler space will be available to incubator farmers. Unlike last year, space will be rented by the square-foot on an annual basis. EMSWCD will strive to accommodate all farmers by ensuring sufficient cooler access. Farmers are expected to keep the coolers free of rotting produce.

Wash Station — *cost included in land fees*

Access to both wash/pack stations is included in the cost of land. It is critical that incubator farmers keep the facility clean and coordinate usage with other participants. See section 3.2.2 *Wash Station Cleanliness and Safety Protocol* for more information.

Propagation House Tables — *\$30 for 44in x 12ft table space/year*

Tables in the 'prophouse' are intended for packing, seeding, and staging seeding trays. An automated watering system is used to keep starts hydrated on some benches, [although this system is being phased out](#). The space below tables should be used for storage of greenhouse materials, including: soil and amendment bags, poly pots, unused flats, etc. Tables will be allocated based on need, timing, and equity.

Heat Mats — *\$30/mat/year*

Some farms choose to use heat mats in addition to, or in lieu of the bottom heat table. Heat mats pose somewhat of a challenge in that they burden the electrical system and there is an inequitable distribution of outlets in the prophouses. The Headwaters Farm Program Manager reserves the right to limit the total number of heat mats in a prophouse or operated by any farmer.

Bottom Heat Table — *\$30/5ft of section of table/year*

The bottom heat table will be available to farmers once enough demand arises (~20% of the table is needed). The bottom heat system is intended to provide protection and stimulate growth of frost sensitive plants.

Germination Chamber — *cost included with the rental of propagation tables*

The "germ" chamber is a shelf wrapped in plastic. This system is set to stay around 75 degrees with high humidity to create an ideal environment for seed germination. Flats going into the germ chamber must be pest- and disease-free and should be removed once germination has begun in earnest (when ~50% of seeds have broken dormancy). This is typically within 3-4 days. *Flats in the germ chamber that are unlabeled, show signs of pests or disease issues, or have full germination will be removed.* See 3.4.7 *Facilities & Common Areas* for full germ chamber and propagation protocol.

Farmers planning to use the germ chamber must attend a meeting in the spring to discuss this shared space.

Hardening-Off Tables — *cost included with the rental of propagation tables*

These tables are an intermediary step for starts after they have been removed from the propagation house and before they are planted into the fields. They can also be a good place for flats once conditions have gotten too hot in the prothouse. There is no automated irrigation for the hardening off tables, so farmers must keep an eye on soil moisture level. There is no reserving or claiming of hardening-off table space. If a farm purchases and installs poly or shade cloth over the table(s) it will be considered an investment in community space and will remain available whenever openings occur. See the Hardening-Off Section in *3.4.7 Facilities & Common Areas* for more information.

Field Storage — *\$40/section in container/year*

Storage space close to the fields will be in a 40' shipping container. Field storage outside the container will be limited to specific areas inside or near each plot. For more information see section *3.4.1 Storage and Management Access*. Erecting a personal storage facility larger than the footprint of a standard pallet is not allowed without permission from the Headwaters Farm Program Manager. For farmers that have been given clearance to construct their own storage facility, the cost to keep that structure will be \$100/year.

Barn Storage — *\$50/shelf in the barn/year and \$10/month/pallet for barn floor space*

There are over 50 shelves in the barn that can be rented to farmers. Storage and usage of the pallet racks must be done in a safe manner. Use shrinkwrap or strapping as necessary for loose items on pallets above ground level. A rolling staircase is available to provide access to higher shelves. Bundled and labeled drip tape and headers can be stored for free on top of the cooler if the condenser is free from obstructions.

Each farm is permitted one pallet of potting soil and one pallet of soil amendment on the barn floor. Other items or pallets left on the barn floor for more than three-days will be assessed a \$10/month fee. HIP staff can help farmers stage pallets at shelves above ground-level.

Office Space — *cost included in land fees*

All participants will have access to the office, which includes a restroom and space to do paperwork or other farm-related activities. Wi-fi and computer access are also offered for client use. Electricity will be available for all items deemed to be a negligible cost—e.g., charging a phone, camera, or laptop—as determined by EMSWCD. The office also has a basic kitchen with a refrigerator and microwave.

Hoophouse Space — *\$800-\$1,200 per hoophouse*

There are four hoophouses available for farmer use, including one 96'x 30' structure and three 148' x 30' structures. These facilities are to be rented by either the whole- or half-house. The length of the bed will be eight-feet shorter than the total length of the house which includes four feet on each end of the structure being allocated to access as opposed to growing. Given the finite number of beds available, space in the hoophouse will be allocated annually based on the following criteria:

1. *Crop plan* – what does farmer intend to grow in the hoophouse and how appropriate is the crop in that space?
2. *Business plan* – how well do the intended crop(s) and use of the hoophouse fit into a participant's overall business model?
3. *Production practices* – will the growing systems contribute to a healthy, productive growing environment for current and future users?
4. *Upkeep of rented land and shared facilities* – how well has the participant managed their farmland and other farm resources?
5. *Program seniority, standing, and participation* – how long has a participant been in the program, are they current in their payments, and have they engaged at an appropriate level with HIP programming and structure?

Applications for the hoopouses will be made available in the fall. Allocations for hoopouses will be done in the fall on an annual cycle with turnover happening on March 1st. **Given the application and turnover cycle, first year HIP farmers are not eligible for hoopouse space.** On occasion EMSWCD will take a hoopouse out of production for one season to improve growing conditions.

Tractors are not allowed in the hoopouses. This includes both operating and staging. Instead, farmers can use walk-behind tractors for mowing, tilling and raise beds.

Hoopouses are not storage facilities and shouldn't house materials or tools that aren't specifically intended for that space. **Motorized equipment and fuel of any kind is not to be staged in the hoopouses.** Farmers are responsible for maintaining weeds both within and adjacent to their hoopouse. **Vegetable waste and weeds are not to be thrown onto the mulched area around the hoopouse facilities.**

In March, farmers sharing a hoopouse must agree to the following management strategies:

- **Ventilation** – at what temperature do the sides get rolled up and/or door opened? Who is responsible for making the intervention?
- **Humidity** – what is the desired humidity for the space and how will that be maintained?
- **Pests and Disease** – what are the anticipated pest or disease issues? What are the interventions each farm will take to reduce the risk or manage an outbreak?
- **Check-ins** – how often and when will formal communications be scheduled to discuss shared management?
- **Other** – what farm-specific topics need to be addressed to increase the likelihood of successful shared-space management?

This agreement is to be documented and shared with the Headwaters Farm Program Manager no later than April 1st. If issues arise during the growing season that cannot be resolved by the incubator farmers, the Headwaters Farm Program Manager will intervene to mediate and/or decide on a reasonable solution.

Curing Shed — \$30/year for middle rack column; \$15/year for eastern rack column; \$10/year for western rack pallet box section or miscellaneous pallet box storage

The middle pallet racking will be rented by the column and include four sections (floor level for pallet boxes and three shelves for curing or stored produce). The eastern rack doesn't have space for pallet boxes and therefore is designed solely for contained produce. The western pallet racking will store two pallet boxes at floor level and then clean bins above. The storage of clean bins is free. If there is need for additional pallet box storage in the curing shed, the rate will be \$10 for every two bins, however, storage outside of the pallet racks will only be allowed once all the pallet rack space is in use.

5.6 Services & Costs

Service Costs Quick Reference Table

Item	Cost	Billing Schedule	Notes
Custom Tractor Work	\$30/hour	Quarterly	Work done by fellow farmers is billed at \$25/hr
Lost Keys	\$20/event	Quarterly	
Bounced Check	\$10/event	Quarterly	

Custom Tractor Work — \$30/hour

Spring tillage is included in the cost of land. Farmers may choose to have EMSWCD staff do custom tractor work at other times of the season. This will be dependent on staff's availability. "Hiring" or bartering with fellow farmers who are cleared to use various machines is encouraged. Charges will be assessed to the machine operator unless it is clearly

noted in the sign-out sheet who the tractor work was for. Cleaning the tractor and implements is always required, regardless of who is paying or doing the work. These details should be negotiated before work is conducted.

Lost Keys — \$20/key

All HIP participants will be given a barn and container key. Lost keys require time and resources on EMSWCD's part and compromise the security of the facilities. Due to this, farmers are strongly encouraged to ensure their key is kept in a secure location.

Bounced Check — \$10/check

Any check submitted to EMSWCD that results in insufficient funds, will cost the farm \$10 and require another check to be submitted.

5.7 Payment Standing and Hardships

It is important for farmers to maintain good payment standing. Unless other arrangements have been made, invoices are due 30 days after they are submitted electronically to each farm. However, if a program participant is dealing with financial hardships EMSWCD may be willing to work with that farmer to develop a payment schedule that better meets their needs. It is entirely the responsibility of the farm to inform EMSWCD of any financial hardships prior to over-due invoices.

5.8 Graduate Access to Farm Facilities

To assist the transition of farmers leaving the incubator program, HIP may continue to provide program graduates access to Headwaters Farm infrastructure, equipment, and services. This will be done as space and availability allows. This support remains in a pilot phase and will be altered in subsequent seasons if challenges arise. Please communicate observed or anticipated issues with the Headwaters Farm Incubator Manager.

6.0 Indemnification and Violation Recourse

EMSWCD will do everything within reason to ensure the continued functionality of all equipment and infrastructure at Headwaters Farm, most notably, the irrigation system. However, in the event of unforeseen circumstances that create temporary lapses in service, EMSWCD will *not* be held accountable for any losses incurred (see *section 2.B, Indemnifications* and *2.C, Hold Harmless* of the lease).

6.1 Adaptive Management

As with any farming endeavor there will undoubtedly be unanticipated problems that arise. EMSWCD will work to minimize these complications and ensure they are resolved in a fashion that meets all party's needs. This may require patience and understanding on the part of program participants. It is important to remember that there are significant opportunities and subsidies presented through the Headwaters Incubator Program and setbacks are part of farming.

EMSWCD is always looking for ways to better support HIP farmers and their emerging businesses. An adaptive management approach is followed to make improvements to the incubator program and Headwaters Farm. EMSWCD reserved to right to change HIP policies and procedures as the need arises.

6.2 Access to Headwaters Farm

Access to Headwaters Farm is contingent upon payment standing and satisfactory adherence to program guidelines. This will be strongly factored into future farm expansion requests. Continued failure to follow guidelines or egregious violations of farm policy can result in the termination of a participant's lease agreement (see *section 3, Termination* in the lease).

6.3 Fines

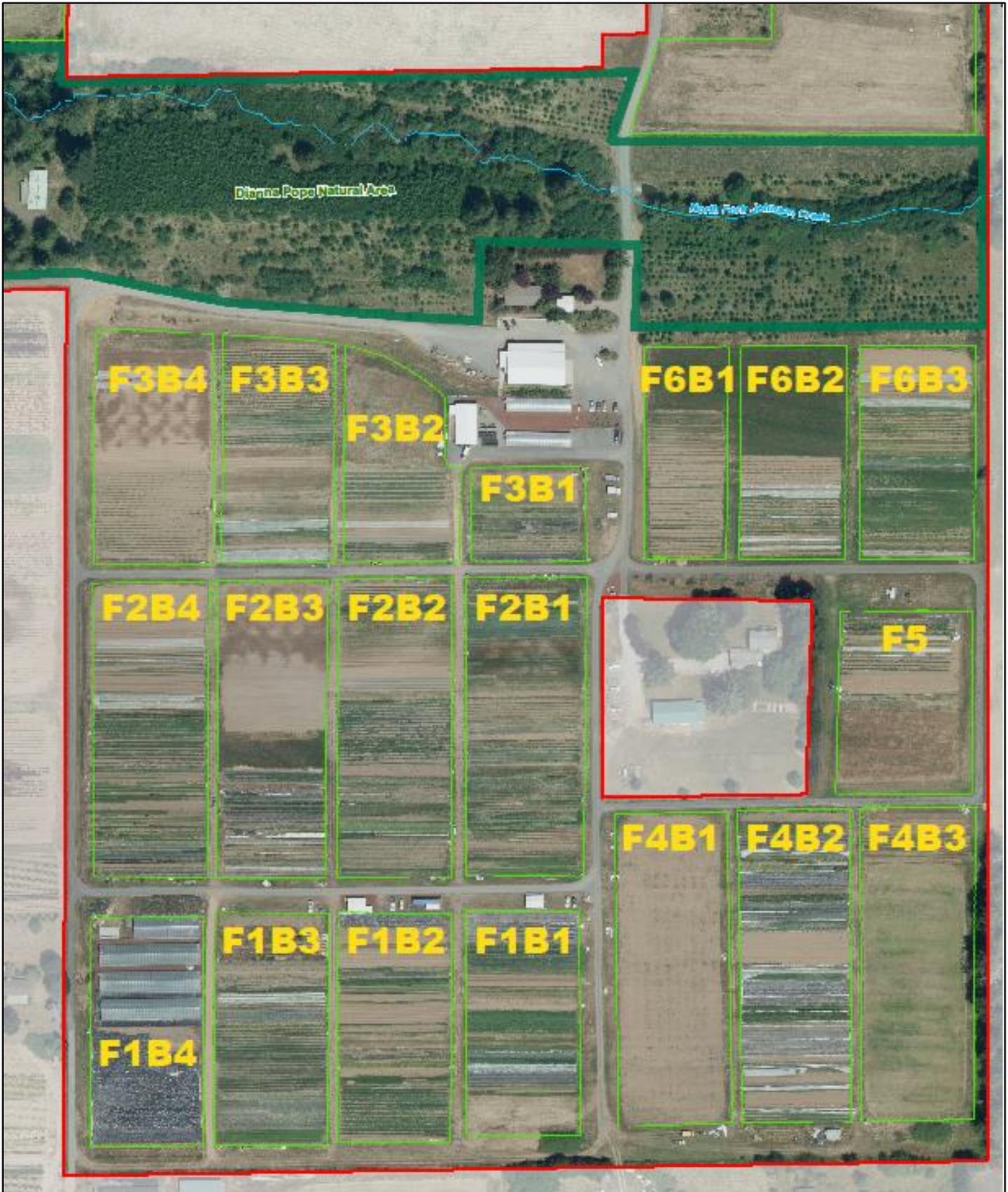
EMSWCD reserves the right to assess fines to farmers who violate guidelines contained in this Farmer's Manual. Fines will be submitted to program participants in writing with an explanation on why the fine was incurred. Bills for the fine must be payable within the subsequent invoice. Violations will be addressed in the following manner:

- *1st Violation* — Written notice of offense and required remedy and deadline (if one exists).
- *2nd Violation* — \$100 fine and written notice for repeat offence *or* failure to remedy previous violation in an appropriate or timely manner.
- *3rd Violation* — Additional \$150 fine and possible termination of lease (at the discretion of EMSWCD).

The fine structure above does not include remedy for criminal offenses and other major transgressions but is designed specifically to address violations of the Farmer's Manual. More serious offenses will be pursued outside this process. The EMSWCD Board of Directors reserves the right to take additional action if warranted and to change or replace this policy as needed.

Violations will be categorical, meaning that each violation will be independent of the next unless it is the same type of infraction (e.g., repeated speeding on the farm), or directly related to a past offence (e.g., failing to clean up one's plot after receiving written notice to do so). Approval of the Executive Director will be required before fines are imposed and client farmers may appeal a fine to the ED and/or the Chair of the EMSWCD Board. Information about the offense, citation of the violated provision in the Farmer's Manual, and an explanation of the appeal process will be provided in writing along with a clear warning of the consequences should the situation not be remedied and/or should it be repeated in the future.

Headwaters Farm Plot Map



Agreement to Participate

All members of _____ (insert farm name),
have reviewed the Farmer's Manual and agree to participate in the Headwaters Farm Incubator Program for the 2020
season.

Farmer Print Name / Date

Farmer Signature

Farmer Print Name / Date

Farmer Signature

Farmer Print Name / Date

Farmer Signature

Farmer Print Name / Date

Farmer Signature

EMSWCD Staff Print Name / Date

EMSWCD Staff Signature

Authorization for Photo Release

I irrevocably give, grant, and convey to the East Multnomah Soil and Water Conservation District (EMSWCD), its successors, agents, and assigns, without compensation to the individual named on this form, from any party the absolute right and unrestricted permission to copyright and/or use and/or publish (1) the name, (2) the image or likeness on videotape, and (3) photographic pictures of the individual named on this form, for any purpose whatever, including but not limited to the promotion of the EMSWCD and its programs.

Farmer Print Name / Date

Farmer Signature

Farmer Print Name / Date

Farmer Signature

Farmer Print Name / Date

Farmer Signature

Farmer Print Name / Date

Farmer Signature