2018 Dilmun Hill
Farm Report

Authors: Emma Volk, Emma Herrighty, Emma Badini, James Yoon
# Table of Contents

**Manager Profiles**
- Farm Reference Maps
- CSA Vegetable Production
  - Preparation
  - Soil Management
  - Soil Fertility
  - Weed Management
  - Irrigation
  - Pest Management
- CSA Coordination
  - Summer Logistics
  - Summer Customers
  - Fall Logistics
  - Fall Customers
  - Communication
  - Outreach
  - Work Parties
  - Work-for-Share Program
  - CSA Crops in Review
- Wholesale Vegetable Production in East Ithaca
  - Seeding and Harvesting Timeline
  - Crop Plan
  - Wholesale Crops in Review
  - Sales
  - Weed and Pest Management
Notes for the Future

Greenhouse Production 30

High Tunnel Production 31

Preparation

Irrigation and Flooding Issues

Disease Pressure

Weed and Pest Management

Nutrient Management

Harvest Timeline

High Tunnel Crops in Review

Notes for the Future

Mellow Yellow Production 37

Mellow Yellow Origins and Setup

Harvest Timeline

Mellow Yellow Crops in Review

Mellow Yellow Present and Future

Farmers Market 39

General Logistics

Pricing

Special Projects and Infrastructure 39

Student/Faculty Research Projects 40

Volunteer Work Days 40

Farm Tours 40

Outreach Activities 41

Acknowledgements 41

2018 Season Farm Photos 42
Manager Profiles

Emma Volk

Major: International Agriculture and Rural Development, minoring in Soil Science and Crop Management
Farm Position: CSA Vegetable Production and Coordinator

Dilmun Story: I first visited Dilmun Hill during my sophomore year in the Sustainable Agriculture course. I was impressed by what the student managers were able to accomplish, and I knew I wanted to work for Dilmun one day. Working for Dilmun was one of the hardest and most fulfilling opportunities I have had.

Emma Herrighty

Major: International Agriculture and Rural Development, minoring in Plant Breeding and International Trade and Development
Farm Position: CSA Vegetable Production and Coordinator

Dilmun Story: I was first introduced to Dilmun through Cornell’s course on sustainable agriculture, when we toured the farm during a field trip. I was immediately impressed by the students’ work, and had the inkling of an idea that this would be a fulfilling opportunity to pursue. Beginning my final semester at Cornell, I did not think I could enter the world with a degree in International Agriculture without farming first myself. This experience has been incredibly rewarding, and I will be forever grateful to this organization and the lovely people that I have met.
Emma Badini

Major: Interdisciplinary Studies (with a concentration in Environmental, Climate, and Food Justice) with a Minority, Indigenous, and Third World Studies English Minor and Community Food Systems Minor

Farm Position: Wholesale Production Manager

Dilmun Story: I was first introduced to Dilmun Hill at the 2016 Season presentation that was open to the general Cornell community. That was my freshman fall. Throughout the following year, I became enamored with urban farms and the power of community farming so when I saw that Dilmun Hill was hiring for the 2018 season, I jumped at the opportunity. I am so glad that I applied and feel so lucky to have worked alongside my inspiring co-managers. I have learned so much at Dilmun and am looking forward to carrying this knowledge and this experience with me far into the future.

James Yoon

Major: Undecided

Farm Position: Wholesale Production Manager

Dilmun Story: I first learned about Dilmun through a few housemates who happened to be previous managers. Although I didn't have any prior experience or a particular academic interest in agriculture, Dilmun's fully student-run model piqued my interest. Since working as a manager, I've learned so much about growing food and gained a huge appreciation for small farms. I'm blessed to be working alongside such inspiring people.
Farm Reference Maps

Overview of the Entire Farm

Pioneer Garden

Market Garden
CSA Vegetable Production

Preparation

In the Pioneer Garden, beds were reconstructed by hand tilling and shaping the rows. Weeds were managed by hand-weeding, tilling, and laying down black plastic. In the Market garden, beds were made by farm services. Some beds (about half) were laid with black plastic and others were left bare. Drip irrigation was laid in both the Pioneer and Market gardens.

We started off the season by reviewing the successes of last year’s CSA: what crops were most popular, grew easily and quickly, and which customers we should reach out to. We took inventory of the seeds left over from the previous season, then ordered the varieties we decided on from Johnny’s Seeds. Varieties were chosen based off what did well the previous year as well as some additional varieties that we were interested in for experimentation.

Soil Management

The beds in the Pioneer garden were overwintered with straw, which we removed at the start of the season. Beds were tilled with the hand tiller and then reformed, which we do not recommend for the future. The beds should not have to be remade or reshaped in the following year, and the less soil disturbance, the better it is for the health of the soil. Instead, make use of the straw to suppress weeds and maintain soil moisture. If you have to till, use the rototiller and make as few passes on each row as possible. We experimented with no-till, but this requires much more attention to weed control than we had time for. As the soil in the pioneer garden is much easier to work with than the market garden, we feel that no-till could be a viable option there.
Soil Fertility

Fertilizer was applied to certain beds depending on the crops’ nutrient demands. We made use of the blood meal, fish meal, and chicken manure that we already had in the barn. In the Market garden, a large application of sand was applied to the soil in order to continue many years’ worth of efforts to create a looser texture. Despite this, the soil remained a very heavy clay, and we experienced issues with waterlogging and water runoff throughout the season. The farm is working towards the decision that the Market garden will not be utilized in the next few seasons in order to improve soil quality and regain control of the weed pressure currently plaguing the area.

Weed Management

Weeds were first managed in the Pioneer garden by the laying of black tarps over beds not yet made, tilled, or planted. When weeds emerged, they were controlled primarily by hand, but things quickly got out of control. We attempted to correct the weed issues by mowing and weed-whacking and then laying straw. This proved to keep some of the rows in check, while others had to be abandoned. In general, we recommend that weeds that will grow large and produce the most seeds be dealt with first - such as pig weeds. In East Ithaca for example, pigweeds grew upwards of 5 feet tall, and proved to be extremely difficult to remove after they matured. In trying to remove them, we also shook loose all of the plant’s seeds, which creates issues later with the soil seedbank. Curly and Broadleaf dock also proved to be difficult to remove due to their deep tap-root. The weed grows first as a rosette, and is easiest to remove at this stage. As it matures, however, it grows very tall and produces many seeds. and Weeds should be removed or killed before they can set seed.

After the beds in the Market garden were made, no steps were taken to prevent later weed emergence, such as laying straw or plastic. The weed issue was so problematic that many of the beds were unable to be planted into. These were eventually abandoned. While we weed-whacked frequently, the grassy weeds in this area grew rapidly and set seed, causing further problems. This weedy environment also created the perfect habitat for small animals, which we saw evidence of through damaged crops and animal droppings. This raised serious health concerns. Due to the serious issues of weeds in this area, we are recommending that a large portion (if not all of the Market garden) be taken out of production for the next few seasons and be put under the rigorous cover crop plan designed by Nina Sannes. Doing so will hopefully allow the farm to gain better control over the weed population of this area. As we found the Market garden to be incredibly difficult and
time-consuming to work with, we think that removing this piece of land from production will prove beneficial in many ways to future managers.

**Irrigation**

The Pioneer and Market Garden were both laid with drip line irrigation. The installation of two water hydrants in the Pioneer garden made the hookup process much simpler for us. The only plots of land where we had to water by hose included the herb garden, the pumpkin patch, and the Leonard garden. While the pumpkin patch and Leonard garden were close enough to hydrants to make laying drip line possible, we did not have enough hose or connecting parts to set up the irrigation system. Watering by hose was not incredibly inconvenient, however, as this summer was particularly rainy and if we did have to water, the area was small.

**Pest Management**

*Groundhogs:* Groundhogs proved to be injurious to crops if we were not quick enough to defend them. For example, our leafy transplants, if left uncovered, were often destroyed by the next day. As we never had the opportunity to set traps, reemay was used as the only barrier. For the most part, this method was successful as long as we ensured that the crops were properly covered. The groundhogs were a real pain with the strawberries, and we think that a chicken wire fence around them would prevent damage. This wire is in the toolroom, and it should definitely be taken advantage of.

*Mice:* We did have a mice issue within our beet and radish crops. Mice proved small enough to crawl under the reemay, unlike groundhogs. We believe the weedy environment of our rows encouraged mice populations. With better weed control, we believe mice would not have been an issue.

*Flea Beetle:* We lost our arugula crop, and part of our spinach crop to Flea Beetle. The eggplant beds also had flea beetle incidences, but this did not affect eggplant production negatively. We recommend reemaying these crops immediately after seeding in order to prevent flea beetle eating seedlings or damaging the crop after the seedling stage.
Slugs: Slugs were found all over the farm, but they primarily preyed on kale beds in the market garden. This was due to high rainfall that caused much of the rain to drain towards the kale bed creating particularly wet conditions. While kale was the primary victim of the leopard slug, slugs are known to munch on multiple crops across many varieties. We recommend avoiding planting in areas where water tends to pool. Slugg-o is an organic pesticide that can protect plants from slug predation.

CSA Coordination

Truck load of boxed Fall CSA shares.

Summer Logistics

We ran the summer CSA for 12 weeks, starting on June 14th and ending August 30th. Our CSA consisted of 36 people, 11 full shares and 26 half shares. Most vegetables were
harvested and washed on the day of CSA pick-up, but some harvesting occurred the day before pick-up if we knew that the vegetables would keep well. Members picked up their shares in the CSA shed every Thursday. We would place bins of each CSA item out for the members to choose their vegetables. But if people could not drive or walk to the farm, we asked them to inform us of this at the beginning of the summer. To give them their shares, we boxed up individual shares and left them in a cooler in the Plant Science building. Members were told to pick up their boxes after 10 a.m. on Fridays in order to give us enough time to transfer the boxes from the farm to the cooler.

We aimed to provide $15 worth of produce each week to half shares and $30 worth of produce to full shares at a minimum. Because Dilmun aims to make food accessible, if we had extra produce to give, we would include it in that week’s share even if we already reached the minimum value of $15 or $30. Values for each week’s CSA were determined by Wegmans’ prices for the same or similar variety of vegetables.

Summer Customers

To begin cultivating our list of CSA members, we first reached out to previous CSA customers to gauge their interest in the 2018 CSA. We offered this as priority membership, giving them the option to sign up before we contacted the rest of the Cornell community. We
were cautious at first with how many members we could accommodate, and capped the sign-up to 30 people. However, by the end of the summer, the list grew to 36 total half and full shares. We added people that we had previously turned away, and we discounted their membership by the amount of weeks that they had not been included.

Fall Logistics

The Fall CSA was held for 6 weeks between September 13th and October 18th. Harvesting and washing for the fall CSA occurred during the Wednesday work parties, and shares were handed out at the Thursday Cornell Farmer’s Market. Service fraternities and other organizations that require x number of volunteer hours were often helpful during these work parties. We recommend planning the work parties ahead of time in order to run efficient work parties that only last three hours. Occasionally, managers had to stay for an hour longer or more in order to prep all of the CSA boxes.

Instead of allowing members to pick out each individual vegetable, we prepacked the CSA’s in cardboard boxes and encouraged members to bring reusable bags to transfer their produce into. Do not allow customers to take the CSA boxes home.

We only provided one size for CSA shares during the Fall. Students and faculty had the option to pay for their share on a sliding scale. This falls in line with our goal of making food as accessible for people as possible. We allowed the lower end of the scale to go below the actual value of vegetables we gave members. The upper end cost more than the actual value of vegetables.

Fall Customers

Our Fall CSA consisted of members carrying over from the summer, people who had expressed interest in the summer CSA but were not in Ithaca during that time, and new members who we acquired through advertising. As the shares were a single size, we were able to supply shares to approximately 40 people total.

Communication

We communicated with CSA members via a new email account: dilmuncsa@gmail.com. We created this account with the intention of consolidating and simplifying CSA communications. This also allowed the Wholesale managers simplified use of the original email for their correspondences.

We then created a Mailchimp account with this email. Mailchimp worked as an easy and fun way to communicate with the members each week. Each newsletter updated members on the produce they could expect at the next pick-up, as well as recipes incorporating the week’s produce. We also included frequent updates on work parties, upcoming potlucks, composting tips, and any other information we thought would be helpful. The login information for this CSA
email account and the mailchimp account can be found in the passwords folder on the Google Drive.

**Outreach**

Our outreach was three-fold this past season. First of all, we continued our work-for-share program in which we hired five groups of people to work for three hours each week in exchange for a full share. Secondly, Dean Boor sponsored a student’s share, continuing our relationship with her and Dilmun Hill. Along this vein, we also encouraged CSA members to donate any amount they could in order to discount another student’s share. This had some success, and we encourage future managers to expand upon this idea and outreach.

Lastly, two events were held to educate the community. We connected with Upward Bound, an organization that brought high school and middle school kids onto the farm for a day-long workshop. Students learned about the farm’s operations, composting, permaculture, seeding garlic, and weed management. Our other event was a Garlic Festival during which attendees taste-tested different garlic varieties and seeded garlic for the 2019 season. We hope that, moving forward, the farm and its managers will be able to plan and host more educational events.

**Work Parties**

During the summer, work parties were held on Wednesdays and Sundays from 3-6 p.m. Work parties are important events during which managers can take advantage of extra hands on the farm. Planning parties out ahead of time is strongly recommended in order to make the most of those 6 hours every week. Attendance at work parties ranged from 15 to 20 or 1 to 2 attendees. Holding potlucks after work parties on the farm is a good way to advertise work parties and encourage people to come and share in the food you have grown. Attendance increases during the Fall when students come back to town.

For Fall work parties, the hours changed to 4-7 p.m. on Wednesdays and 2-5 p.m. on Sundays. These hours changed in order to fit the managers’ schedules, and it is highly recommended that managers sit down and plan out times that work well for all of the managers. Close to the end of the season, Wednesday work parties had to be cut short in order to account for earlier sunsets.

**Work-for-Share Program**

We hired five groups of people to work for three hours/week in exchange for a full share (approx. $30 worth of produce each week). Five groups were chosen for the summer CSA, and five more people were chosen for the Fall CSA. These positions were advertised alongside the CSA advertisements. People were chosen based off of their responses to a brief, online application. We encouraged work-for-shares to come to the farm during work parties, but if their schedules conflicted during the summer, we coordinated with them to establish other times that
they could work on the farm. We did not allow for this flexibility during the fall because of the unpredictable schedules of farm managers during the semester.

One of the primary struggles with the work-for-share program was ensuring that everyone took full advantage of the opportunity. Half of the original work-for-shares either dropped out of the program before the end of the summer or showed up sporadically. We recommend ensuring that work-for-shares understand the commitment and are excited and able to partake in the program for a majority of the CSA timeline.

Work party people pictures
**CSA Crops in Review:** Throughout the summer and fall CSA, we strived to make all of the shares as equitable as possible. This meant ensuring that all of the produce received by our customers weighed the same, or that customers were given the same number of each vegetable in each week’s share. If not enough of one vegetable was available for everyone that week, we created a “your choice” table for customers. Below are the vegetables given out in the summer and fall CSA. Crops and varieties are listed in order of most to least popular according to customer feedback.

**Tomatoes**
- Sun Gold (cherry tomato)
- Red Zebra
- Indigo Cherry Drops (cherry tomato)
- Brandywine
- Big Beef
- Ivory Pear (cherry tomato)

**Cucumber**
- Mazourek’s Bitter-Leaf Cucumbers from Mellow Yellow
- Max Pack Cucumber
- Mexican Sour Gherkin Cucumber

**Kale**
- Toscano Kale
- Winterbor Kale
- Darkibor Kale
- Redbor Kale
- Red Russian Kale

**Beets**
- Touchstone Gold Organic Beet
- Red Ace Beet
- Cylindra Beet
- Chioggia Beet

**Zucchini and Squash**
- Yellowfin Zucchini
- Dunja Zucchini
- Spaghetti Squash
- Tempest Squash

**Herbs**
- Garlic (varieties unknown)
- Purple Basil
- Genovese Basil

*Dunja Zucchini from East Ithaca*
Mint
Parsley
Calypso Cilantro
Rosemary
Lemon Balm
Thyme
*Those who did not have their own gardens loved the herbs… those who had their own herb gardens often passed them up to give them to other CSA customers*

Onions
- Evergreen Hardy White bunching onions
- Purplette bunching onions

Eggplant
- Calliope Eggplant
- Orient Express

Radish
- Easter Egg
- Roxanne
- Kn-Bravo

Beans
- Jade II Bean
- Dragon’s Tongue Bean
- Amethyst Bean

Lettuce
- Buttercrunch Organic Lettuce
- Salanova Green Butter Lettuce
- Rosaine Lettuce

Potatoes
- Keuka Gold
- NY161

Pawpaws

Pac Choi
- Black Summer Pac Choi
- Red Pac Choi
- Li Ren Choi (baby pac)

Swiss Chard
- Bright Lights

Carrots
- Hercules
- Bolero

Calliope Eggplants from East Ithaca

Amythest Beans from East Ithaca
It would have been ideal to begin seeding in May, so that crops with longer growing times can fully mature well before the end of the season. Still, through research, we selected crops that seemed viable given the time constraints.
Above, we have the dates on which we seeded the crops and transplanted, if applicable. We also have records for whether we either transplanted (T) or direct seeded (D) the crops.

**Crop Plan**

![Crop Plan Diagram]

(East Ithaca, Smaller Plot)

- Spaghetti Squash (88 days)
- Butternut Squash (60-100 days)
- Nina’s Bed (Carrots, Onions)
- Nina’s Bed (Carrots, Onions)
Wholesale Crops in Review

Amaranthaceae

Beets
Varieties: Red Ace, Cylindra
We direct seeded beets in three successions so that we might be able to harvest them continuously throughout August and September. Some of our beets grew rather large and we had a bountiful harvest the first time around. We successfully sold these large beets to Temple of Zeus without the greens. But over time, the weeds grew taller and cast a shade on the remaining beets, which ended up growing to be quite small. Some of our beets were lost to groundhogs as well, although the electric fence minimized groundhog-induced damage. When we harvested our remaining beets, we mostly used them to supplement the CSA shares. Both the beets and greens were useful and usable in this case. Red Ace and Cylindra grew equally well.

In the future, we suggest that managers plant beets more regularly (in more successions) and harvest them more regularly.

Spinach
Varieties: Corvair
We initially direct seeded the spinach in June. It grew incredibly well the first time around but unfortunately, this variety of spinach was not heat tolerant and so our second seeding never germinated. Coops were especially interested in purchasing spinach.

In the future, we suggest that managers only grow spinach in the cool seasons.

Swiss Chard
Varieties: Bright Lights
Swiss chard was not super successful as a wholesale product. The swiss chard did not survive the weeds that overtook it and there was not much market demand for swiss chard anyway.

In the future, we do not suggest planting swiss chard to be sold.

Amaryllidaceae

Garlic
Varieties: Organic German Red and German White
Garlic was planted by the 2017 season managers in the Pioneer and Leonard Gardens. They had covered the beds with straw, which successfully retained moisture and suppressed weeds. We
knew to harvest the garlic in late August thanks to one of our work-for-share members and garlic expert, Clare Fraser. She taught us to cut a garlic head in half (separating the base of the garlic from the stalk) and to look for gaps between the center of the stalk and the clove in order to determine whether or not the garlic was ready. Once we had harvested the garlic, we hung bunches of 5 or so garlic plants up to dry in the CSA Shed. We sold both fresh and dried garlic and got positive feedback on the strong taste of it. We also had an abundance of garlic scapes throughout the summer and while harvesting them was labor intensive, it was worth it. They sold well and also had a strong flavor.

In the future, we suggest that managers keep straw on garlic beds and dry the garlic using this method. We would suggest that managers do not plant garlic in the back of the Pioneer Garden, as some of our garlic from that area seemed to be covered in a bizarre rust-colored substance.

**Onions**

**Varieties:** Cortland

Nina Sannes, a student doing research on the farm, seeded these onions for us and we ended up transplanting them sometime in July. Nina also let us harvest the onions that she had tended to throughout the summer for her research project. These onions didn’t grow to be that large and we didn’t have that many of them so we ended up mostly giving them away in CSA Shares. The greens of the onions were beautiful and the onions themselves seemed flavorful. The onions grew best under straw.

In the future, we suggest growing more of these onions if you want to sell them in large enough quantities. We didn’t find many markets for them but I’m sure that you could find some interest if you had enough to offer.

**Apiaceae**

**Carrot**

**Varieties:** Gold Nugget and Hercules

Our carrots struggled quite a bit, especially due to weed pressure. We struggled to keep the vast amount of land with carrots clear enough of weeds for the carrots to grow abundantly. This ended up being a time-consuming process, as we ended up doing a lot of hand weeding. Because of the weed pressure and due to the varieties’ long growing periods, the carrots weren’t ready for harvest until incredibly late in the season. By the time they were ready for harvest, the ground was hardening due to frost and snow was beginning to fall. Thus, we did not get to harvest most of our carrots until Spring 2019. The carrots that we were able to harvest for sale ended up tasting bitter and were quite small so we mostly handed them out as CSA additions or free “ugly produce.”
In the future, we suggest planting far fewer carrots and laying straw on the beds before you plant them in the ground. We would even suggest looking into the possibility of using plastic mulch to cover your carrot rows.

**Brassicaceae**

**Kale**  
**Varieties:** Darkibor, Toscano  
We direct seeded kale at East Ithaca in mid June. We sowed them ½” deep, 3-4 seeds in each hole that we punched into the black plastic. We kept a foot of distance between each plant and planted two rows. Kale was one of our most successful crops and they stayed strong even into December. Even without remay, the leaves were barely eaten by pests. The plants grew very large and at the end of the season, we harvested what remained and left with many bins full of kale. We think that seeding kale in plastic was a good move, because it allowed the soil to retain more water and also prevented weed growth.

**Brussels Sprouts**  
**Varieties:** Diablo  
Last year’s managers suggested that brussels sprouts might be especially difficult to grow, especially given that they take so long to fully develop into small heads and given their finicky nature. They were right. Our brussels sprouts took much longer than expected to grow and were only ready to harvest in late November, once snow had already fallen and the ground was hardened by ice. Our brussels sprouts (specifically the seedlings) were an especially favored snack by the groundhogs in the area and thus, many of our plants did not grow. In the end, our harvest of brussels sprouts was meager and we struggled to find a market for such a small harvest so late in the growing season.

**Cucurbitaceae**

In the future, we suggest either planting less kale or harvesting consistently, at least once every two weeks at its peak. It is best to harvest the bottommost, largest leaves first, as they are the most mature and receive the least amount of sunlight. It is important to leave the smaller leaves up top to promote growth.
Cucumber

Varieties: Little Leaf
Cucumber was not one of our more successful crops. We planted them around six feet apart from each other on black plastic and watered the cucumber around as much as the other crops and fertilized the soil around twice throughout the season. They were ready for harvest at around the same time as the zucchini, but we saw a lot of yellowing on the fruit, even from the start. While we didn’t harvest as many cucumbers as we harvested zucchini, the fruit grew fairly large. In terms of weeds, the plants were able to fight weed pressure fairly well, thanks to the viny structure. However, the plants dried out fairly early on.

In the future, we suggest watering the cucumber more often than other plants and also to fertilize it more often.

Watermelon

Varieties: Yellow Petite
Our watermelon was a pleasant surprise! We got a seeded variety that is yellow on the inside, because the fruit are on the smaller side and the plants have a shorter seed-to-harvest duration. We made sure to give the plants plenty of water and a lot of direct sunlight. We also transplanted one row of watermelon in black plastic, around 3-4 feet apart, because watermelon plants have a higher ideal growing temperature. We made sure to seed them early in the season for transplant, so that they have plenty of time to grow. We ended up harvesting around 20-30 fruit by the end of the season! We harvested them when the underside of the fruit were yellowing and the tendril (the small, twisty part of the stem) turned brown. They were absolutely delicious and we sometimes cut one up to share at the end of work parties.
We stored them in bins in the basement of the barn, because they have a storing temperature of around 50 degrees fahrenheit. We made sure to store them in open containers, so that water vapor doesn’t get trapped and result in mold.

In the future, we suggest being more deliberate about selling/donating the fruit, because we ended up with a lot of watermelon in storage by the end of the season.

Zucchini

Varieties: Dunja
We were delighted by how well our zucchini did! We seeded zucchini in early June, transplanted it at the end of June, and harvested zucchini from late July to mid-October. The zucchini loved the black plastic and grew incredibly quickly, yielding copious amounts of zucchini throughout July and August, especially. Buyers (such as Temple of Zeus and Annabel’s Grocery) prefer zucchini that are between 6 and 8 inches in length, as the zucchini is the most tender and the least seedy at this point. We found that Coops did not mind larger zucchini and
were actually excited to purchase such large vegetables capable of making huge meals for their many meal plan members. It was difficult to harvest all of the zucchini when it was 6 to 8 inches in length, as the zucchini grew quite quickly and sometimes it was hard to find the produce hiding under the massive leaves so sometimes, whenever a zucchini would grow to be the size of somebody’s arm, we would still harvest it but sell it to Coops instead of Temple of Zeus. We didn’t worry much about weeds with the zucchini plants as the massive leaves tended to dominate the weeds and win out in the end. We were a bit worried about powdery mildew but this luckily ended up not being much of a problem for the zucchini.

In the future, we suggest that you plant the zucchini in more distinct successions so that you don’t end up with more zucchini than you can sell/give away all at once. We would also suggest having a market set up for the zucchini as soon as you transplant them so that you can quickly harvest and deliver the large amounts of zucchini you harvest. Additionally, we suggest that you harvest zucchini at least twice a week (especially during its peak production period). Definitely try to wear long sleeves and/or gloves when harvesting the fruits as they’re spiky! And be sure to twist the fruit off the plant or cut them with scissors or a knife in order to prevent damage to the zucchini. We didn’t grow yellow zucchini at East Ithaca but we grew it in the Market Garden and found it to be especially tender and prone to breaking at the top when we twisted it off the plant so I would suggest cutting the yellow ones off. Also, we would suggest more seriously looking into harvesting and selling the zucchini flowers. Some folks like to make delicious treats with zucchini flowers and would probably be open to purchasing the flowers (or receiving them in a CSA Share).

**Winter Squash**

**Varieties:** Honey Bear, Spaghetti, Butternut

Our winter squash did pretty well overall! The honey bear was the most abundant and the most in demand, especially from Coops later in the season. The spaghetti squash was also a nice treat and was popular with Coops and at the Farmers Market on Thursdays. Unfortunately, our butternut squash did not grow to be very large, given that we planted it a bit later in the season and this plant was the most affected by powdery mildew. The butternut squash stopped growing when they were approximately a foot long each. The spaghetti squash were also affected by powdery mildew, which stunted the growth of a few of the later spaghetti squash fruits that grew. The acorn squash were not affected by powdery mildew at all. We were planning on harvesting and storing all of our beautiful squash until later in the season when our other crops stopped producing and we were running out of fresh crops to sell. We “cured” our squash after harvesting them by letting them rest in the sun...
(on one of our picnic tables outside) for a few days and turning them every so often in order to let all sides of the squash toughen up. After curing them, we stored the squash in a few of our larger gray bins with lids and placed them in a cool dark place in the barn. This was a mistake. The squash grew moldy and we had to compost all of it.

In the future, we suggest storing the squash in bins with holes on the side (in order to allow for air flow), with one layer of squash (instead of piling multiple layers in), and with copious amounts of paper towels in between the squash (both to pad them and to soak up excess moisture). We suggest storing the squash in a cool dark place after curing them but only after preparing them correctly for storage. We do think that it would be wise to harvest and store the squash to sell later in the season once it gets colder out and your other crops begin to die. Squash can be stored for months as long as they are properly stored.

We also suggest that you do not plant the squash (including the zucchini) plants close to each other in the field. If one of the plants develops powdery mildew, having the squash plants far away from each other can help prevent the spread of this disease. We also suggest preemptively spraying your squash plants with an organic baking soda solution such as this one (before you see signs of powdery mildew) to stave off powdery mildew.

**Fabaceae**

**Bush Beans**

**Varieties:** Jade II, Amethyst

We direct seeded these beans early in the season but ended up having to re-seed them after the back end of our field flooded after we accidentally left the drip tape running overnight. These beans grew pretty abundantly for a while but were eventually smothered by weeds. Harvesting these beans took a lot of time but I would assert that it was worth it, especially given that these beans were popular at Farmers Markets.

In the future, we suggest growing a similar amount, given that this was a good amount of bush beans to sell at the Farmers Market. We would suggest planting more beans if you are interested in selling them to Coops or eateries on campus. However, we would not suggest planting more, given that harvesting these beans took a lot of time. We think planting these beans to sell is only worth if you find the sweet spot of planting just enough beans to harvest for and sell at the Farmers Market. We also suggest planting these bush beans a bit later than we did, so that they are ready to sell during the Fall Semester, once the Farmers Market. We also suggest planting dry beans in the future. Dry beans would last longer into the fall, which would allow for them to be sold later in the season once other produce has died/begun to die.
Peas

Varieties: Maxigolt

These peas were nice and sweet and produced abundantly for a short bit of time before becoming overgrown with weeds. They were a nice supplement to CSA shares but we didn’t end up harvesting enough to be sold on campus. There also wasn’t much of a market for peas on campus during either the summer or fall.

In the future, we suggest growing peas only if you are interested in having a nice supplement to the CSA or a fun snack to sell at the Farmers Market (early in the Fall semester). We suggest planting them in plastic as we did.

Lamiaceae

Basil

Varieties: Everleaf

The basil ended up lovely and surprisingly resilient. We accidentally ended up seeding multiple basil plants per cell when we initially seeded the basil and ended up having to transplant tiny basil seedlings into other plastic trays in order to ensure that all of our seedlings would have space to grow without competition. This ended up taking a long time but was worth it in the end, given that luckily all of our seedlings survived and grew to be a good size for transplanting into the field. When we transplanted the basil into the field, we put the seedlings into the ground in two rows in two small bed plots next to each other (thus, four rows total). This spacing worked well and having two bed plots next to each other made it easier to take visual stock of and harvest all the basil in a short amount of time. Once we transplanted the basil, we tucked them in with a thick layer of straw. This straw worked incredibly well to suppress weeds in the area. It took a lot of time to lay the straw down but it was worth it. Continuing to hand weed as the basil grew would have taken an impractical amount of time. Both campus eateries and coops were interested in purchasing basil from us. Community members were interested in purchasing basil as well. I suspect that basil would have also done well at the Farmers Market, although we didn’t really ever get to sell any there. We planted Everleaf basil in East Ithaca and this was a classic and delicious variety. We also grew Citrus and Purple Basil in our herb garden. These varieties were also popular and were pretty fun! We didn’t grow these in large enough quantities to sell but CSA members loved receiving them in their shares. I think these varieties would also be fun to sell at the Farmers Market. Our poor basil became completely decimated once the first frost came along. The leaves had been so strong and fragrant one day and the next, they were shriveled and brown but we were grateful for the harvest we had gathered up until that point.

In the future, we suggest that managers remember to follow the instructions on seed packets carefully and plant only one seed per cell for basil. We also suggest that managers line up
markets to sell the basil once it becomes abundant. We suggest harvesting it frequently and selling it regularly, especially at the Farmers Market. We also suggest that you place straw down as early as possible, even before transplanting the seedlings, so that you can suppress weeds right off the bat, instead of having to hand weed before laying the straw down. We also suggest that you keep careful track of the date of the first frost of the season and harvest all of your remaining basil before then so that you can sell off the last of your crop and not lose it to the cold.

**Poaceae**

**Corn**

**Varieties:** Allure

We direct seeded the corn and most of it grew tall and strong. Some of the corn toward the end of the field (farthest from the road) was enveloped in weeds that we struggled to tame and unfortunately did not grow to full height. We harvested the corn in August and September and did not end up collecting too much of it. In the end, we only ended up with one bin or so of corn, which folks didn’t have much interest in purchasing.

**In the future,** we suggest planting two rows of corn next to each other (instead of a single row by itself) so that the corn will grow better. We also suggest timing the corn growing so that you can sell corn at the Farmers’ Market, as we think this is where you might have the most success with selling corn.

**Solanaceae**

**Eggplant**

**Varieties:** Calliope

We direct seeded the eggplant in black plastic about 1-2 feet apart, early on in the season, because they grow best under warm conditions and have a longer growing time. These are a beautiful eggplant variety that is purple with white streaks. The eggplant was quite successful! By mid-to-late season, we were harvesting regularly, around twice a week. Due to the black plastic, the weed pressure was quite low and we think that the plastic also helped with water retention.

**In the future,** we suggest growing these in plastic and to grow them at a similar distance. We were quite successful in growing eggplants!

**Pepper**

**Varieties:** a variety of sweet peppers from Michael Mazourek
Our sweet peppers did pretty well, although they grew to full size a bit later in the season than expected, mostly due to weed pressure. We also ended up planting the peppers a bit later than expected. Peppers were popular at the Farmers Market and did pretty well with Coops as well.

In the future, we suggest checking in with Michael Mazourek about potential transplant donations earlier in the season.

**Potato**

*Varieties:* Keuka Gold, NY161

These potato varieties came from a generous man that Betsy knows. We were grateful to have these potatoes. Keuka Gold was similar to traditional Yukon Gold potatoes but had a slightly more resilient skin. NY161 had a skin with some purple patches on it. We planted these potatoes early in the second week of June and harvested them with a work party in September. We unfortunately did not mound the soil around the potatoes at all, mostly because we planted the potatoes in black plastic and the weeds were abundant in that corner of the field so getting to the soil to mound it would have been logistically difficult and we didn’t quite have the time or foresight to make this happen. Many of our potatoes grew to be a good size but many of them remained tiny, which might not have been the case if we had mounded the soil. We planted these potatoes mostly to sell to Temple of Zeus, who expressed interest in Yukon Gold potatoes and expressed that they might be interested in our Keuka Gold potatoes but we ended up selling more other produce to Zeus than potatoes. Harvesting the potatoes with the work party was such a blast. The volunteers loved digging through the soil to find potatoes and I think they felt especially connected to the farm and our harvest during this activity. Both of these potato varieties were great and seemed delicious.

In the future, we suggest mounding the potatoes and doing this early. We also suggest purchasing Yukon Gold eyes early (given that they sell out quickly) and planting them to sell to Temple of Zeus and any others that might be interested.

**Tomato**

*See the tomatoes sections under the “High Tunnel Production” section below for more information about varieties and pest/disease pressure.*

Tomatoes were a hit at the Farmers Market. We also sold our larger heirloom and big beef tomatoes to Coops and interested professors. Everybody loved our tomatoes! The cherry tomatoes were so flavorful and Coops loved purchasing them as a fun snack for their houses and the heirlooms were great for tomato sauce and adults in the Cornell community appreciated purchasing these larger tomatoes to make their own sauce.
In the future, we suggest managers continue to grow and sell tomatoes. We would suggest having (weekly) markets/sales lined up for them before you harvest, given that it’s difficult to store them properly over long periods of time.

Sales

Pricing:

In order to determine pricing for our produce, we primarily consulted the NOFA Wholesale Pricing Index and Sam Hackett’s wholesale pricing list from the 2017 Season. Our pricing also typically varied depending on who we were selling to. Temple of Zeus was often willing to pay a bit more for our produce to support the farm. On the other hand, we often sold produce to Anabel’s Grocery at slightly cheaper prices in order to assure that Anabel’s could sell produce to Cornell students at relatively affordable prices. Here were our final pricing lists:

<table>
<thead>
<tr>
<th>Early Fall (Sept. Oct)</th>
<th>wholesale price</th>
<th>Sam’s price from 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collard Spinach</td>
<td>$9 per pound</td>
<td>$9 per pound</td>
</tr>
<tr>
<td>Beet</td>
<td>$1.50 per pound</td>
<td>x</td>
</tr>
<tr>
<td>Swiss Chard</td>
<td>$3.50 per pound</td>
<td>$3.50 per pound</td>
</tr>
<tr>
<td>Zucchini</td>
<td>$1.50 per pound</td>
<td>$1.80 per pound</td>
</tr>
<tr>
<td>Bush Beans</td>
<td>$1.50 per pound</td>
<td>x</td>
</tr>
<tr>
<td>Bell Pepper</td>
<td>$2.25 per pound</td>
<td>$2.25 per pound</td>
</tr>
<tr>
<td>Cucumber</td>
<td>$2.00 per pound</td>
<td>x</td>
</tr>
<tr>
<td>Kale</td>
<td>$2.55 per pound</td>
<td>$2.55 per pound</td>
</tr>
<tr>
<td>Peas</td>
<td>$3.50 per pound</td>
<td>x</td>
</tr>
<tr>
<td>Potato</td>
<td>$1.10 per pound</td>
<td>$1.10 per pound</td>
</tr>
<tr>
<td>Dry Beans</td>
<td>$1.60 per pound</td>
<td>$1.60 per pound</td>
</tr>
<tr>
<td>Garlic Scapes (Pioneer &amp; Leonard Gardens)</td>
<td>$3 per pound</td>
<td>x</td>
</tr>
<tr>
<td>Cherry Tomatoes (High Tunnel)</td>
<td>$5.50 per pound</td>
<td>x</td>
</tr>
<tr>
<td>Okra (High Tunnel)</td>
<td>$2.64 per pound</td>
<td>x</td>
</tr>
<tr>
<td>Slicing Tomatoes (High Tunnel)</td>
<td>$3.80 per pound</td>
<td>x</td>
</tr>
<tr>
<td>Medium-sized Tomatoes (High Tunnel)</td>
<td>$4 per pound</td>
<td>x</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Later in Fall (Oct, Nov)</th>
<th>wholesale price</th>
<th>Sam’s price from 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yellow Powis Watermelon</td>
<td>$6 per watermelon</td>
<td>x</td>
</tr>
<tr>
<td>Sweet Corn</td>
<td>$2 per pound</td>
<td>x</td>
</tr>
<tr>
<td>Eggplant</td>
<td>$2 per pound</td>
<td>x</td>
</tr>
<tr>
<td>Basil</td>
<td>$1.60 per bunch</td>
<td>x</td>
</tr>
<tr>
<td>Carrot</td>
<td>$3 per pound</td>
<td>x</td>
</tr>
<tr>
<td>Peas</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Spaghetti Squash</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Honey Bear Squash</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Dry Beans</td>
<td>$1.6 per pound</td>
<td>x</td>
</tr>
<tr>
<td>Brussels Sprouts</td>
<td>$3.50 per stalk</td>
<td>x</td>
</tr>
<tr>
<td>Potato</td>
<td>$1.10 per pound</td>
<td>x</td>
</tr>
<tr>
<td>Garlic</td>
<td>$2.00 per pound</td>
<td>x</td>
</tr>
<tr>
<td>Onion</td>
<td>$1.50 per pound</td>
<td>x</td>
</tr>
</tbody>
</table>

*It is important to note that our wholesale prices were different than our Farmer’s Market prices and some of our pop-up sales in Mann Library.
Communication:

We created a spreadsheet of our contacts at Temple of Zeus, Manndible Kitchen, Anabel’s Grocery, and various Cooperative Living Houses on campus. This spreadsheet is meant to be updated as fit and will also be in use by the members of Steering Committee who are involved with Mellow Yellow at the moment.

Whenever we had produce available to sell to folks on campus, we would email our contacts a Produce Availability List. For these lists, we used a consistent template and would provide information regarding the specific varieties of produce available, quantities (generally in pounds), and pricing.

Once we had made any sale, we would email Mandy information (variety, quantity, unit price, total price) about the sale and she would write up a receipt for us. We would then forward this receipt to the buyer and keep it for our own records.

Weed and Pest Management

The notes on pest management from the CSA section apply here as well. See below for a few East Ithaca-specific notes on weed and pest management.

Notes for the Future

Weed management: We suggest that in the future, managers cover the pathways between beds with straw immediately after the beds are made. If you follow Nina Sannes’ suggested cover cropping plan, you may want to plant a cover crop in the spaces between beds instead so that you may mow it regularly throughout the season to keep the crop low so you can walk on it. If you choose to plant crops and cover them with straw, lay this straw down immediately as well. Lay the straw more thickly than you might think you should and be sure to stomp it down.

Fertigation: We suggest the frequent use of fertigation, as it allows for the soil underneath plastic to get fertilized. We suggest running the drip first before running the diluted fertilizer solution through. And after running the fertilizer, we suggest leaving the drip on for another 5-10 minutes, or until the fertilizer has fully ran through the drip tape.

Electric fence: We suggest setting up the electric fence before any seeds or transplants are in the soil, to prevent the presence of groundhogs. We suggest doing maintenance around the fence so that weeds do not create complications.

Timer: Thanks to Professor Mazourek, we were able to run the drip even on days we could not be present at the farm, because the timer allowed us to control the duration and start time of irrigation. We suggest utilizing the timer at the start of the season for convenience.
Greenhouse Production

Seeding began in the greenhouse soon after we became managers, and was organized by the manager originally hired for this role. We began by seeding crops of interest from the seeds left over from the previous year. We began with crops that we knew would take the most days to maturity, such as with brussels sprouts, cabbage, pumpkins, etc. Flats were watered by Jean, the manager of the organic greenhouses. Once the seedlings were old enough, we moved them into the cold frames for hardening off. Be sure to email or text Jean when you move anything to the cold frames so that she knows to water them. We had some issues with our flats being infested with mites and flea beetles, and some of the leafy vegetables suffered damage if we left them in the cold frames too long.

Moving forward, we suggest a more organized system for separating wholesale and CSA flats, such as by colored stakes or designating sides/area of the greenhouse for each operation. We had some issues where we accidentally mixed up our flats, and one side was left without a certain plant and was delayed in transplanting. Also, wooden stakes should be avoided at all costs. Pen and marker fades quickly, and there were many times we could not properly identify what was in each flat. Plastic stakes and sharpies are the best option.
High Tunnel Production

Preparation

In order to prepare the land for the coming season, we moved the high tunnel to the side that we were going to manage this year. This soil was covered by a plastic tarp when we took over the farm. The tarp acted to terminate the previous year’s cover crop and prevent further weed emergence. After removal of the tarp, the soil was very rich and moist. Five beds were reconstructed on the inside portion of the tunnel, and drip irrigation was laid. We do not recommend making these beds by hand, as it is incredibly inefficient. Rather, farmers should make use of the beds previously made or use machinery to make new beds. We also incorporated 1lb of blood meal into each row twice throughout the season. High Tunnel setup was accomplished by the original manager of this area, which included making of the beds, transplanting the crops, and setting up the stakes and tomato ties.

Coconut coir was added to the other side of the high tunnel (the side that had been in production last year) before the start of the season, with the idea of letting this area lay fallow for the season. However, this area of land was eventually planted. We recommend that the managers continue the original plan of letting a side lay fallow each season, in order to promote soil health. The land under the high tunnel also should have been planted in a cover crop, but we became overwhelmed and missed the timeframe to do so. New managers might want to consider planting a cover crop after their season of production, such as triticale.

Irrigation and Flooding Issues

Drip irrigation was laid on both sides of the high tunnel. The fertigation system was set up much later in the season than anticipated, and a timer for the drip system was never able to be installed. After the fertigation system was installed, citric acid was injected into the irrigation system daily in order to lower the pH of the soil.
Flooding continued to be an issue in the high tunnel due to the compacted soil. Many of the aisles became swamp-like and grew algae. To reduce this issue, the irrigation system was only left on for 20 minutes at a time, as this proved to be an adequate amount of time to water the crops without creating runoff. The area outside the plastic cover became very muddy and waterlogged if the irrigation was left on too long, or if it rained. Hopefully, a cover crop plan to improve the soil of the high tunnel will be developed.

Disease Pressure

The high tunnel had an issue with soil drainage along the whole length of the south side of the tunnel which created a favorable environment for mildew. Poor drainage was due to inadequate soil additions at the start of the season (see soil management section for further information on why soil additions in the high tunnel are necessary). Soil additions were not an option once water drainage problems started to arise, so we loosened the top layer of the soil to help water infiltrate the soil surface. This worked well for about one week and then needed to be loosened again. Instead of managing for soil drainage multiple times throughout the season, we suggest adding adequate soil to the high tunnel in the Spring before crops are transplanted.

*Powdery Mildew (Cucumber):* Our cucumber crop was lost due to infection of powdery mildew. We took these crops out of the high tunnel once they died. We recommend that if cucumbers are to be planted in the high tunnel for the 2020 season, to plant them in a different location in order to prevent any mildew in the soil from infecting the new cucumber crop. Planting tomatoes in this area should not cause the tomatoes to contract powdery mildew because cucumber powdery mildew is a different strain than the powdery mildew that infects tomatoes.

*Powdery Mildew (Tomato):* Our tomatoes became infected with powdery mildew towards the very end of the summer, which is somewhat unusual for high tunnel production. Betsy helped us with this issue by spraying Double Nickel fungicide on the infected plants. This slowed the spread of the mildew and prevented the death of some of the less infected plants. Those that were heavily infected began to wither and die, though they were still producing some fruit. As it was near the end of the season, and the plants were beginning to slow down, the powdery mildew did not negatively affect us.

*Blossom End Rot:* The heirloom tomatoes were especially susceptible to tomato end rot. This occurs when there are wide fluctuations of moisture, which reduces uptake and movement of calcium into the plant. We had a particularly wet summer and poor drainage which is likely the cause of blossom end rot.

Weed and Pest Management

Weeds were also an issue in the high tunnel - but only around the second half of the season. Generally, the compact soil and the land’s tendency to flood and become waterlogged prevented many weeds from growing. However, grasses and thistles became problematic near
the corners and back of the high tunnel, as well as outside. The outside portion of the high tunnel became very weedy, and we abandoned two rows because of this. However, as the high tunnel was our smallest piece of land, and the tomatoes, our most important crop there, were generally unaffected by the weeds, we unfortunately did not manage these weeds that often. Weeds inside and around the high tunnel were weed-whacked and then straw was laid, which helped tremendously. We recommend laying straw sooner, especially in the corners of the high tunnel. Laying straw may also help with issues of flooding and mud within the high tunnel.

We noticed birds in the high tunnel, which lead to bird droppings on many of the vegetables. As this concerned us greatly, we hope that in the near future, bird netting can be added to the sides of the high tunnel to minimize this issue.

Nutrient Management
Purple leaves in our tomato plants alerted us to phosphorus deficiency in the soil. To amend the soil, we added 1 pound of blood meal to each row, twice throughout the season.
Harvest Timeline

Note: This timeline is generalized because we do not have exact records of the seeding and transplanting dates of all the crops. Unfortunately, when we took over the high tunnel from the original manager, we lost a lot of information on seeding dates, transplanting dates, and what varieties were planted. Throughout the season we researched varieties and were able to pinpoint some of what we had. Those that we were never able to identify are mentioned as miscellaneous.

High Tunnel Crops in Review

**Brassicaceae**

**Cabbage**
Varieties: Chinese Cabbage
An entire row of cabbage allowed us two harvests for the CSA. Our first harvest was done when the plants were immature, and the heads were not fully formed. Nevertheless, CSA members were happy. The plants suffered severe insect damage from beetles and slugs, so many of the outer leaves had to be removed and composted. Washing was also a pain. However, at the end of the season we were able to harvest full heads of cabbage.

**Kale**
Varieties: Darkibor, Redbor
Kale grew incredibly well in the coconut coir. We covered the kale with reemay to minimize insect damage, but found that rapid weed growth under the cover supported slug issues. The
swampy and damp environment of the far side of the high tunnel was ideal for slugs. CSA members enjoyed the kale, and were impressed with how beautiful it was. Kale made an excellent addition to the CSA in weeks that lettuce was not available.

**Cucurbitaceae**

**Cucumber**

**Varieties:** Max Pack  
This variety was chosen due its claim for having broad disease resistance. However, once powdery mildew became apparent in the high tunnel, they succumbed quickly. While we did not have many plants (8 max), they did not produce that many and required a lot of effort to trellis. Cucumbers did much better in the field, so we would not recommend planting in the high tunnel again.

**Malvaceae**

**Okra**

**Varieties:** Carmine Splendor  
We planted nearly a whole row of okra, and regretted it. While this variety produced well, CSA demand for it was rather low. Harvesting it was time consuming and difficult, and the plant produces chemicals that were bothersome to our skin. We ended up offering it as a “take as much as you like” deal, and most people would forgo it while others would take handfuls. In the future, if managers wish to produce okra, we recommend only a few plants.

**Solanaceae**

**Eggplant**

**Varieties:** Orient Express  
We only had a few plants, but we wish we had planted more! They did well in the heat of the high tunnel, and experienced less early insect damage than those in the field.

**Pepper**

**Varieties:** Lunchbox mix, Ace, Habanadas, Round of Hungary, Hungarian Hot Wax, Miscellaneous small varieties  
The Ace and Round of Hungary varieties produced beautiful peppers, but they took a very long time to turn
red. To be able to offer them to CSA members, they were often picked at the green stage. The Habanadas were a success, and produced very well. The Hungarian Hot Wax also produced well, but were not as popular with CSA members because of their spiciness. There were a few plants of other small-fruited varieties, but these hardly produced anything and were of little importance to us.

**Tomato**

**Varieties:** Sun Gold, Indigo Cherry Drops, Big Beef, Pruden Purple, Red Zebra, Ivory Pear Tomato, Miscellaneous heirlooms

Sun gold was an absolute hit this season, with CSA members also enjoying the Indigo Cherry Drops and Red Zebra. Many of the heirloom varieties were underperforming, and the fruit was often “uglier” than other varieties, which CSA members seemed to shy away from. The Ivory Pear Tomato was disliked, and we would not recommend this variety. Once powdery mildew became apparent in the high tunnel, the tomato plants quickly became infected. Thankfully, this did not happen until very late in the season, when the plants were beginning to slow down anyway.
Notes for the Future

We suggest that, in the future, the managers are sure to plant the uncovered side of the High Tunnel with a cover crop for the entire season. This will replenish the soil so that we may grow more sustainably and will also ensure that the managers are not overwhelmed by work.

Mellow Yellow Production

Mellow Yellow Origins and Setup

Mellow Yellow was planted by Michael Mazourek and his team. Early in May, Mazourek donated all of the remaining produce within Mellow Yellow to us at Dilmun Hill. We are grateful to him for all of his and his team’s hard work in setting up the space and planting all of the produce.

Harvest Timeline

We started harvesting in Mellow Yellow as soon as May and continued into late August and early September. Mellow Yellow produce was a godsend at the beginning of our season as the tomatoes, cucumbers, mint, and edible flowers helped to bulk up our CSA Shares.

Mellow Yellow Crops in Review

Carrot

Varieties: unclear, planted by Michael Mazourek and his team

The sandy soil of the mellow yellow greenhouse was ideal for growing carrots. However, since we didn’t have much information on when the carrots were seeded and when they would be ready to harvest, we made the decision to harvest depending on when we needed some variation or additions to the early weeks of the CSA. We were able to get two harvests out of the crop. The size of the carrots varied tremendously but were all pretty small. However, they were incredibly sweet which made them incredibly popular with CSA customers.

Cucumber

Varieties: a variety bred by Michael Mazourek and his team

Folks generally loved these cucumbers. They were specially bred to have a bitter skin in order to repel pests. This taste was only slightly unpleasant (and strongest) at the very ends of the cucumbers but overall, the taste was nice and fresh. Some people
especially loved the more bitter taste of the skin. As time passed, these cucumbers grew large and orange/yellow. In order to ensure that the plants kept producing, we needed to cut off all of these orange/yellow cucumbers in order for the plant to continue producing. This was a lot of work and well worth it for a while, but eventually we gave up on the cucumber plants because of time constraints and let them stop producing. We suggest using scissors to cut cucumbers free and wearing gloves if the spikiness of the plants is irritating to you. We often left Mellow Yellow with a variety of scrapes and red irritations on our arms after harvesting cucumbers.

**Cherry Tomatoes**

**Varieties:** unclear, planted by Michael Mazourek and his team

These cherry tomatoes were incredibly helpful and abundant during the beginning of our season. They supplemented CSA shares nicely and people were excited to receive these so early in the summer. One of the plants produced tomatoes that were not as flavorful and split quite easily, despite not having much liquid inside. We avoided harvesting these tomatoes after some time and focused on the rest. Once our own tomatoes started growing in our High Tunnel, we focused primarily on those, as they were more flavorful, diverse, and more popular, and ended up mixing some of these tomatoes in with those. We suggest wearing gloves when you harvest tomatoes as they will prevent you from accumulating itchy tomato pollen on your hands and arms. Supposedly, you can develop an allergy to tomatoes over time if you are in direct contact with them so frequently. Gloves can prevent this allergy from developing.

**Mint**

**Varieties:** Spearmint

The mint was a fun addition to our CSA shares. We could have also sold more mint, had we been more enthusiastic about harvesting the mint regularly. The mint grew in the sandboxes in Mellow Yellow and grew relentlessly. Harvesting the mint was unpleasant at times, given its sharp and intense smell, but that smell just indicated its potency. We attempted to dry leaves to make tea but there wasn’t really a suitable location in the barn to dry the herbs and so this endeavor wasn’t very successful. It might be fun to do more with the mint (and other herbs) in the future and/or to partner with an herbal healing group on campus or in Ithaca.

**Edible Flowers**

**Varieties:** Pea flowers, Nasturtium

These flowers were a fun addition to CSA shares and didn’t take much time to harvest. Some people were excited by the idea that you could eat these flowers. The Nasturtium had a nice kick to them while the pea flowers were sweeter. These are especially nice additions to salads.

**Mellow Yellow Present and Future Use**
One of our Steering Committee members and a former manager, Noelle LaDue, has worked diligently with Michael Mazourek to secure Mellow Yellow from CUAES for Dilmun Hill for the next two years. Dilmun’s work with Mellow Yellow will serve as an experiment to see if the revenue generated from Mellow Yellow wholesale can pay for the rent of the space itself. Essentially, Dilmun Hill and a specific Mellow Yellow team will be working to see if Mellow Yellow can pay for itself. A few Steering Committee members have started working in Mellow Yellow and hope to have a bountiful harvest starting soon!

**Farmer’s Market**

**General Logistics**

For specific details and tips on the logistics of the entire farmer’s market process, please see the Farmer’s Market Protocols that we wrote during Fall 2018 as an entire Steering Committee.

**Pricing**

Prices for the Cornell Farmer’s Market are based off of other farm’s prices. Dilmun does not wish to compete with local farms, so the prices for Dilmun vegetables have to match, and not undercut, the other farms’ prices. For vegetables that are not sold by other vendors, the Wegmans’ app is helpful in providing estimates of prices for specific quantities of said vegetable.

**Special Projects/Infrastructure**

This season we attempted to start a pumpkin patch, which we began on an untouched piece of land to the left of the Leonard garden. We rototilled this grass, raked away the debris, formed mounded rows, and then transplanted and direct seeded our squash and pumpkin varieties. We then laid landscaping fabric between the rows as weed suppression. However, since this area was once a patch of grass, the grass quickly grew back. This area was also of lower elevation, and became
flooded with water. The water became inches deep, and the squash was submerged in water, which led to rot and mold. This patch also quickly became infected with powdery mildew. When the patch was not flooded with water, it was difficult to water the plants given that we initially had not laid down drip tape. This made watering close to an hour-long pursuit at times. We were not able to harvest much from it, aside from ornamental gourds - which grew like weeds - and some summer squash. This patch was much more trouble than it was worth, and we recommend that the next managers let it revert back to grass.

Additionally, later in the season, two of our Steering Committee members, Matt Chartrand and Jonny Berlingeri, started to build three adjacent compost bins on top of the hill near the Market Garden. These compost bins were helpful for us when we were trying to compost organic matter on top of the hill, given that we didn’t previously have any compost bins up there and only had compost bins closer to the Barn and Pioneer Garden.

**Student/Faculty Research Projects**

Nina Sannes, a manager from the 2016 growing season, completed a research project on weed remediation at Dilmun Hill. She examined the differences in weed growth and the time that it took to remove weeds from various beds by growing carrots and onions and using the three main weed remediation/suppressant strategies of hand weeding, using Dilmun’s “tilly,” and using straw. Nina presented to the Steering Committee in the Fall of 2018 and suggested a multi-year crop rotation and cover crop plan in order to suppress weeds on the farm.

Emma Badini and James Yoon, the two Wholesale Production Managers, enrolled in a 1-credit Independent Study with Michael Mazourek as the advising professor during the Fall 2018 semester. For this research, we expanded on the East Ithaca guide that we inherited from 2017 Wholesale Production Manager, Sam Hackett. We also reported on the number of manhours put into East Ithaca and the revenue generated from selling our crops across campus. You can find a brief final research report in the “East Ithaca/Wholesale Production” folder within the “2018 Managers” folder on the Google Drive.

**Volunteer Work Days**

Please see the “Work Parties” subsection of the “CSA Coordination” section above.

**Farm Tours**

1. Summer students from China
   a. ~June
   b. ~30-40 students and ~3-5 faculty
2. PLSCS 1900: Sustainable Agriculture  
   a. September 2018  
   b. 80 students  
3. PLSCS 2600: Soil Science  
   a. October 1-4, 2018  
   b. 100 students  
4. IARD 4020: Agriculture in Developing Nations  
   a. October 22, 2018  
   b. 12 students from India, 4 faculty

Outreach Activities

- Potlucks throughout the summer  
  - We had intermittent potlucks throughout the summer, which we advertised through the CSA emails as well as through facebook events. Attendance varied, but about 20 people showed up on average.

- Garlic party/workshop  
  - Previous managers Zoe, Erin and Brian hosted a garlic party in the late fall which consisted of taste-testing garlic varieties and planting garlic for next season. The event was well-attended and was incredibly helpful for preparing the garlic for next season’s harvest. Managers should consider this sort of event for the future!

- Upward Bound Field Trip  
  - Johnny single-handedly planned an on-farm field day with Upward-Bound. Upwards of 40 students from local high schools and middle schools were present. The day started with a tour of the farm, followed by teachings on permaculture and weed identification. This was an incredibly rewarding event for both parties, and we hope to work with Matteo and Upward Bound again in the future.

Acknowledgements

Special thanks to the many faculty and staff members who helped us along this season.

Thank you to Betsy Leonard  
- Our fearless leader. We appreciate her guidance more than we can say. We would not be the farmers we are today without her!

Thank you to Mandy Economos  
- For her constant supply of snacks, order processing, and all the other small details she was a part of. She was a necessary helping hand throughout the semester.

Thank you to Michael Mazourek
- For his dedication to Dilmun Hill and its student farmers. We are grateful for his generous donations of transplants, equipment, time, and knowledge.

Thank you to Gene Sczepanski
- For his involvement in the farm and his endless patience when we got his truck stuck in the mud or locked ourselves out of East Ithaca.

Thank you to Anja Timm
- For updating our webpage, taking pictures, and serving as a helpful communications guide.

Thank you to Matt Ryan
- For donating his cover crop seeds, taking his class to the farm, and participating as a member of the steering committee.

Thank you to the Steering Committee
- For donating their time throughout the summer and fall season to lend a helping hand, advice, and a sense of calm. Dilmun would not survive year-to-year without them.

Thank you to the Work-for-Share’s
- For coming every week and providing fresh hands, enthusiasm, and thought-provoking questions.

Thank you to the CSA members
- For supporting the farm and taking part in the fruits of our labor.

Season 2018 Farm Photos