

2023 FARMER MANUAL



New Entry Sustainable Farming Project is a program of:

**Tufts University, Friedman School of Nutrition Science and Policy
Agriculture Food and Environment Program**

Table of Contents

Purpose of Farmer Manual	3
New Entry Incubator Farm Training Program Description	4
Required Workshops and meeting Schedule	8
Fees and Payments summary	9
General Farm Guidelines	10
Organic Certification	13
Water Use and Irrigation	13
Soil and Land Use	14
Nutrient Management Plans	16
Equipment Use	16
Greenhouse Use	18
Pest and Disease Management	19
Pesticide Safety	19
Insurance Requirements	22
Food Safety Plan Requirements	23
Cooler / Refrigeration Use	23
Consequences and Probation	24
New Entry Incubator Farm Training Program Contract	26
Appendix	
List of supplies	
Irrigation handout	
Field map with plot numbers	

Purpose of Farmer Manual

The purpose of the New Entry Farmer Manual is to provide information you need to participate in our farmer training programs. It outlines policies, costs, guidelines, and the expectations and requirements to be a member of the business incubator.

Our project helps you:

- Get access to land at our incubator farm at affordable rates
- Get access to basic farm tools, training, and limited technical assistance so you can start on a farm right away
- Work on your vision to transition off the incubator
- to become a successful farmer who farms in a safe, legal, and responsible way.

manual also provides:

- Training schedule for this season
- Basic information on the fees, schedules, and rules of the New Entry incubator farm
- Basic New Entry policy guides

Please read each section very carefully and make sure you understand what we expect from you and what you can expect from us. If you have any questions, please talk to New Entry staff.



In accordance with Federal law and U.S. Department of Agriculture policy, this institution is prohibited from discriminating on the basis of race, color, national origin, sex, age, or disability. To file a complaint of discrimination, contact USDA, Office of the Assistant Secretary of Civil Rights, Whitten Building, 1400 Independence Ave., SW., Washington, D.C., 20250-9410 or call 1-866-632-9992 Toll Free; or 1-800-877-8339 Federal Relay Service; or 1-800-845-6136 (In Spanish); or 1-800 795-3272 between the hours of 8:30 am and 5:00 pm Eastern Standard Time; or (TDD) 720-2600. USDA is an equal opportunity provider and employer.

New Entry Incubator Farm Training Program Description

Now that you have finished the Farm Business Planning Course and completed an approved business plan, you can participate in a 3 year program to help you with your new farm business.

The **Incubator Farm Training Program**, will help you to start your farming business. You will receive assistance all year long for up to three years to help you grow your crops and grow your business. We will help you to implement your farm business plan, learn production and business skills, connect you to resources, and find markets to sell your products.

The incubator farm is currently located at Moraine Farm in Beverly, MA. It is a leased property, from the Trustees of Reservations. Additionally, the property is host to Project Adventure, and the Waldorf school. There are also publicly accessible trails that go through the property.

A. Incubator Farm Training Program – WHAT WE PROVIDE FOR YOU:

Land to farm:

You can access land at our Incubator Farm in Beverly. We will help with primary tillage, access to irrigation, equipment, storage, and other services. For a complete list of available shared equipment, tools, and supplies available, please see the appendix

Before the season:

We help you one-on-one with:

- Planning your crops and markets
- Ordering seeds and seedlings
- Getting permits and insurance

Training and on-farm assistance:

We offer hands-on training so that you can learn to:

- Plant crops
- Set up irrigation systems

- Control weeds, pests, and diseases safely
- Use farm equipment
- Establish cover crops

New Entry will also host a variety of workshops over the course of the year, and will make known to you other educational opportunities that arise in the area or online.

Markets:

We help you find places to sell your crops and get the best prices for them. You can also join the New Entry Food Hub to sell your crops.

Managing your farm business plans:

We can review your business plan regularly and help you make changes as needed.

B. Incubator Farm Training Program – WHAT WE REQUIRE FROM YOU:

Completion of Business Training Course & Business Plan:

You must complete The Farm Business Planning course and produce a viable business plan, to be reviewed and approved by our farmer training team, before you begin to farm. If you are returning for a second or third season, be sure to update and revise your business plan to fit your plan for the year and send it in for review.

Required Trainings & Attendance at Trainings:

As an incubator participant you will be enrolled in a canvas course as a part of a way to complete onboarding materials, receive trainings, and as a way to share information. Participation on this platform is mandatory.

You must attend

mandatory orientation at the beginning of the season.

mandatory health and safety training you will not be able to use the wash stations or coolers or sell to the food hub until this is completed

mandatory end of season gathering, that will serve as an end-of-season celebration and closing out of your incubator farm plots for the winter.

You are strongly encouraged to attend New Entry workshops and trainings that will take place throughout the Spring and early Summer. Please note that while these workshops will not be mandatory, you will not be able to use New Entry owned tools, including the BCS rototiller, without attending the tool safety workshop. Likewise, you will not be able to set up an irrigation system or use pesticides without proper training, or use the wash station without the health and hygiene training. Attending these workshops will be the best way to insure you are properly trained in a timely manner. **The content covered in these workshops is essential to growing on the incubator farm and you are expected to make them up with the farm manager on your own time within two weeks if you cannot attend the workshop.**

You will also be required to do a one-on-one safety training with the Farm manager before you can use the BCS tractors or flame weeder.

Case Management meetings with staff:

You will be **required** to:

- . The purpose of these meetings is to ensure that you are continuing to acquire all the skills they need to be profitable and sustainable small-scale farmers in the Northeast and to assist you in setting goals for your farming business. The farmer training team will reach out to each incubator farmer to schedule the three meetings; meetings will take place three times annually:
 1. **Pre-season meeting between March – May.** During this meeting we will assess skills, set season goals, review business plans, and plan for season record keeping.
 2. **Mid-season meeting between July – August.** During this meeting we will check in on progress towards goals, discuss season challenges, provide feedback on crop quality, and check in on record keeping management.
 3. **End-season meeting between October – December.** During this meeting we will reflect on season goals, review sales and fill out basic financial records, analyze the results of season record keeping, and discuss winter planning.

The purpose of these meeting above is to ensure that you are continuing to acquire all the skills they need to be profitable and sustainable small-scale farmers in the Northeast and to assist you in setting goals for your farming business. The farmer training team will reach out to each incubator farmer to schedule the three meetings; meetings will take place three times annually:

4.Monthly Crop Production Meetings

You will be **required** to:

- Meet with farmer training once a month from May-October
The purpose of these meetings will be to track progress, adjust plans, address pest issues, and generally trouble shoot crop production. This meeting will be accompanied by a field walk. The mid -season meeting will include the monthly crop production meeting, making an additional meeting in the month it falls in unnecessary.

Prior to these meetings there will be some sort of questionnaire, self-assessment, and feedback forms distributed. It is requested that these are filled out prior to meeting in order to make the best use of meeting time

If an incubator farmer does not attend a scheduled meeting, they will receive a notification that they have missed the meeting. They will have two weeks to reschedule and attend the meeting. **If the incubator farmer does not reschedule and attend the meeting within that 2-week period, the farmer will be considered noncompliant with the Incubator Farmer Training Agreement. Continued noncompliance will result in you not being able to return to the incubator**

You are able and encouraged to set other regular or impromptu meetings with the Incubator Farm Manager and other staff to track progress and set weekly goals, create task list, and trouble shoot. Don't be shy!

Recordkeeping:

Records are a crucial part of farm and business management, as such we encourage you to keep a variety of records and are happy to assist you in developing the strategies that work for you. Production records including bed prep, fertilizer application, planting, seeding, cultivation, harvest, pest and disease observations and treatments and business records including sales, income and expenses, profit and loss statements are all important to improving your skills and business and crucial to establishing production history to qualify for federal and state programs. While there are many records that you should keep, we will require that you are reporting to New Entry certain key records that New Entry needs to remain in food safety and USDA organic certification requirements. These key records also help New Entry to better understand your operation and provide better tailored technical assistance.

We expect you to keep good records of:

- Business Plan
- Crops planted with a map of crop locations
- Pesticide use
- Nutrient and amendment inputs
- Sales and expenses
- Food safety plans and monitoring associated with plans
- Harvest records
- Equipment use (for maintenance scheduling)

For pesticide use, nutrient and amendment inputs and equipment use, New Entry will provide a log book binder. For purposes of our food safety of organic inspections, having this information on hand is key- you are welcome to record this information for yourself in whatever way feels appropriate, however, New Entry also asks you fill in our binder at time of application.

The following activities must be recorded in the log found in the wash station on the day they occur:

- **Fertilizer and amendment applications (including compost)- where, what, when, how much and by who**
- **Pesticide applications- where, what, when, how much and by who**

The following activities must be recorded in logs located in the equipment bay:

- **Machine/equipment usage**

New Entry will show you how to use the record-keeping logs and will oversee the logs to be sure they are complete.

If you need more help, advice or guidance with recordkeeping, New Entry staff will be happy to help out!

Participation in New Entry events

Please do your best to be available to participate in occasional farm tours, speaking events, New Entry events and Incubator farm community work days. We will give you as much notice as possible.

Communications

There are a lot of people and moving parts at New Entry and it is important as people sharing this space, to be able to easily communicate important information and timely notifications. As such **all incubator farmers will need to:**

- be part of our group email
- become a member and user of our Slack channel.

The slack channel allows us to organize our topics by channel, share pictures, files etc, to the whole group or individual to individual. Not only will valuable property information be disseminated here- pump and irrigation use, wash station, greenhouse, property closures etc- but also a great way to share pest sightings, ID plant diseases as a group, and share resources. If this is absolutely not possible, please speak with the farm manager.

2023 Required Workshops and Meetings

Date	Workshop	Description
Sunday March 26th 1-4pm	*Season Orientation for Incubator Farmers, Nutrient Management Plans and Food Safety Plans. MANDATORY	Join us for our opening season meeting. We will review the 2023 Incubator Farmer manual & farm policies for the season. We will go over all safety policies. We will review guidelines for the mandatory Nutrient Management and Food Safety Plans.
TBD at orientation	Equipment, Tool safety and maintenance.	We will review proper usage, handling and storage of all New Entry tools available to you, including the BCS and the flame weeders.
TBD at orientation	Irrigation	Learn how to set up drip and overhead irrigation systems. Understand the water needs of your crops and best practices for conserving water.
TBD at orientation	Pesticide safety	Learn what chemicals controls are available to you on the incubator farm and how to safely apply them.
Sunday November 12th	End of Season Gathering MANDATORY	Join your fellow Incubator farmers to celebrate the end of the season!

2023 Fees / Payments

	Fee	Fee Includes
Program Agreement	\$ 860/acre (\$215/per 1/4 acre)	<ul style="list-style-type: none"> • Spring/fall primary tillage • Cover crop consulting and supplies • Landowner fees • Access to irrigation & electricity • Basic field-scale fertilizer and application
Sanitary and trash fee	\$150	<ul style="list-style-type: none"> • For portable toilet facilities for the duration of the season and a dumpster rental for end of season cleanup
Technical Assistance	\$350/ season One-on-One Support: March-December	<ul style="list-style-type: none"> • Any one on one Technical Assistance • Disease identification • Insect identification • Training topic follow ups • Best practices information • Printed materials on farm and production related topics • Record keeping advice
Custom Tractor Work	\$35/hour	<ul style="list-style-type: none"> • tillage (outside of the initial primary tillage included) • Disc and harrow • Raised beds • Mowing • Cultivation (if beds are set up to fit the tractor and the equipment) <p>To be billed twice per season</p>
Plastic Mulch Supplies	\$100/1000 bed feet	<ul style="list-style-type: none"> • Available in 1000 bed ft. increments (roughly 1/8 acre) • Includes plastic mulch and two drip irrigation lines • Cost of custom tractor work is included • Farmer must be present to assist in plastic laying. Coordinate with farm staff to schedule.
Equipment Fee	\$ 200 / season	<ul style="list-style-type: none"> • Use of BCS two-wheeled tractors and implements (tillers, mowers, rotary plow) • Scheduled maintenance and fuel included (repairs due to misuse are not included in this fee) • Use of flame weeder • Use of string trimmers • Use of backpack sprayers • Use of hand tools and wheelbarrows <p>You must follow all Equipment Use guidelines.</p>
Pesticide Fee	\$60 / season	<p>Use of pesticides and fungicides approved of and provided by New Entry staff.</p> <p>You must follow all Pesticide Safety and Pest Management guidelines.</p>
Cooler Use	\$ 200 / season	You must follow Cooler Use guidelines.
Greenhouse Rental	\$350/ season	<p>This price includes five 60-quart bags of potting soil for seedling propagation, and 1 table in the greenhouse</p> <p>You must follow all Greenhouse Use guidelines.</p>

A payment should be made by May 1. If you need to split your payment over multiple dates please speak with the farm manager to arrange a schedule.

This list is not an exhaustive expense list, merely a list of fees owed to New Entry. You will be required to have personal and product liability insurance to be on the farm, and buy supplies that are not included. A list of supplies we provide versus what is farm responsibility can be found in the appendix

General Farm Guidelines

All incubator participants, employees, staff, and visitors are to be treated with respect and dignity at all times. We require participants to comply with laws regarding discrimination in hiring and employment practices. We expect all parties to maintain a workplace free of discrimination, harassment, and any other form of inappropriate behavior or abuse on any grounds, including but not limited to age, disability, ethnic or social origin, gender, gender identity, nationality, race, sexual orientation, marital status, parental status, pregnancy, political convictions, religious beliefs, union affiliation, or veteran status.

Incubator Farm Hours:

Farm site is open from sunrise to sunset.

Generally, no earlier than 6 am and no later than 8pm. Even within these hours, please be considerate of our neighbors and keep noise levels as low as possible.

Tillage Schedule:

Spring:

We begin field tillage in April **depending on weather and soil conditions. You will have access to your plot no later than May 1.**

Fall:

We begin summer cash crop residue tillage in late September/early October. **Plant late-season crops in one location so we are able to prep the remaining areas for fall cover crops.** Please discuss your plan with the farm-site manager about where you want to plant your late crops.

You must:

- Remove all stakes and trellises by November 15th
- Store or remove all your property by December 1st
- Till and plant cover crop seed on any areas still planted after fall plowing.

****Exception: pre- approved winter production****

Locks & Gates:

All gates in the deer fence will be closed at all times to prevent accidental deer incursion. Please keep gates closed at all times, even when working on the farm. You must ensure the gate is closed when you are leaving the field, it is never safe to assume just because you see someone on the other end of the farm, that they will come close the gate near your plot. Repeatedly leaving the fence unlocked and/or opened will be grounds for disciplinary action.

Tool Shed + Storage:

There will be a small amount of space available to store your items. New Entry is not liable for any personal property stored at the farm.

Storage space will be designated under the barn, perpendicular to where the BCS tractors are stored and will be discussed at our first meeting of the season.

Keep all shared equipment and supplies secure (see **Equipment Use Section**) and use as follows:

- Keep storage areas clean and avoid items that bring insect pests, rodents or mold. Keep such items if needed to be at the farm in rodent proof containers (metal garbage bins with lids work well)
- Keep walkways clean and open; store items neatly.
- Label personal supplies to avoid confusion among fellow farmers.
- Respect New Entry property and the property of your fellow farmers

Structures and Buildings:

You are not permitted to build any structures on the incubator farm. New Entry must approve in advance the installation of any fences, and removal of trees/limbs.

Trash:

You are responsible for removing all trash from your farm site: stakes, trellis netting, and other supplies. The dumpsters located behind the food hub building can be used for small amounts of trash. When disposing of larger amounts of material (during end-of-season field clean-up for example) each farmer should coordinate with New Entry staff for proper disposal. We will rent a dumpster for one month for the end of year cleanup.

Everything must be removed from your plot and the farm site by December 1st.

- Keep your fields and all common areas clean and neat at all times.
- Remove all trash each day.
- Stack your farm supplies neatly and prevent them from blowing into the fields.

Entrance and Parking:

You must only enter the Moraine Farm property through New Entry's designated driveway. Please only park in approved spaces on the farm. Please do not block New Entry vehicles or tractors, cooler, or food hub area access. Please limit driving in the fields to picking up and dropping off supplies and check in with Incubator Site Coordinator at orientation first. All vehicles must stay within designated drive lanes—no personal vehicles are to enter any other field space for any reason. If you have employees or volunteers coming, have them walk out to you or pick them up. Limit vehicles to one per plot for traffic reasons.

Farm Help and Visitors:

Please give New Entry the names and contact information for all persons working on your fields. You must be on your farm when visitors or helpers are there. Be sure your visitors understand the farm guidelines and make sure you have the proper insurance to cover these workers and volunteers. See details under **Worker's Compensation Insurance in the Insurance section** for more information.

Renting the Plot:

You are **NOT** allowed to rent out your plot to anyone else for any purpose.

Access to your plot:

New Entry staff is allowed to enter your field when necessary and without notice. We also host field visits, volunteer events, and educational tours at training farms. New Entry will notify you in advance of these events and encourages your involvement.

Photographers and Media Requests:

During the Farm Business Planning Course, you signed a media release form allowing New Entry permission to photograph you during your participation in the New Entry program. Sometimes media, photographers, students, funders, donors, or other organizations may visit the farm and want to take photos of you or your crops in the fields. New Entry staff will do our best to notify you in advance, so that if you do not wish to be photographed, you can inform us. Otherwise, we respectfully request that you engage with visitors on the farm who may be learning about, writing about, or promoting you or the program.

Additional Rules:

- Supervise children and visitors at all times.
- No open fires.
- Alcohol, illegal drugs, and unregistered firearms are not permitted.
- Violent or aggressive actions -physical or verbal- towards others is forbidden.
- No pets.
- Please respect neighbors. Stay off their land and refrain from loud noises and music.

Organic Certification

As of June 2019, New Entry's farm site at Moraine Farm is certified organic. This allows us as a whole, and each incubator farm individually, to achieve USDA Organic certification without needing to wait through the three year transition period.

While New Entry's Organic Certificate covers the entirety of Moraine Farm, each incubator's field will be separated off (on paper) into its own field entity. Therefore, if you wish to grow as certified organic, **you must apply for your own organic certificate.** Each individual grower who pursues organic certification will be responsible for his/her own compliance with the Organic standards and the Organic certifying agency.

Any incubator farmer who wants to opt out of the organic certification process may do so. New Entry requires its growers to only use NOP (National Organic Program) compliant practices and amendments on their site to preserve our organic certification and allow subsequent growers to pursue their own certification without a transitional period. Growers who choose to opt out must keep a certain standard of records to demonstrate that their practices are in line with NOP requirements.

To learn more about the Organic certification process visit the Baystate Organic Certifiers website: <http://baystateorganic.org/>.

Water Use and Irrigation

Irrigation Schedule

You and your fellow farmers will work out watering schedules together with New Entry staff. A spirit of cooperation is necessary as everyone will be sharing a common resource. It is important that the irrigation system continues to work properly. You are responsible for making repairs due to damage you cause or incidents that occur in your field (i.e., rodent or mammal damage, nicks, tears, or leaks).

You should notify New Entry of major irrigation problems or failures, especially involving a wellhead or pump. **It is important for you to fix any leaks as soon as you notice them in order to avoid waste of water, time, and money.**

Turn off all watering systems at night and before you leave the farm.

You must be trained by the Farm Manager on how to turn the pump on and off and to know the limitations of the irrigation system. Helpers and family are not to touch the pump system until arrangements are made for them to be trained and approved of by the farm manager.

Conserving Water:

- Avoid watering on sunny, windy days between the hours of 10 AM and 4 PM to avoid wasting water — more than 50% can evaporate.
- Check the soil 6 to 8 inches below the ground (root zone), before and after irrigating to see how much water to apply and whether you watered the root zone.
- Watch the weather. Irrigate less on cool, cloudy, or foggy days. Measure precipitation amounts with a rain gauge.
- Use mulch, compost, hay or plastic to conserve soil moisture.
- Watering too much causes weak roots and unhealthy plants. It also washes away fertilizers.

Limitation of liability:

New Entry does not guarantee continuous access to water at all times at its Incubator Farm located at 733 Cabot Street in Beverly, MA. New Entry has access to a well at the farm and maintains the necessary equipment and pumps to accommodate water access needs during the growing season. New Entry has invested in appropriate infrastructure to the extent possible. If an event beyond the financial or physical control of New Entry occurs that limits access to farm site water, New Entry cannot assume liability.

It is absolutely imperative that all irrigation and water connections (hoses, irrigation hookups) are removed every day in cold weather to ensure that equipment is not damaged due to freezing above ground.

Irrigation Well Coordination

There is a minimum feet of drip irrigation that has to be in use when the pump is on in order to not damage the system. Like wise there is a maximum distance that can be used before the system is damaged. Coordination of those on site using the irrigation will be vital to maintaining the availability of irrigation for everyone. Use of the Slack channel or other tools will be necessary to this success.

Soil and Land Use

Incubator farmers are **required** to produce crops by following the organic standards set by the National Organic Program (NOP). If farmers want to pursue organic certification for their own business it will need to be pursued separately, though New Entry is happy to help assist through that process and share the necessary field records.

Seeds and Seedlings:

- Use certified organic seeds when available or untreated conventional seeds if organic seeds are unavailable.
- Buy certified organically raised transplants.
- Be careful when buying conventional potting mix. They have fertilizers and chemicals that are not allowed.
- Organic farmers are not allowed to use genetically engineered (GE or GMO) seeds or plants.
- Be sure to keep detailed records of seed purchases, especially when purchasing conventionally grown seeds (which must always be untreated).

Soil Testing:

Farmers must do a Standard Soil Test (with Organic Matter) of their plot every year. Sometimes grant funds are available for this and the Farmer Training Team will let you know if that is possible.

Farmers must submit soil test results to farm manager.

- We will give you a brochure for UMass Amherst Soil Testing Lab and we will teach you how to test the soil.

Fertilizers and Compost:

Your soil tests will determine which fertilizers and compost you should use. Record the totals of fertilizer and compost you use in the farm record book kept in the wash station.

- Untreated soil amendments of animal origin must be applied at least 90 days prior to harvest for crops whose edible portions do not come in contact with the soil, and at least 120 days prior to harvest of crops whose edible portions do come in contact with the soil.
- Follow NOP guidelines on how to properly make compost and vermicompost. If buying compost, ensure the facility is producing Baystate Organic certifiers compliant compost. Many are not certified for use in organic production.
- Always refer to NOP standards to determine if a commercial made fertilizer is available for use on organic farms. Look for the OMRI (Organic Material Review Institute) seal on any amendments to ensure NOP compliance. Simply seeing “organic” on the bag or container is **not** adequate.

Cover Crops:

We will assist you in the planting of cover crops such as buckwheat, oats, or winter rye in bare areas to stop erosion, suppress weeds, and reduce soil disturbance. Once you finish harvesting a crop, inform the New Entry farm manager so we can follow with a cover crop or a green manure. Ideally each year your cash crops will be tilled in and planted to cover crops by the end of the season. Record all cover crop sowings with the New Entry record sheets.

Crop Rotation:

Crop rotation helps to lessen impact of pests, diseases and weeds and improves uptake of nutrients between heavy and light feeding crops. You must keep a field map of where you planted crops throughout the season. Submit copies of your crop rotations to New Entry each season so we can advise future farmers how to allocate bed space from the history of previous crop records.

New Entry is implementing a three-year field rotation to ensure the long-term health of our soil. After three years of crop production, any given field will be removed from rotation for a minimum of one full farm season. The Farmer Training team will do their best to keep an incubator farm business on the same field for the duration of their time with New Entry. That being said, it is possible that farm sites will have to be moved from year-to-year to permit proper field rotation.

Weeds:

It is imperative that you control weeds by mulching, mowing, cultivating, or flame weeding. Keep weeds from entering other farmer's fields. Mow edges of your fields and trim brush and/or weeds. The edges of your field are your responsibility- the farm manager can mow the perimeter of the large farm field but the 5-10 feet from the edge of your beds should be managed by you. You are not allowed to use synthetic herbicides (weed killers). Farmers should not grow any plants that are listed on the Federal Noxious Weed list. Check with New Entry staff before planting uncommon crops.

Rocks and Stones:

Place rocks and stones from fields on existing rock walls or in marked locations. Please do not start new rock walls or piles on field edges or in your field. Our fields are very stony. Larger rocks damage farm implements and equipment. Everyone needs to contribute to the process of persistently removing rocks from our plots. Aggregation points will be pointed out in the beginning of the season and all stones picked from the field should be moved to one of these spots so they can be brought to the large rock pile outside the fence.

Nutrient Management Plans

all farmers will be required to plan and manage applied nutrients in their plots. The plan should be submitted with the crop plan. Strategies for completing this will be provided, and assistance provided at your request. The plan should include planned nutrient application by crop and supporting computation. Using this fertilizer application amounts can be decided on using New Entry's available supply. This is not only important for providing your crops with the appropriate nutrition at the right time, but is important for environmental and expense management. For this exercise, you will need a copy of the last end of season soil test and a reference material. The New England Vegetable Management Guide is updated yearly, and available for purchase online, or as a free complete PDF.

Equipment Use

After you attend the training workshops and demonstrate that you understand how to use the equipment, you will be allowing to use the following New Entry equipment:

- BCS two-wheeled tractor and attachments: rotary plow, roto-tillers, brush mower, flail mower, cultivation toolbar.
- Weed trimmers
- Flame weeder with propane tank and tank cylinder dolly.
- Solo backpack pesticide sprayer.
- Pesticides (in storage cabinet):
- Hand tools: hoes, rakes, wheelbarrows, shovels, saws, hammers, etc.

Note: *only New Entry staff may use the tractors and tractor-implements due to liability concerns.*

Using equipment:

- Sign out equipment every time - fill in the logbook with the date, your name, how many hours the equipment was used, and any problems.
- You may only use equipment for 2 hours if other farmers are waiting.
- When finished, clean the equipment and put it in equipment storage bays.
- Each farmer is responsible for ensuring that the fuel tank is refilled after use.
- Equipment must stay on the farm-sites.
- Let us know if the machines have problems or need maintenance.
- Get New Entry approval before repairing equipment.

Know the machine before working with it:

- Take the New Entry Equipment Training. Watch the BCS operating videos. Get a refresher of the information in the Online Training.
- Read the operator's manual.
- Be gentle with the machines.
- Learn all the machine controls.
- Be sure other people who are not trained do not use the machines.
- Reach out to the Incubator Farm Manager with any questions or concerns about equipment operation. Safety and proper equipment usage are integral to the success of a farm business.

Look for problems in the field:

- Walk the field and look for rocks, irrigation lines, hydrants, stakes, etc. before using machines.
- Exercise caution when operating machines near slopes and ditches.

Know the machine is in a safe condition before operating:

- Always have the rototiller kick guard in place.
- Check oil levels and fuel tanks before starting.
- Make sure all of the tines are tight.
- Look for leaks.

Protect yourself and others:

- Avoid loose clothes as they can get caught on control levers and knobs.
- Use safety goggles and hearing protection (ear plugs).
- Wear gloves and boots – no sandals.
- Never stand or reach under the machine when the machine is running.
- Keep small children away from farm machinery.

Equipment damage:

Please inform New Entry staff about equipment problems or damage ASAP (contact numbers will be provided at orientation). If you improperly use a machine and it breaks, you will be required to pay for repairs.

Greenhouse Use

The New Entry Greenhouses are a shared resource that serve to provide you with greenhouse training and experience, as well as space to rent for the growing of your own seedlings. Please see the fee page with information on rental prices.

The Greenhouse is a shared space. As such, please make sure that you label all supplies and equipment that are yours and store in designated areas of the greenhouse or tool sheds. Please make sure the shared seeding and potting spaces are kept clean after every use.

Greenhouse Duty:

If you participate in the Greenhouse Rental Agreement, you will be asked to sign up for several weekend days that you will be on “Greenhouse Duty” for the growing season. These will be your responsibilities:

- Open greenhouse doors at the beginning of the day (before 9am) and close them at the end of the day (no earlier than 5pm) as weather permits. Sometimes doors will remain open all night.
- Roll up sides on GH as weather permits. Good ventilation is integral to seedling health.
- Water entire greenhouse as needed, from zero to three times per day.
- Scout for pests and diseases and report to greenhouse manager.
- Tidy greenhouse as needed, make observations on state of greenhouse, make sure all equipment is working properly.
- Sign a Greenhouse Agreement Contract after taking the greenhouse orientation

You will be responsible for the health and well-being of your plants and those of your fellow incubator farmers throughout the season. If an emergency keeps you from coming to the farm for your greenhouse duties, please refer to contact numbers given out at orientation.

What we will provide:

- The Farmer Training Team will coordinate weekday greenhouse watering and operations.
- Training in all aspects of greenhouse seedling production
- Access to propane heat and city water throughout the season- March 21st-October 15th.
- Cold Frame area for hardening off plants

Pest and Disease Management

Good growing practices and prevention should be the first line of defense for pest and disease management. Using pest and disease resistant varieties, practicing crop rotations, using row cover and other preventatives is a key part of a management plan. Regular scouting of pests and disease is a best practice that allows you to take action when control measures will be the most effective. If pesticide application is seen as the best response it first must be used in accordance to the label for labeled pests/diseases. The label is the law. Pesticides are not cure-alls- if a disease/pest has been left out of control, the application of a pesticide will not magically restore the crop to health. Please consult with New Entry staff before applying pesticides of any kind, and have attended a pesticide training with the farm manager. Pest and disease issues not only need to be controlled for the success of your operation, but it is a service and a requirement to those of your farming neighbors.

Pesticide Safety

You must attend a New Entry pesticide safety workshop before applying any pesticide to your fields.

Step 1) TALK TO NEW ENTRY STAFF

If you decide to use pesticides to control a pest, first talk to New Entry staff about your decision. Only OMRI-approved pesticides are allowed.

Step 2) READ AND UNDERSTAND THE LABEL

The label is the law. Please follow the label instructions carefully. Be sure that the product you intend to use is listed for the pest or disease you hope to treat for. It is illegal to use a pesticide for something it is not listed for on the label. Or in an application method it is not listed for.

The most important information on the pesticide label is:

- Brand name, type of pesticide, and danger level
- Active Chemicals
- Personal Protective Equipment (PPE)
- Environmental hazards
- First aid
- Directions for use, storage and disposal
- Time before you can go back into the field (re-entry interval (REI)).
- Days to harvest.

Please do not use a pesticide without a trained person to help you.

Step 3) WEAR SAFETY EQUIPMENT (PPE)

Read the pesticide label to learn what safety gear (PPE) is required. It is a law to wear the proper safety gear when you are using pesticides. Always check that PPE is working properly before any handling or spraying.

The most important safety equipment includes:

- Chemical resistant gloves
- Safety goggles
- Shoes plus socks
- Masks
- Rubber apron, coveralls, Tyvek suit
- Long pants
- Long-sleeved shirt
- Have appropriate amount of water available for emergency decontamination (eye rinsing, hand washing, etc.) Soap and single use towels should be available.

Step 4) MEASURE AND MIX IN PESTICIDE AREA ONLY

Please be very careful when you are measuring and mixing pesticides in the pesticide mixing area.

The most important things to remember are to:

- Follow the pesticide label instructions.
- Use the pesticide steps you learned in the pesticides training.

Step 5) SPRAY SAFELY

Please remember to keep your safety and the safety of other people in mind when you are using pesticides.

The most important things to think about are:

- The weather: It is best to spray on cloudy days (unless otherwise noted on the label)with low winds,
- The time of day: It is best to spray late in the day when pollinators are less active and UV light is less likely to denature the applied chemicals.
- Other people at the farm: Alert other farmers in the area that you will be spraying pesticides and keep a 25 foot exclusion zone.
- **FOR EMERGENCIES: Call 911. GO TO A HOSPITAL QUICKLY. PLEASE REMEMBER TO CARRY THE NAME OF THE PESTICIDE THAT YOU WERE USING.**
- Always report any accidents to New Entry staff within 24 hours.

Step 6) POST SIGNS

Signs will tell other people that you have sprayed a pesticide. The signs help keep everyone safe.

The most important things to do after spraying your pesticide are:

- Put a pesticide sign in your field after spraying pesticides.
- Take down the sign when it is safe to go back into the field.
- Do not harvest the crop until it is safe to harvest.

Step 7) CLEAN UP & STORAGE

The most important things to remember for pesticide **CLEAN UP** are:

- Always wash with soap and water after using pesticides; before eating, drinking, smoking, using the bathroom, before touching eyes or mouth, or before getting into your personal vehicle.
- Change into clean clothing as soon as possible. Be mindful of contamination from shoes – remove before entering your home. Wash clothing you wore when spraying separately from other clothes. Decontaminate washing machine. Shower with soap and water and shampoo hair as soon as you can after work.
- Clean and store all PPE and sprayers.
- Use clean water to rinse empty sprayers.
- Rinse and clean the sprayers three (3) times each time you use it.
- Spray clean water through the sprayer when you are done using the sprayer.
- Use pesticide equipment for pesticides only. Do not use pesticide equipment for anything else.
- Do not throw pesticides or pesticide bottles away in the trash.
- Do not store pesticide containers or sprayers or measuring tools in containers you use to harvest crops.

The most important things to remember for pesticide **STORAGE** are:

- Keep all chemicals in the locked pesticide cabinet at the farm. Typically, pesticides used in agriculture are not to be used at home. Never take pesticides or pesticide containers home.

Step 8) ALWAYS WRITE DOWN WHAT YOU SPRAY (use the New Entry record sheets)

Record all applications at the Central Information Display Site in the wash station. If you need help writing on the sheet, please ask a New Entry staff member. You should also be recording any pesticide applications in your own records. Be sure to follow up and assess efficacy of your pesticide application after the product's "reentry interval" has passed.

Enforcing pesticide rules:

It is your job to protect all farmers and their families from pesticides. You need to protect the people who eat your vegetables and the staff that help you on the farm. It is very important to follow pesticide safety rules and to always obey the law when using pesticides.

If you do not follow these guidelines then New Entry will need to take the following actions:

First time breaking the rules: You will meet with a New Entry staff member to talk about reasons for the mistake. We will review the pesticide safety rules together. You will not be allowed to use pesticides without New Entry permission until we are sure that you have learned to use pesticides correctly.

Second time breaking the rules: You will be dismissed from the farm site and New Entry programs.

Please refer to Consequences and Probation section of this manual for further details.

Insurance Requirements

As a farmer at any of the New Entry training sites or if you are selling produce through the New Entry Food Hub, it is required that you carry *both* farm liability insurance and product liability insurance up to \$1,000,000 in coverage.

There are three main types of insurance for farmers:

- Farm and Product liability insurance
- Workers' compensation insurance
- Crop insurance

Farm (general) liability insurance protects you from being sued if you hurt someone or damage their property. Farm liability insurance covers medical expenses, first aid, the cost of a lawyer, bodily injury and property damage, farm chemical transportation coverage, and more. Product liability insurance protects you from customers that sue you if they get hurt or sick from eating your crops. Product liability insurance is required for all farmers that sell to markets and make value-added products. Workers' compensation insurance (also called workers' comp) is required if you hire workers on the farm. Workers' comp can be purchased through the state and the rates are determined by the employee salary and "risk level" of their work (see more info on workers' comp below). As a farmer at any of the New Entry training sites or if you are selling produce through the New Entry Food Hub, it is required that you carry *both* farm liability insurance and product liability insurance up to \$1,000,000 in coverage. Typically, these policies cost around \$400 per year to maintain if your production is at the scale of the training site plots. If you are unable to provide New Entry with proof of your farm and product liability coverage, you will not be eligible to use land at a New Entry training site or sell through the CSA. If you hire workers to help you at your farm plot, you are also required to carry workers' compensation insurance.

There are many insurance companies that sell the different types of liability insurance. Choose an insurance company that is familiar with and sells farm insurance for farmers. American National Insurance, [**Special Farm Package 10® (SFP 10®)**] gives you many insurance choices.. Talk to an insurance agent and explain how you plan to farm. Learn about the best types of insurance to protect you and your assets. The cost of your insurance premium can be related to your income from farming.

We strongly encourage you all to carry Worker's Comp insurance, however we recognize the financial stressors of starting a new farm business. If your farm business is set up as an LLC, LLP, unincorporated partnerships, or unincorporated sole proprietorship, you are not required to carry worker's compensation to cover **yourself**. **However, if you are planning on employing anybody, even part time, or getting regular help from a non-family member, you are legally required to carry worker's compensation insurance.**

Food Safety Plan

All incubator farmers are required to abide by any requirements dictated by the 2017 Food Safety Modernization Act

In Addition:

1. All produce must be grown with the use of pesticides, fungicides, herbicides or fertilizers that are OMRI approved
2. Each farmer must attend health and hygiene training and sign that they have been trained.
3. All farmers at the Beverly Moraine Farm incubator sight will follow the SOPs and guidelines outlined in the New Entry Sustainable Farming Project Food Safety Plan, including appropriate record keeping in designated locations. A copy will be emailed to all participants and a printed out copy will live in the wash station. Pertinent space-based SOPs will be posted in the areas they cover. A printed copy for personal ownership will be given at request.

2023 Cooler / Refrigeration Use Policy

New Entry operates and maintains a cooled shipping container and a walk-in cooler at the Incubator Farm, for use by New Entry incubator training site farmers and by the Food hub. The outdoor coolers will be available for use by those farming on the incubator. Every farm entity will get a predetermined area of roughly one 48"x 40" pallet All other space needs should be negotiated with the Farm Manager and other incubator participants.

The coolers inside the Food Hub will only be available for farmer use if fulfilling an immediate Food Hub order. Farmers should coordinate with the Food Hub manager if planning to transfer produce into one of the interior coolers.

Regardless of which cooler produce is in accordance with New Entry's needs and the Food Safety Modernization Act:

- All boxes in any cooler must be labeled with the following:
 - Farmer name

- Crop name
- Date of harvest and when put in the cooler
- Unlabeled boxes will be disposed of.
- Crops that have spoiled will be disposed of at the discretion of New Entry staff
- Farmers must load and unload quickly and be sure that the cooler door is firmly closed when leaving to avoid letting the cool air out.
- Only raw, uncut vegetables may be stored in the cooler. No prepared foods, meats, dairy or other products allowed.
- No boxes, containers, personal marketing materials, or any farm or market supplies may be stored inside the cooler or surrounding the premises of the post-harvest handling facility unless farmers receive prior approval.
- only clean boxes and bins can be put in the cooler. Harvest bins unless cleaned and sterilized before use should not be put in the cooler.
- Farmers are responsible for cleaning all produce and boxes out of the Cooler by November 15th.

If you do not follow the guidelines, you may lose cooler access after one warning.

Consequences and Probation

You and New Entry staff will agree to follow the guidelines in the Farmer Manual or you may be asked to leave the farm and the New Entry program. No refunds of rental fees will be issued if you are asked to leave the program.

You will be on probation if you:

- Miss more than 2 mandatory workshops or monthly meetings.
- Consistently miss meetings with New Entry staff.
- Do not complete record-keeping materials.
- Do not follow all the guidelines as documented in this Agreement.

If you are put on probation, the farm manager or another member of the Farmer Training team will meet with you to discuss the reasons and they will set the terms of your probation. To continue in the program, you will have to agree to the terms of your probation.

You will be removed from New Entry Incubator Farm Sites if you:

- Do not meet the terms of your probation.
- Do not cooperate with other farmers or New Entry.
- Disrespect the farm property - such as damage or neglect equipment, or litter.

- Do not use pesticides properly or use non-organic pesticides or fertilizers.
- Do not communicate with New Entry staff.
- Use alcohol, illegal drugs, or firearms on New Entry property.
- Steal from farm sites, other farmers or neighbors.
- Are violent or aggressive towards others.
- Violate discrimination and harassment policies

Complaints and appeals (grievances):

STEP 1) You can file a complaint against another farmer, landowner, or New Entry itself. Your complaint should be in writing if possible. Write or speak your complaint as soon as possible after the problem happens.

STEP 2): The Incubator Site Coordinator will try to fix the problem directly with you, and/or seek other staff help to resolve the situation.

New Entry Incubator Farm Training Program Contract

The New Entry Incubator Farm Training Program helps you start and build a farm business.

This program includes:

- Farm business planning course
- Access to farmland and infrastructure
- One-on-one technical assistance
- On farm field trainings and workshops
- One-on-one check in meetings throughout the season of individualized case management and goal setting.
- Help finding good markets for your products

Enrolling in the Incubator Farm Training program:

After completing the Fall or Winter farm business planning course with an approved business plan, you can sign up in the full New Entry program for 3 consecutive seasons. (March-mid November) New Entry will give you help and we also are asking you to agree to:

- Plan and start up a farm business over 3 consecutive seasons
- Grow and market your crops as a business.
- Get training and hands-on help from New Entry if you need it.
- Follow the guidelines and give us information about what you grow and sell, and required records.
- Work with us to plan and start up your own farm.

Agreement to farm:

This document contains all the agreements and guidelines that are part of the New Entry Farmer's Manual. Please review this manual and talk about it with staff. When you sign your name below, it means you agree with all the rules in the New Entry Farmer Manual, including:

- Farmer plot assignments and land rental payments
- Payments for other services received as listed in the fee schedule
- Completing New Entry training program and farm business plan
- Participation in 2023 trainings and farm visit schedule
- Farm rules, requirements and guidelines:
- Water use and irrigation
- Soil and land use
- Equipment and greenhouse use
- Pest management
- Pesticide safety
- nutrient management plans and food safety plans
- Recordkeeping and reporting
- Liability and workers' compensation insurance
- Consequences and probation
- Discrimination and harassment policies

I _____ (name of incubator farmer) have reviewed the 2023 New Entry Sustainable Farming Project Farmer Manual document, understand it and agree to participate in the 2023 New Entry farmer program.

IN NO EVENT WILL NEW ENTRY OR TUFTS UNIVERSITY BE LIABLE TO THE YOU OR ANY THIRD PARTY FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH YOUR PARTICIPATION IN THE NEW ENTRY SUSTAINABLE FARMING PROJECT, AND YOU HEREBY AGREE TO INDEMNIFY AND HOLD HARMLESS NEW ENTRY AND TUFTS UNIVERSITY FROM AND AGAINST ANY SUCH CLAIMS, DAMAGES OR OTHER LIABILITY.

Farmer Name

Date

Farmer Signature

New Entry Staff Name

Date

New Entry Staff Signature

Materials we provide vs what is farmers responsibility

FERTILIZER

We provide fertilizer for your plot that can be applied according to your nutrient management plan. We will have:

Kreher's 5-4-3 with 9% calcium.

Kreher's 8-2-2.

Kreher's 7-2-6

sulfate of potash (0-0-50)

if you would like additional products or minerals this will be need to be pre arranged with the farm manager and will be the responsibility of the incubator farmer. This includes compost.

as needed New Entry will lime fields for Ph or apply other broad scale amendments as needed but it will be done as part of larger farm fertility management.

COVER CROPS

We have a variety of cover crops on hand that New Entry is happy to have incubator farmers use if discussed. These mostly consist of Buckwheat, oats, peas, sorghum-sudan, and winter rye. If you have specialty blends or unique varieties not on hand it is the responsibility of the incubator. This should be discussed while crop planning. NOTE: applying cover crops to small areas should be done BY THE INCUBATOR PARTICIPANT. It is impractical to use the no till seed drill or tractor mounted cone spreader to do one or two beds. Keep this in mind if your intention is to have New Entry put down cover crops with the tractor.

IRRIGATION

What we provide:

Water! You do not need to bring any water with you obviously for irrigation, but also water from the well and the associated costs are included in the fees to be on the incubator

Infrastructure and supplies to get water to your field edge. This consists of the valve opener hydrant . lay flat hose, and the fitting on that hose to connect you your pressure regulator assembly. Our lay flat is 2 inches in diameter. Keep in mind if you don't want to use 2 inch header hose you will need additional reducers to go down in diameter. If you are purchasing your set up at Brookdale they can absolutely assist you in getting the correct pieces and we here at new entry are happy to help too!

What you are responsible for:

All irrigation supplies from the layflat down stream are the incubator responsibility to purchase. This includes but is not limited to: pressure regulator, header hose, drip tape, sprinklers, and all associated fittings. The only exception is if you have plastic beds laid by the farm manager the cost of the drip tape is included with the fee.

Here is a short list of what you could need if you are setting up drip irrigation

Pressure regulator assembly- a pressure regulator that is for around 12 PSI (10 is also good). A pvc ball valve, a threaded camlock to attach to lay flat, couplers and a threaded barb to attach to the header.

Header hose- usually 2 inch diameter blue line poly hose. Long enough to extend perpendicular across the beds you want drip on

2 inch ring clamps to attach blue line and hose end. Getting a bag for spares is recommended

Valve fittings to attach drip line to header hose. These bring an attachment point for drip tape to run the length of your bed and have a valve so you can choose which ones are on or off. Get spares as of these as well.

Hole punch for blue line fittings. Brookdale sells an insert tool, but making sure you get a punch that matches the hole size of the valve fittings is key to reduce leakage however if you do punch an extra hole don't fret- you should buy a bag of goof plugs for just these occasions. Would also recommend couplers for drip to drip in cases of tears or leaks. You can use end plugs for your drip tape or simply tie a knot

Drip tape- whatever tape that is not provided to you when you purchase plastic laying surfaces is your responsibility.

Please refer to the irrigation sheet later on in this document for a more visual understanding!

GREENHOUSE

What we provide you

A table in the greenhouse that holds roughly 40 standard seedling trays. Some additional space is available early spring before the small greenhouse becomes the wash station.

Water and watering wands.

Early season availability of space for 1 or 2 trays on NE heat mats.

Propane and electricity is covered in the fees. there will be no additional fees

Watering and venting of greenhouses M-Th. F-Su is staffed by incubator farmers.

5 60 quart bags of Vermont compost fort Vee potting soil.

Shared hardening off area

What you need to provide

Additional heat mats, temperature regulators extension cords etc If you need more heat mat space.

Seeding trays. New Entry has a decent stack of odds and ends but do not take trays from the greenhouse unless they are specifically designated as available to incubator participants

Markers, tray tags etc

WASH STATION/COOLER

What we provide

Town water for Beverly Municipal water source for washing produce.

Soap, bleach, scrubbers for cleaning and sanitizing

Tables, dunk tank, hoses for spraying

Small salad spinner

Harvest bins- there are some at the farm but there is no promise they will always be available to use. it is advisable to have a few of your own.

Produce storage bins- this is where it is a little complicated. The grey bins in the wash station are primarily to be used for the purpose of storing food sold to the food hub. If you sell say 20 heads of lettuce to the food hub, you can back your lettuce in these bins, label them appropriately and then place them in the food hub cooler. While I don't mind a few bins being used to store things for non food hub destined produce, the food hub destined produce is the priority. if a point in the season is reached where there is not enough bins for food hub use, their use in other contexts will be banned. They also CANNOT leave the property. they should not be used to deliver produce off site or brought to markets etc. it is advisable if you have a lot of produce not going to the food hub to have a few bins of your own. The farm will do its best to have as many bins available as possible.

Cooler space in the outdoor coolers provided for incubator use. Will be divided into distinct areas for each operation and your space considerations should include this. You may put a shelf etc in your area as long as it is safe and does not stop anyone from getting to their produce.

Tomato trays we have a pretty sizable stack of bread trays that can be stacked and used for tomato storage. Much like the storage bins, these should not leave the farm property.

PESTICIDES

We have a variety of OMRI approved pesticides available including pyganic, surround, entrust, Xentari, Dipel, and Azaguard. A full list will be in the pesticide section of canvas and also all material sheets will be with the pesticides in a binder. Pesticides cant be used without proper training and consideration and if you believe you need a specific product we do not have or find yourself using an inordinate amount of pesticide we will make considerations for you purchasing them on your own. Please consult before pesticide use and get the proper training.

TILLAGE

We will till your plot in spring and help close down for the fall. All other tractor services must be contracted with the farm manager

STAKES, HOOPS, REMAY ETC

All of these items are the responsibility of the incubator participant if they are wanting to use these items

Setting up drip at Moraine Farm

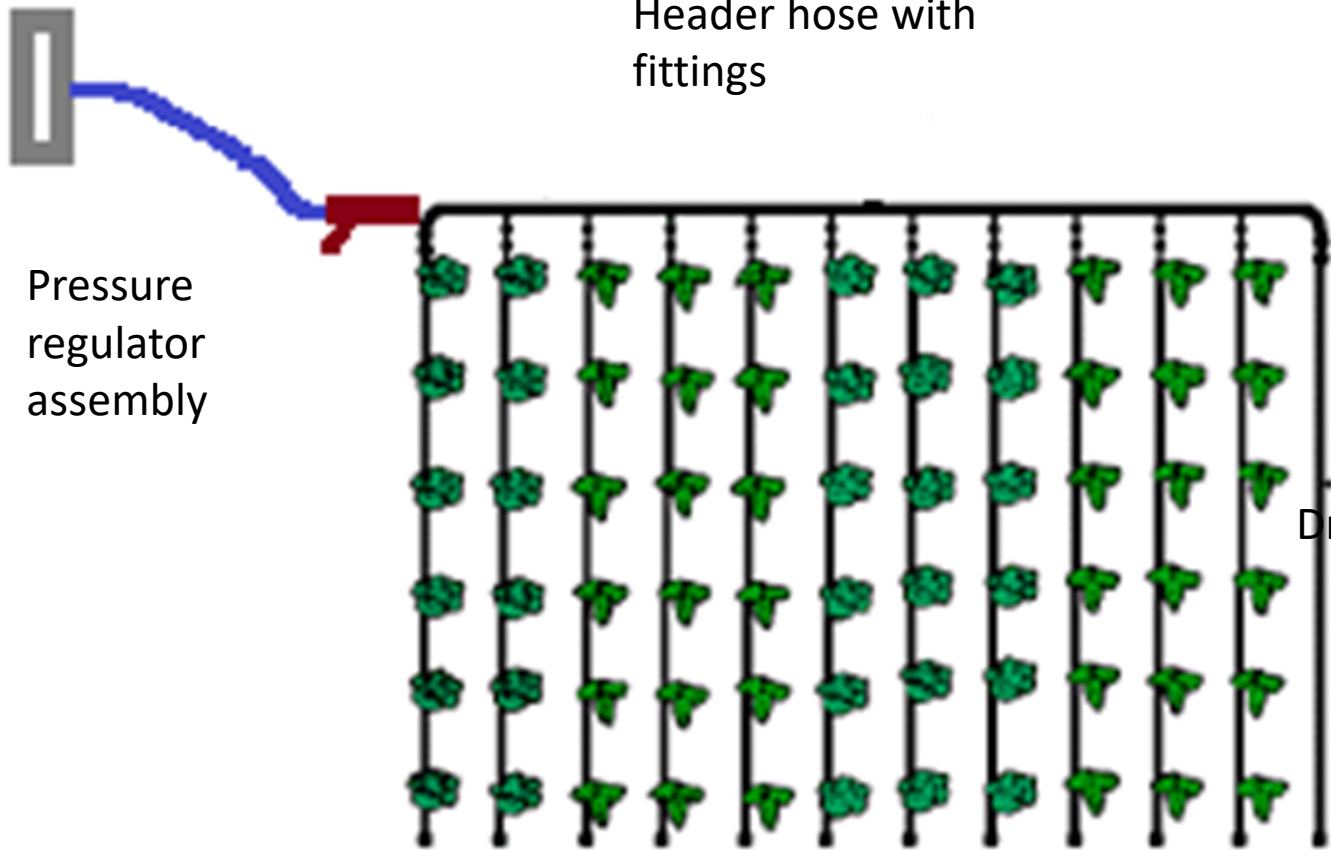
Hydrant/valve
opener

layflat

Header hose with
fittings

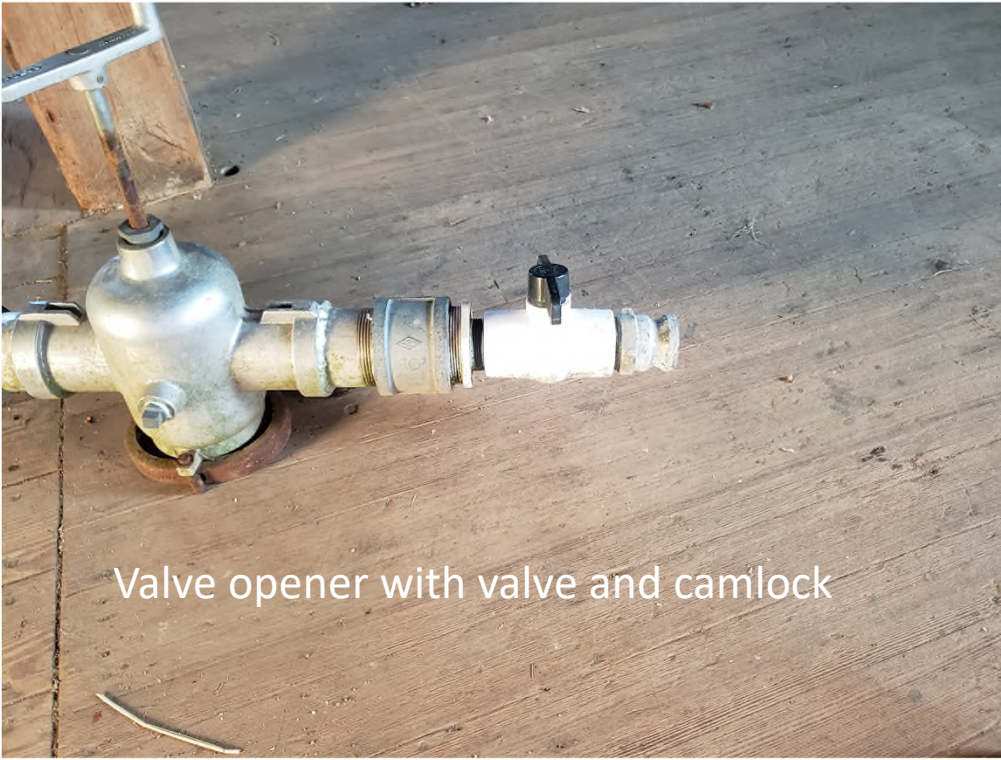
Pressure
regulator
assembly

Drip lines



Just a brief overview of a basic drip irrigation system at Moraine. We have pump and variable frequency drive that provides water for irrigation here at the farm. We will train separately on pump basics and how to turn on and monitor it. For now this is a helpful presentation (hopefully) to show what supplies you will need and guide some decision making.

Very generally to irrigate your plot you will need to turn the pump on if it is not on, which runs at 50 PSI and is maintained by the variable frequency drive. You will open the hydrant valve opener connected to your plot, run water through a pressure regulator to reduce the pressure to appropriate drip irrigation needs (too high and all your fittings will just blast off) open valves on your system and run the pump for several hours. The next couple slides show the pieces from hydrant valve opening to the ends of the drip tape



Valve opener with valve and camlock

The layflat will help get the water to the edge of your field. New entry will provide this. The hose is 2 inch in diameter as will the fitting you will need to attach to. You are welcome to use different diameters but will need to provide the fittings to reduce. 2 inch works fine though

The valve opener will be in the field and is what is attached to the valve stubs. Once the pump is turned on this is the next water control spot and is opened and closed with the crank on the top

From there it will go into the arms (some have one some have 2) and is reduced to a 2 inch diameter. There is a valve here to turn the arm on and off and then a camlock to attach the flexible layflat tubing.

Camlock on layflat- it's like fire hose



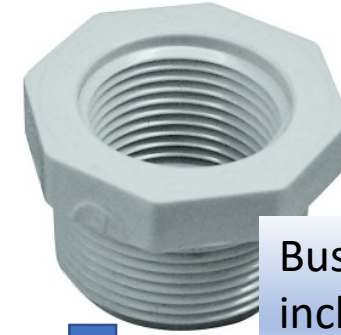
Connect lay flat and build pressure regulator assembly



2 inch
MALE
threaded
camlocks



2 inch x 2 inch
female
threaded pvc
ball valve

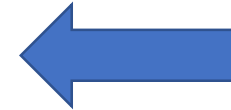


Bushing reduces 2
inch to 1.5 inch

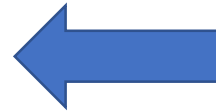


Pressure regulator

1.5" male thread
x 1.5" male
thread

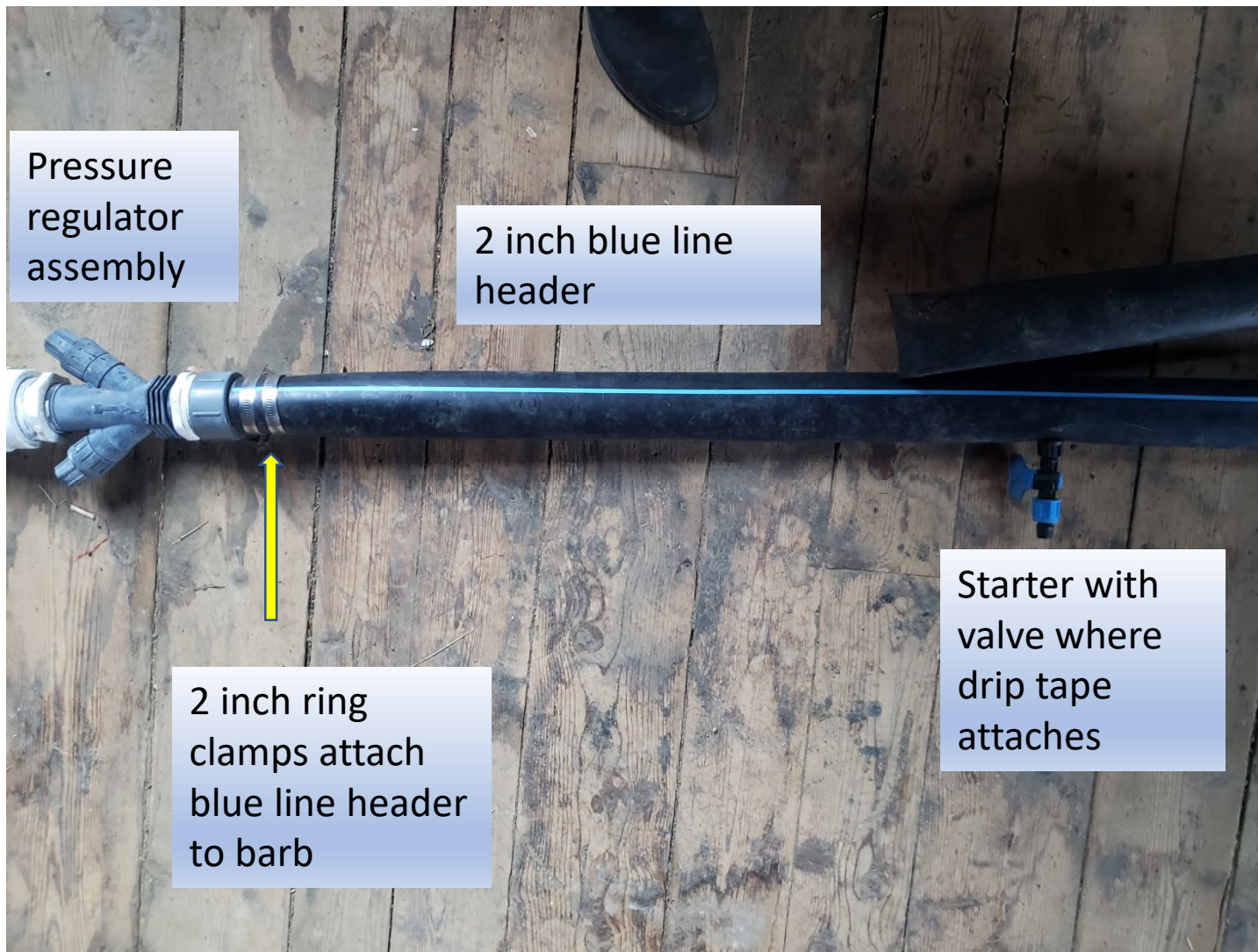


Couples 1.5
inch to 2
inch barb



Threaded 2 inch to
barb

All male threads should be installed with Teflon tape or similar product for good seal!



The header hose runs the length of your field perpendicular to the direction of the beds. Drip lines run off the header parallel to the bed and are attached by the starter valves which allow you to select what is on or off. Drip tape will supply water at regular intervals and can be tied off at the end or little stoppers used.

ment tip: \$15



7/8" 1-100..\$2.00 100+

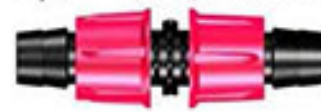


Use this tool to insert starters or similar tool – it needs to punch the correct size hole so it doesn't leak!



If you make a mistake on the header punch, you can use a goof plug pictured here to seal the hole. I recommend having some on hand

10 7/8" 1-49..\$0.00 50+..\$0.56



Valve

This coupler is for on the drip tape line- sometimes you get bursts or tears and need to repair!

.55



FT

Optional end plugs for drip tape. Can also just tie them off.

Barb x barb fittings for your header hose are a good idea also if there are any accidental tears. Buy extra of these materials to be prepared for inevitable malfunctions and needed repairs!

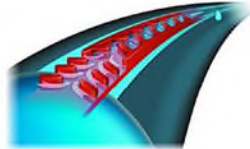
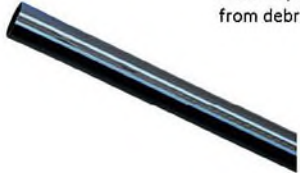
Te



Ag

Toro Aqua Traxx Azul Premium Drip Tape

Aqua-Traxx® drip tape is designed and molded with a high level of precision, resulting in manufacturing consistency over 97 percent — the best in the industry. With Aqua-Traxx, you get greater reliability and more uniform output compared to lesser tapes. Aqua-Traxx Azul offers a new emitter design that protects the labyrinth from debris and maximizes clog resistance and performance.



Thickness	Spacing	Roll Length	Flow Rate gpm/100'	Part Number	Max Run Length*	1-9 Rolls	10+
8 mil	4"	7500'	0.67	EA5080467-750	412'	\$182.00	\$178.00
8 mil	6"	7500'	0.5	EA5080650-750	487'	\$182.00	\$178.00
8 mil	6"	7500'	0.67	EA5080667-750	412'	\$182.00	\$178.00
8 mil	8"	7500'	0.34	EA5080834-750	645'	\$182.00	\$178.00
8 mil	8"	7500'	0.5	EA5080850-750	608'	\$182.00	\$178.00
8 mil	8"	7500'	0.67	EA5080867-750	412'	\$182.00	\$178.00
8 mil	12"	7500'	0.22	EA5081222-750	835'	\$182.00	\$178.00
8 mil	12"	7500'	0.45	EA5081245-750	524'	\$182.00	\$178.00
15 mil	8"	4000'	0.5	EA5150850-400	608'	\$196.00	\$191.00
15 mil	12"	4000'	0.22	EA5151222-400	835'	\$196.00	\$191.00
15 mil	12"	4000'	0.45	EA5151245-400	524'	\$196.00	\$191.00

Call for 32+ roll pricing

*All max run lengths calculated equally using 0% slope, 10 PSI inlet, at 90% EU dist. for brand comparisons



Neptune dripline from Toro is ideal for mums, pumpkins, raspberries and blueberries. It can be buried up to 3 inches deep. This dripline has a molded emitter that resists plugging and can handle challenging water as well as heavy feeding. Neptune is a high-quality product with the strength and flexibility needed for easy installation and removal.



Thickness	Spacing	Roll Length	Flow Rate gph/emitter	Part Number	1-9 Rolls	10+
15 mil	24"	4200'	0.16	TW152416-420	\$165.00	\$160.00

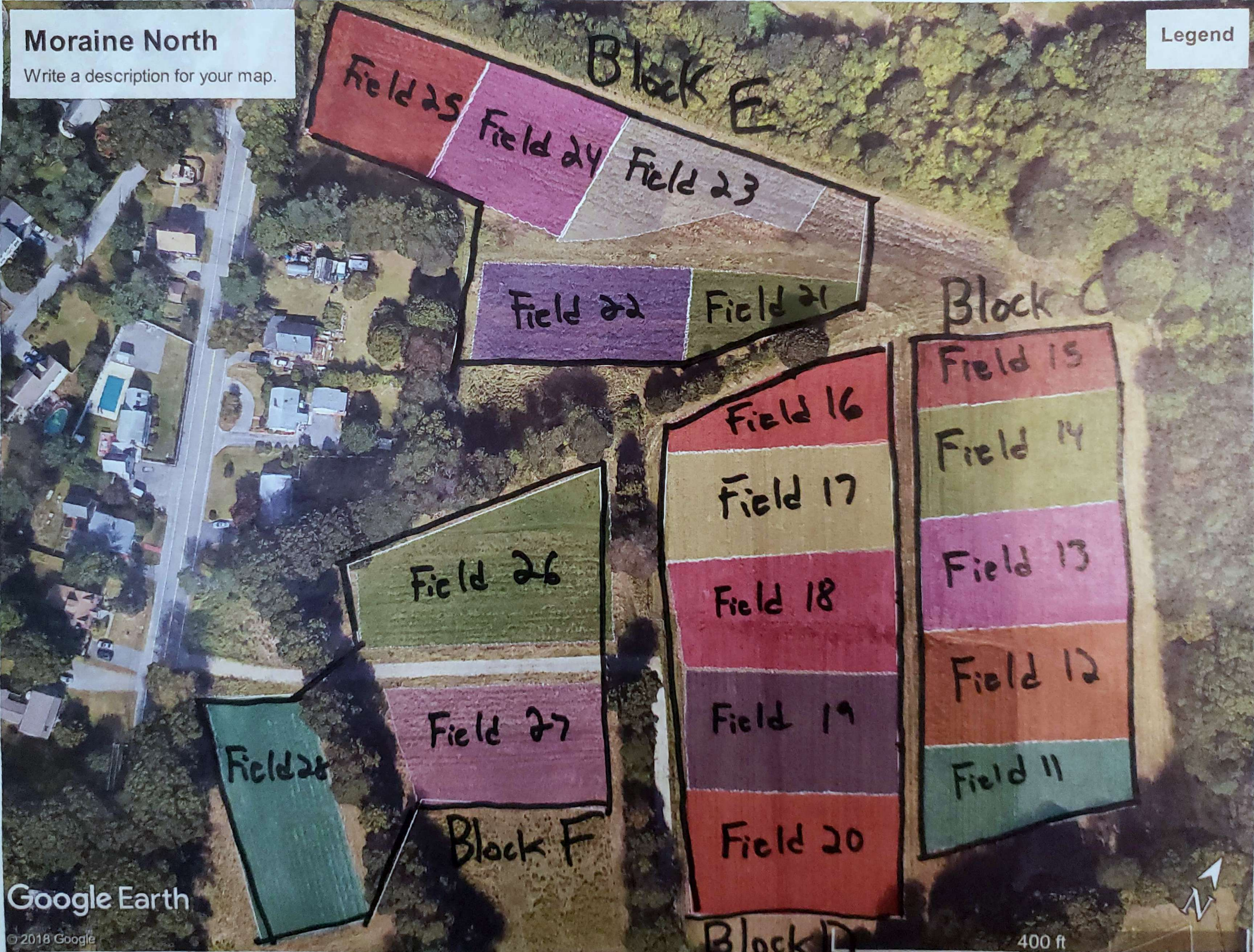
While supplies last

As you can see there are many options for drip tape. This is what the water comes out of in your field. It is at its essence a plastic tube with slits (emitters) at regular spaces. Last season we had tape with emitters every 8 inches and a rating of .5 gallons per minute (gpm.) the table to the right shows different combos of emitter spacing and GPM. Note the limiting factor is the length of tape that can be run at the correct pressure. The higher the GPM and the closer the spacing decreases maximum length. Most people here on the incubator won't run more than 200 foot lines but you have to take into account total foot running and if others are using water. For me the the .5 8inch spacing feels safe. Either way knowing the gpm and the spacing will help you calculate how much water is actually being put on your fields!

Moraine North

Write a description for your map.

Legend



Moraine South

Write a description for your map.

Legend

Block B

Field 10

Field 9

Field 8

Field 5

Field 6

Field 7

Food
Hub

Prop House

Wash

unheated HT

Demo 2

Demo 1

Field 4

Field 3

Drainage

Field 3

Field 2

Field 11

Block A