



The Bridge Inc.



The Horticultural Society of New York

GROWING IN THE GARDEN: A CURRICULUM FOR PRACTICING HORTICULTURE WITH THE MENTALLY ILL

*A guide for creating a farm with agencies that treat
the mentally ill and other challenged populations*



This Curriculum Guide was produced in April 2009 by The Bridge Inc. and The Horticultural Society of New York

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FOREWORD



This curriculum guide is an outgrowth of an exciting and important community partnership, now in its 4th year, between The Bridge Inc., a New York City mental health, rehabilitation and housing agency, and The Horticultural Society of New York (HSNY). We are grateful to the United Way of NYC's Hunger Prevention & Nutrition Assistance Program (HPNAP) and The Burpee Foundation, Inc. for the essential funding to create an urban farm and to produce this curriculum guide. The enthusiasm, hard work and creativity of many individuals contributed to making this project and guide a huge success.

The idea for the guide grew out of a seed grant from HPNAP to The Bridge to create a small urban farm behind a residence that could enhance the self-esteem and physical well-being of Bridge residents through farming, growing, and consuming healthy food. While we never lost sight of the primary goal, the project had many other benefits. It provided work training and paid job opportunities for Bridge clients. The harvested vegetables and herbs were consumed by many Bridge clients. They learned about nutrition and gained a better understanding of the relationship between eating well and healthy living.

Many people were important to the implementation of the project. We acknowledge the following for their essential contributions to this guide and to the project: James Jiler who directed the project, shared his enormous enthusiasm and knowledge and wrote the curriculum guide; Hilda Krus, Caroline Watkins, Liza Watkins and John Cannizzo of HSNY; Carole Gordon, Patricia Callahan, Natalie Brickajlik, Dorothy Browne, Karen Buck, Michael Provenza, Dr. Peter Beitchman and The Board of Directors of The Bridge; Bridge Mobile Horticulture Team Tara McDonald, Stacey Van Rossum (whose amazing artwork adorns the pages of this guide) and Roberto Malpica, as well as clients James Taylor and Joyce Anderson; Residential Staff Olga Brito, Chef Errol Hinds; Nurse Laurie Fanelli, Lynn Horner, Taina Pintor, and Auntreah Howard.

We have learned through this project that organic vegetable and herb farming results in increased self-esteem for residents, eating fresher, tastier, environmentally friendlier, healthier food, while at the same time saving money. It is one of the most powerful ways of connecting with, and developing a love for, the natural world - an experience that has largely been lost to some of us who live in urban settings. Further, local farms decrease our country's greenhouse gas emissions by absorbing carbon dioxide from the air and reducing the need for shipping produce. The Bridge Urban Farm at Morris Avenue is a pioneering venture; a prototype that we hope to expand to our other residential buildings throughout the city.

By sharing this curriculum guide, we hope it will inspire and provide the essential teaching tool that will encourage others to create their own urban farms.

INTRODUCTION

In January 2008 The Bridge, The Horticultural Society of New York, and the United Way of New York City's Hunger Prevention & Nutrition Assistance Program (HPNAP), joined together for an innovative project – the creation of a food-producing farm in the backyard of a Bridge residence serving mentally ill homeless adults in the Bronx. The aim of the project was to enhance the self-esteem and physical well-being of residents by engaging them in growing, and consuming highly nutritious, locally grown food, and to teach about good nutrition and healthy eating. During the twelve months it took to plan, design, build, plant, maintain and harvest the farm, the Crew documented each step along the way. The result is this curriculum guide – a blueprint for any organization to learn from and build on as they develop their own farms and farming activities.

In an era of increasing food costs, poor health due to poor nutrition and eating habits, and environmentally unsound agriculture practices, the time is ripe for a renewed effort to involve ourselves and our neighbors in building farms and consuming locally grown organic food. In one year, our 3,000 square feet of Bronx farm had many positive outcomes for our “farmers,” including food, knowledge, creative expression and physical exercise, as well as a profound connection to nature and each other.

But it was the attention and dedication to the farm that our farmers provided on a daily basis throughout the year that was essential to the success of the project. It was truly a collective effort resulting in cumulative rewards for all our participants who shared in the efforts, food and privilege of gardening.

A final thought: good farming and good eating lead to good health for the individual and a good environment for everyone.



Happy Farming,

The Bridge Horticulture Crew

The Urban Farm was a great experience to be a part of. It was interesting to see the progress that a seed takes to become a plant. We had success with almost everything that we planted and it was good to know that the vegetables and herbs were used for the nourishment of elderly and disabled clients. During the past season I was encouraged to increase my knowledge in other aspects of farming. I was certified as a Master Composter by the New York Botanical Farm. I took a class to be a Citizen Tree Pruner. For now, I am interested in continuing my work as a farmer. The spring season is fast approaching and I look forward to another productive farming season on the Morris Avenue Farm.

- Stacey Van Rossum



Working on the farm for me was a lot of hard work but well worth it! It is nice to be a part of the things that are important in life and food is probably the most important. Mostly, I enjoyed learning about how to grow vegetables. I do wish that we had more room. Being outside day after day working in the farm is very relaxing and I look forward to doing it again in 2009. I hope to continue to gain the knowledge I need to be able to do farming in the future.

- Tara McDonald

JANUARY

The Farm as Concept: Creating Goals

Work on the farm began in winter – a time when the snow, cold, and frozen earth typically keep farmers indoors. Winter is a time for reflection, to learn from the past and to plan for the future. In our case it was a time to build on the interest and skills of our Bridge horticulture crew, who for the past 3 years had been landscaping different Bridge residences around the City, along with a rooftop farm at its program headquarters.

In the Fall of 2007, The Bridge applied to HPNAP for a seed grant to create an urban farm at its Morris Avenue Residence. The Farm was to be built and managed by the Mobile Horticulture Team and other interested residents at Morris Avenue. The idea was to demonstrate the value of growing vegetables as a supplementary food source, and to use the farm to teach about nutrition and how health can be improved through eating more vegetables, herbs and fruits.

The Bridge imagined a farm that could provide food for medically frail residents at Sheridan Hill House, a nearby Bridge residence. We would work closely with the resident chef and nurse to identify the herbs and vegetables that would be most useful for the residents' meals. We all agreed the farm would serve as a springboard to address many of the health issues residents faced due to poor eating habits and lack of nutrition education.

In January, HSNY, Bridge staff and the Horticulture Team met as a group and worked on developing the goals of our farm:

- To empower ourselves to reduce dependence on emergency food programs
- To enhance self-esteem and physical well-being by working as a team outdoors and growing our own food
- To develop and provide nutrition education (through nutrition and cooking workshops), resulting in healthier meals and healthier living
- To evaluate our efforts by documenting the amount of food harvested from the farm, and by conducting pre and post tests of participants in order to determine changed behavior, skills learned, health and mental health improvement, and hopefully positive changes in food consumption
- To develop our skills and knowledge as professionals that could lead to paid jobs in the community

We held a 'kick-off' event to get residents (and case managers) interested and enthusiastic about the 'urban farm' concept. A few residents asked to participate while many more simply seemed excited about the prospect of fresh grown fruits and vegetables at their fingertips. This was our beginning.

FEBRUARY

Designing the Farm

A successful first-year farm demands a well thought out design that takes into account both the farmers' and the community's needs and interests. For our Morris Avenue farm, the community was comprised of medically frail residents of Sheridan Hill House and the residents of Morris Avenue. The farm would have a two-fold mission: to provide a steady stream of food for Sheridan residents, and to be aesthetically pleasing to the Morris Avenue residents who used the backyard space and would share it with the farm. Morris Avenue residents would also benefit from the availability of fresh produce.

The backyard space



In designing the farm we first asked the following questions:

- What kind of crops could we grow to provide as much food as possible?
- What was our overall space and how could we maximize it to ensure the highest level of food production?

Measuring

We then measured our existing space using a 100 ft landscape measuring tape. We began with the perimeter (fencelines and sides of buildings), and then measured the inside existing features including the patio and all the existing planting space. This was written down on blank paper (clipboards are useful) until we had a rough drawing of the space with all the features defined and measured.

Site Plan

We used large graph paper and pencils to transform our sketch into an accurate site plan using a scale of 1 inch to 3 feet. The process is easy: each inch on paper is 3 feet of the actual site. The grids on the paper help keep lines straight and the measurements (by counting boxes) accurate.

The Design

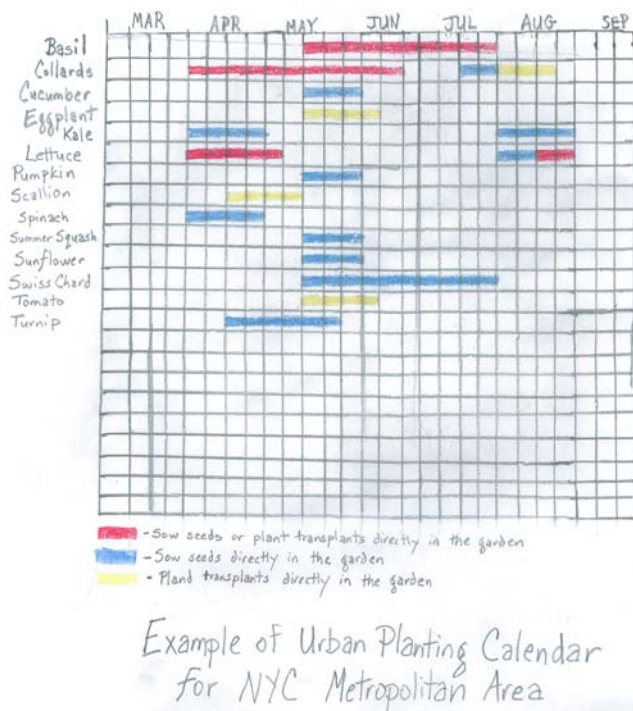
Once we had our site plan on paper we could now design the farm and see it in relation to everything else at the site. Factors we considered were:

- Available space for farm beds
- The kinds of spring, summer and fall vegetables we could grow to provide a steady stream of produce throughout the year
- Creating walkways between each row of vegetables
- The appropriate width of beds (four foot beds) and pathways (two foot pathways)

- Grouping crops that are designed to come up at similar times and rates, so harvesting is convenient
- Determining areas around the beds for herbs, annuals and perennials which add fragrance and color to the site
- Areas which require structures such as bean poles or trellises for cucumbers

Suitable for framing

The finished product should be pleasing to look at with neat labeling of plants and an attached plant list with specific plant characteristics. We used colored pencils to highlight planting areas and plants and to give it a professional look. The design is a guide and not only helps us visualize estimated levels of production but aids in the next step of winter work: purchasing seeds (how many and what kind) and budgeting for soil amendments such as compost or manure, and any other structural support (bean teepees, trellises, irrigation) for the farm.



Buying Seeds

We purchased seeds from Burpee Seeds. We based our decision on the company's catalogue which we felt offered the best variety of vegetables and most interesting herbs. Our choices for varieties took into account their resistance to disease, tolerance for drought, germination and fruiting times. We chose spinach for early spring, kale for summer and fall, early tomatoes and late tomatoes, arugula for early spring, peas for spring and beans for summer, and so on. A planting chart is instrumental to determine the best times to plant and harvest each variety of vegetable.

Planting Seeds in Winter

Our choices were specifically designed to ensure food from early spring through fall. When the seeds arrived we planted spring crops at a greenhouse at the Kingsborough Psychiatric Hospital to get a head start on the planting season. Other seeds, such as squash and beans, we directly sowed into the ground when it was warm enough to plant. Each variety will have specific instructions for planting and time for germination (when the plant breaks from seed and begins to grow).

RULE OF THUMB: Plant seeds at roughly the same depth as the size of seed. For very small seeds, plant at the surface with a light cover of soil or in a 1/8" to 1/16" hole made by a pencil point.

Useful Tools for the Farm

Each site requires different tools that are indispensable for building and maintaining a successful farm. To prepare for our ground breaking and in anticipation of the work ahead, we purchased the following tools:

- *Maddock* – For tearing out grass and breaking up earth
- *Spading shovel* – (pointed tip) To dig holes and break up clods of soil and to shovel soil and compost
- *Spading fork* – (blunt tips) For breaking up soil and removing weed roots in the ground
- *Hard metal rakes* – For breaking up clods of soil, moving large volumes of soil into different areas, shaping the contours of each bed
- *Leaf rakes* – For grooming the soil of the beds and removing finer weed roots, grasses and clods
- *Hoes* – To break up soil, weed, move soil, shape and groom beds, dig troughs for planting, and make pathways
- *Hand pruners* – to trim branches, snip unwanted branches or flowers or stems
- *Hand cultivator* – used for breaking up soil that has hardened on the surface and to remove underground weed roots
- *Trowel* – instrumental for planting sprouts and seedlings, removing or transplanting plants
- *Gloves and hats with visors* – for all the obvious reasons



Trowel



Hand Pruners



Leaf Rake



Hard Metal Rake



Maddock

Keep a Journal

The team began writing in journals to keep track of their work. Journals help inform us throughout and over successive years what went right and wrong (and why), the weather conditions, the nature of pest problems, and the type of harvest. The journal gives us time to reflect on the day as well as the opportunity to record our observations related to the farm. Over time it becomes the institutional memory of the farm and a wonderful source of information for those who come after us.

- ① Date - 6/27/08.
- ② Weather - Hot & Humid.
- ③ Activity - We harvested peas, romaine, turnip greens & collard greens. We weeded & maintained the front & the back. We watered the front & the back. We staked the tomatoes in the front & the back. We sprayed a pesticide on some of the plants that we found had a bug infestation. Some of the worms have begun to move from the compost over to the other side that has food & bedding but no compost.
- ④ Objective - Continue garden maintenance, harvesting & try to control/eliminate pest problems.
- ⑤ Outcome - We will see in the coming weeks if we can eliminate the insects.
- ⑥ Lesson - Since we didn't have an insect problem last season we didn't use insecticide/pesticide, but we are using an organic pesticide this season.
- ⑦ Impressions - The garden is a great success.

MARCH

Breaking Ground

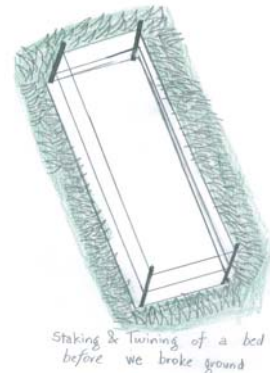


Gardeners often think of March as the year's most hopeful month – hopeful that the winter would soon end, and the ground would thaw enough to dig out beds, spread compost and ready the farm for planting. March 2008 began cold, but by mid-month the earth had warmed enough for us to break ground. We prepared to break ground. It was this moment when the reality of building what we planned on paper seemed remote and most daunting.

Staking the Farm

The materials a farmer needs to translate lines on paper to a three-dimensional landscape are quite basic: short wooden stakes, twine, a measuring tape and mallet.

Based on our graph design, we marked the designated planting space with wooden stakes, hammering them into the ground at each corner of the beds and midway from one end to the other. We then connected each stake with string and in this way could visualize what space we would be working with. When we stood back and looked at the farm we could now make adjustments to increase planting beds, decrease walkways, or visualize new additions for the landscape.



On our farm, we were pleased that our measurements on paper (and the overall design) were accurate. We now had marked on land the same dimensions that we had on paper giving us a boost in confidence for the next step – preparing the beds.

Making Your Bed

Materials: shovels, hoes, pickaxes, metal and leaf rakes. We had to use the pickax and shovel to break the lawn and loosen the ground. Then, with our heavy metal rakes we moved clods of grass from the site. We dug again, breaking up clods and turning the earth over and over and at the same time removing debris from the soil with leaf rakes. Breaking the clods and loosening soil helps air and water enter the surface and makes it easier for newly planted seedlings to spread their roots through the planting beds.

HINT: Leaving small grass roots can be a problem later on when they re-sprout and spread throughout the beds. Make sure all grass is removed from your beds!

Impressions: The day, even for mid-March, was really cold; the ground seemed frozen, and gloves were necessary. It was hard work!

Adding Compost

With the beds turned and raked, the next important step is to add compost or manure and lightly turn it and rake it into the bed. Compost does many things for our farm: it improves the soil by helping to retain moisture; it improves the texture of the soil by binding minerals; it helps maintain the soil's chemical balance (pH); it provides food for beneficial soil animals; and it slowly breaks down important nutrients that plants need.



What is Compost: Compost is any kind of organic (plant) matter that is broken down into a decomposed state. It is rich in major nutrients such as Nitrogen(N), Phosphorous(P) and Potassium(K) as well as many micro-nutrients that plants depend on.

We used store-bought compost made from sea kelp, but any kind of compost is beneficial, from dried cow manure to decomposed leaves. Eventually, the farm should contain an enclosed compost bin to produce its own compost from kitchen scraps (no meat products) and debris from the farm. Recycling your household waste is a valuable way to improve the environment and limit the garbage going to landfills. It is also highly rewarding to see banana peels, coffee grinds, old fruit, egg shells, leaves, grass clippings and unused vegetables be magically transformed into a dark odorless substance that is needed and loved by plants.

HINT: Avoid using woody material in your compost unless it is finely chipped. Not only does it take a long time to break down but raises the carbon to nitrogen ration (30 to 1 is preferable).



Worms produce wonderful compost from their manure. We purchased a worm bin and one pound of worms from the Lower Eastside Ecology Center at the Union Square Farmers' Market. The worms are fed kitchen debris – no animal products but eggshells - and stored in a cool, dry, dark place in the residence. Worms are easier to care for than a herd of cows, and after 6 weeks we would be ready to harvest our first bin of manure!

*Worms are the urban farm's cow,
providing plenty of fertilizer for our garden*

APRIL

Planting Begins: The Early Crops

The anticipation of spring and warm weather coincides with the excitement of planting the farm. Before us lies bare earth layered with rich compost. It reminds one of the old adage: “here’s your bed, now lie in it.” But rest is out of the farming equation. Instead, we will plant seeds and seedlings, and soon begin the rewarding task of reaping what we sow.

April 15 is the official planting day in New York City and late enough in Spring to avoid a sudden frost or snow that can kill young seedlings. Our first two weeks in April are geared towards making sure our beds are ready and we have something to plant by the middle of the month.

Testing Soil and Determining pH

Vegetables and herbs need the proper chemical balance in the soil to maximize their growth and productivity. This balance is referred to as the pH (potential hydrogen). pH is measured on a scale of 1 through 14; 1 is most acidic, 14 is most alkaline, while 7 is neutral.

Each number moves exponentially up and down the scale. For instance, 6 is 10 times more acidic than 7, and 5 is 100 times more acidic than 7. In the same way, 9 is 1,000 times more alkaline than 6.

Most vegetables require a pH ranging from 6.5 to 7.5. Compost usually buffers the soil from heavy acidic or alkaline influences. But, if the soil is highly acidic or alkaline, one can change the pH by adding limestone (which raises the pH) or sulfur-based compounds (which lower the pH). Urban farms are often built in empty lots or backyards that were former building sites. The crushed concrete and cinder or limestone blocks found in the soil tend to raise the pH level (limestone). Swampy or boggy areas tend to be acidic.

Therefore, it was important to test the soil before planting. Using a simple *soil test* kit we bought at Home Depot, we tested the soil in random beds throughout the farm and recorded a neutral reading (7) for almost every sampling.

HINT: We should have sent a sample to Cornell Extension which does soil tests for a small fee. They can determine the concentration of nutrients in the soil as well as inform us of any toxins or lead.

Seeds of early summer crops such as arugula, peas and spinach were directly sown according to plan (in rows). Tomatoes, hot peppers and collards that we started from seed at the Kingsborough Psychiatric Hospital greenhouse in February were ready, and by the end of April had been transplanted as 6" seedlings into the beds. Herbs such as basil and mint were purchased at the farmer's market and also planted. Our beds were now beginning to fill with small green plants. Our urban farm had truly become a farm.

Impressions: Everyone was excited to get their hands dirty and plant seeds. We also continued with hard labor. There was a lot of leaning over, heavy lifting of soil and compost bags, and raking soil.



Seeds starting at the Kingsboro Hospital Greenhouse, courtesy of the Urban Oasis Horticultural Therapy Program

MAY

Spring Arrival: The Farm Takes Shape

Daffodils herald the arrival of May with a burst of color in our street side flower garden on Morris Avenue. The buds of the crabapples are swollen and ready to burst in the first warm breeze. It is spring and the backyard farm beckons with the first leaves of germinating spinach, peas and arugula. We continued planting seedlings from Kingsborough through the early weeks of May. We also added sweet potato seeds and eggplant and a healthy crop of cilantro.

Watering

As the weather warmed we began to establish a watering regimen. We learned that it is best to water early morning before the sun hits the farm. Water evaporates and makes it more difficult for water to deeply penetrate the soil. Good watering helps the plant develop a healthy root system.

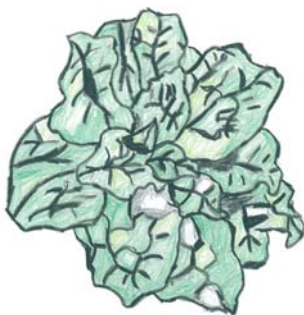
In beds where we planted seeds we watered VERY gently using the mist selection on our hose nozzle, because the pressure of a hose could compress seeds deep into the soil and prevent germination.

We developed a schedule that allowed the farm to be watered twice a day. On days when the horticulture crew was not available, residents of Morris Avenue volunteered to water. This was an instrumental step in involving residents in the care and maintenance of their farm.

Seedlings and Thinning

When seedlings begin growing, they need to be thinned to prevent competition and to generate optimum growth and production. First, pull out any scraggly-looking or damaged plantlets (baby plants). Then, where growth is still close together choose the healthiest plants and remove those closest to them. If those selected for removal are relatively healthy and if there is available space in a nearby bed, it makes sense to simply transplant them elsewhere in the farm.

The **first crops** to arrive were the leafy greens, primarily arugula, spinach, romaine, kale, collard greens (later, the chard). Herbs were next (cilantro, tons of basil) and then the snap peas.



Spinach



Romaine Lettuce



Collard Greens

HINT: Arugula is an excellent value crop to grow in spring. Not only is it the most expensive green on the market, rich in taste and nutrition, but it is also easy to grow.

We waited, however, too long to begin harvesting the fresh leaves of arugula. If the leaves stay on too long there is a good chance the plant will *bolt* (go into flower and seed) which is first noticed when the plant sends up a long flower stalk. Once the leaf crops *bolt* the leaves lose their tenderness as the plant puts its energy into flower and seed production rather than leaf production. After a few good harvests of arugula at the end of May, most of the plants *bolted*, the leaves became too bitter, and by early June the plants had to be removed.



As the arugula was removed we replaced its planting space with basil, chard, and kale. We also added a variety of squash, zucchini, pumpkin and cucumber that we directly sowed by seed into designated spaces throughout the farm.

HINT: Squash, zucchini and pumpkin are ground vines and require plenty of room to spread through the planting beds and farm. Plant an individual seed on a small mound of soil in the center of the bed at least 3-4 ft from the next seed mound.

Fertilizing

Although we had enriched our soil with compost, we decided to fertilize the growing seedlings in order to quicken their growth. We used an organic fish emulsion bought commercially – a few tablespoons mixed in a gallon of water gave us plenty to feed our crops. We established a routine, feeding the beds every three weeks through the early growing season.

We also established our own composting bin. One of our farmers joined a six-week program through the New York Botanical Farm to become a *Master Composter*. He began by taking care of our worm bins. We later purchased a manufactured compost bin for twenty dollars. This gave us additional compost and also demonstrated to residents and visitors the value of transforming kitchen and garden waste into valuable compost.

Compost

A few rules for making compost: avoid all meats, bones, dairy (except eggshells) and oils. Simple vegetable waste and coffee grinds are enough to provide a daily stream of kitchen waste. Grass clippings and leaves should also be added. The compost needs air and water to feed the micro-organisms responsible for breaking down organic matter into nutrients for plants. Therefore the compost needs occasional watering. It needs to be turned for aeration. If it smells like something rotting, then it needs more carbon matter –

dried leaves or chopped hay and grass. With proper waste and good process you should have compost in six weeks during the summer while in the winter it can take up to four months.

No farm program is complete without a full understanding of compost – how it is made, its benefit to soil and food production, and our ability to reduce waste in our environment.

HINT: Making compost is a science and art, and entire books are devoted to the process. We therefore recommend you keep a few reference materials close by as you develop your system. We also recommend that you have an enclosed system to keep out animals.

Impressions: Work was hard but everyone was really excited to see the first harvests, and the clients felt it was nice to work outdoors and focus on something positive. Sometimes the weather (heavy rains) prevented work getting done, which led to a delay in planting.



Mint



Sage



Lavender

JUNE

Summer Begins: Greens from the Farm and Herbs for the Bed

Warm weather and late spring rains turn the farm into an emerging forest of leafy greens, spreading vines, and aromatic flowers that will soon bear the fruit of summer. Standing in the backyard one could hardly see the soil through the veggies.

By the end of June our tasks would focus more on the harvest than on planting. Our farm was now producing.



Harvesting

By early June the last of the arugula was harvested. The crop had *bolted* and the leaves were too bitter to keep as a viable crop so we simply removed the entire plant. Spinach also *bolted* fast. We decided that next year we would plant the leafy greens a bit earlier and begin to harvest the leaves as soon as they had several sets of leaves. This opened up new planting space in the beds for zucchini, turnips and basil. The basil especially was a good crop for it produces leaves all summer and fall and was much used by the Sheridan chef for a flavorful herb.

Swiss chard, sugar snaps, pole beans, and scallions all matured. The sugar snaps were sweet off the vine. The first leaves of swiss chard (the bottom and outside leaves) were plucked from the plant and sent to Sheridan House to be used in nutritious meals.

HINT: Swiss chard is highly nutritious and produces leaves all through late spring, summer and fall. It is either cooked with salt, butter and garlic, or eaten raw with lettuce in a salad.



Swiss Chard

RECIPE: *Frittata with Chard and Whole-Wheat Spaghetti*

This omelet with whole-wheat pasta makes a quick and delicious meal.

1 pound of swiss chard, trimmed and coarsely chopped
5 eggs
1/3 cup of 2% reduced fat milk
3 tablespoons of grated Parmesan cheese
1/8 teaspoon of ground nutmeg
1/4 teaspoon of salt
2 cups of cooked whole-wheat spaghetti (4 ounces uncooked pasta)
1 tablespoon of butter
1 cup of shredded provolone or mozzarella cheese
Coarsely ground black pepper

Rinse chard and place in a large pot with water clinging to leaves. Cover and cook over medium heat until tender (about 10 minutes). Drain thoroughly. When cool enough to handle, squeeze out excess water. Combine eggs, milk, Parmesan, nutmeg, salt and pepper. Stir in spaghetti and chard. Melt butter in a large ovenproof skillet. Add egg mixture, cover and cook over low heat until top is almost set, 10 to 13 minutes. Preheat broiler. Sprinkle frittata with provolone cheese and broil 3 minutes. Serves 5. Enjoy.

RECIPE: *Stir-Fried Chard with Asian Seasonings*

An easy way to add flavor to this hearty green.

1 tablespoon of vegetable oil
2 garlic cloves, minced
1 1/2 pounds of swiss chard, trimmed and coarsely chopped
2 teaspoons of soy sauce
1/2 teaspoon of sesame oil
3 drops of Tabasco sauce

Heat oil in a large nonstick skillet over medium-high heat. Add garlic and cook 1 minute. Gradually add chard; as one batch wilts, add another. Cook over medium heat, stirring often, until tender and most of the liquid evaporates, about 10 minutes. Add remaining ingredients and stir to combine. Serves 4. Enjoy.

Measuring your Harvest

It is important to know how well and how much your farm is producing year to year. This helps in planning for the future as well as in determining how many people you can feed and for how long. Measuring the harvest also helps you anticipate any surplus you could potentially sell or give away. We did not find a commercial (grocer) scale to weigh our harvest (which a farm devoted to food production should have), so we created our own system by placing what we harvested in laundry baskets that we called bushels. A log

was kept and all usable produce coming out of the farm was documented. By the end of June we were harvesting approximately four bushels of vegetables and herbs per week. In our second year we expect to develop a more accurate and universal system for measuring our farm's productivity.



Bushels of nutritious food produced in our garden

Staking our Plants

As the plants grow and begin to bear fruit it becomes necessary to stake upright vines and certain plants that need additional support such as tomatoes. We staked the cucumbers and reinforced them by building a trellis alongside the fence. We also staked the tomatoes early on so their growing branches would not get tangled or broken by stakes or support wire which often occurs with late staking. There are a number of ways to stake tomatoes – some farmers prefer individual wire cones while others lay string out at varying heights by tying it to stakes every 3 to 4 feet and boxing in the entire bed. Some farmers tie each tomato to an individual stake.



A forest of tomatoes tied to stakes, preparing to fruit

Documenting the Farm

It is important to document your work with images and journals. Photos tell a thousand stories and visually illuminate the hard but substantive work of building and maintaining a successful farm. Our farm crew established a blog on the internet, posting images and their personal experiences of working in the farm. There are numerous opportunities to use this documentation for prospective grants to fund farming activities or workshops or for donated materials such as tools and seeds.

Impressions: Regular watering became essential as the weather became hotter. We considered some sort of irrigation system – underground or sprinklers? But we settled on using a hose and our own hands for an hour twice a day.

JULY

Learning to Maintain

Planting is finished. Warm mornings, humid nights and the occasional heat spell are the norm. Summer on the farm shifts work to a different rhythm: the sweet melody of maintenance whose tasks, if consistent, take on a meditative quality.

Apart from watering and weeding and the daily harvest, summer demands a constant state of observation. Is the farm getting watered enough, or too much? Is the staking adequate to support the burgeoning weight of growing fruit? Are plants crowding one another, cutting off growing space and circulating air? Is that mold on the stem or vine, or are those insects the kind that damage fruit and leaves? What is healthy and what isn't, and why? These are the important questions that arise as one wanders through the farm. What is different today from yesterday? As farmers we learn to observe. And once we see a problem, our job is to find a solution, and act. There are many quiet moments on a hot July day, fingering leaves or fruit, observing plants closely and watching for change.

Integrated Pest Management (IPM)

This is our organic method of controlling pests. Rather than use chemical sprays that are harmful to ALL living things, we use a more labor intensive but safer approach called IPM or Integrated Pest Management. IPM demands the critical tools of ***observation, assessment, application and persistence.***

- Constant observation allows us to find the problem early on
- Using books, experience and/or the internet we can then assess what needs to be done
- Taking the least harmful approach and applying it to the problem is essential
- Unlike pesticides or harmful fungicides, the IPM approach can be labor intensive (in a good way) and slow to show results. We must be persistent - returning to the plant over and over again with either the same application or a cocktail of solutions-to arrest the problem

*A ladybug eating plant-sucking aphids
on a pepper plant*

Sometimes attacking a problem is as simple as squishing aphids or scales with our hands or releasing ladybugs that feed on aphids, or spraying infested plants with Neem, an organic pesticide derived from the Neem tree of India. Other times in the case of a particular virus, we have to remove the plant altogether and allow the soil to dry before planting something else. Every farm at any time during the growing seasons will have



some kind of pest or pathogen in varying degrees of intensity. The timeliness of your response will be the difference between treating a minor problem or an all-out infestation.

HINT: Powdery mildew affects a variety of plants, mostly ornamentals but sometimes squash and pumpkin vines. A homemade brew can be concocted using the following ingredients:

1 tablespoon of Listerine mouthwash

1 tablespoon of baking soda

1 tablespoon of liquid ivory soap

1 gallon of water

Mix and spray the leaves with a spray bottle twice a week until the mildew is gone.

Early Pests

By early July we noticed what we identified as **mosaic virus** which affected pumpkins, squash, then sugar snap peas, pole beans and cucumbers. The leaves, stalks and roots became yellow and appeared to rot everything near it. We then removed all of the sugar snap peas and pole beans (this was the end of the sugar pea season anyway). Other pests found in the farm were:

Aphids – small greenish soft bodied insects that suck the juice from the leaves and flower buds. Most common on tomatoes and basil but will appear on most leafy plants. We try to swipe the leaf with a finger and crush them as we walk through the farm. Look for ants wandering on leaves and up stems; their presence on the plant often leads to aphids whose feces – a sweet sticky substance called honeydew – they harvest for food. For an infestation, spray with a chili-based commercial pest control that is non-toxic but controls aphids. Ladybugs, which feed on aphids, can be purchased and released, if there are not many already in the farm.

Leafhoppers – medium wedge-shaped insects that suck juice from plants. They also transmit plant diseases from plant to plant. Once sighted we picked them off the leaves by hand. No damage to the plants.



Squirrels – ravaged the sunflower stalks. We sprayed a homemade brew of chili water directly onto the plants but it was not effective and many of the stalks were damaged.

Weeding

Perhaps the most time-consuming task in the farm is weeding. Weeds can simply take over a farm without due vigilance and control. Weeds are simply very successful plants that grow where you don't want them. There are primarily two kinds: those that spread by seed and die each year (annuals), and those which persist, coming back year after year

from an ever-expanding root system (perennials). The most effective way to deal with weeds is similar to the IPM approach to pests: be vigilant each day as you manage your farm. The work – as you approach weeds and pests as they arise – becomes less arduous giving you time to explore and enjoy the farm without seeing it as a long endless series of tasks.

Pulling weeds early on prevents annuals from going into flower and setting and dispersing millions of seeds in the farm; and in the case of perennials prevents them from establishing strong root systems. And lastly, most farmers will agree on one thing about weeding: it is more a process than a chore, bringing the farmer into the farm both mentally and physically while allowing time for reflection in the calming task of pulling plants from earth.

The three perennial weeds that are most difficult to eradicate from the farm and should be identified and removed immediately are:

Bindweed – a goose-foot shaped vine that trails on the ground or climbs plants and structures forming dense mats in the farm. The roots go deep underground and unless completely pulled out will form new plants continuously



Mugwort – plants shoot up from a continuous network of roots throughout the farm making this plant difficult to get rid of. When you weed mugwort you are often simply pulling the plant from the root leaving the underground network intact. Once established, the thick stem becomes difficult to pull by hand. In China, mugwort is being grown commercially as an effective poor man's cure for malaria

Japanese Knotweed – this tough plant can and will grow through concrete cracks and asphalt. It has a stem like immature bamboo and a thick triangular leaf. The root system is equally tough and difficult to extract. A small piece of root left in the ground can quickly regenerate into a network of plants

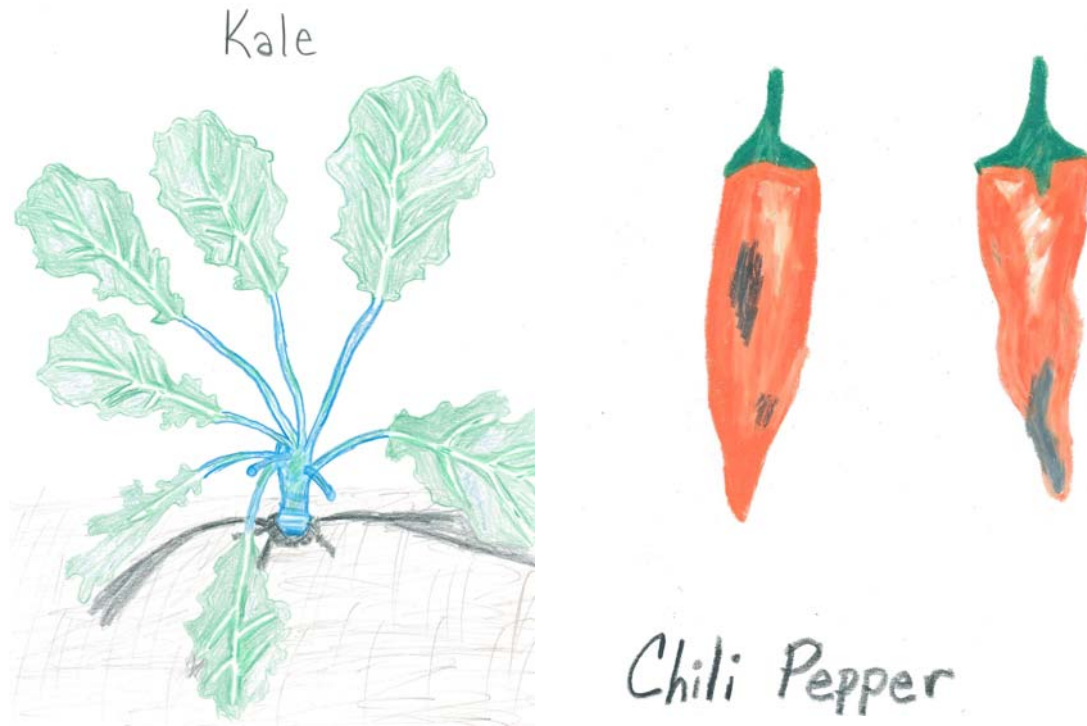


It is likely that none of the above-mentioned plants will be eradicated completely, but diligent effort can control and manage them so they do not interfere with your farm's production.

HINT: Know your weeds! Farmers should be able to identify the kinds of weeds likely to colonize the farm. Keep a reference book that can identify common weeds of the region. Some weeds can be beneficial to animals that can help control pests in our farm or offer a possible herb, medicinal or food source for people. *Being well informed is the difference between someone who farms and someone who is a farmer.*

Harvest

In July the farm yield increased dramatically. We harvested collard greens, a large amount of swiss chard, chili peppers, watermelons, enormous zucchinis, turnip greens (but no turnips), cucumbers, pole beans, squash, spearmint, scallions and basil. Some herbs such as cilantro and peppermint did not fare as well. The peppermint might have suffered from poor soil and shade (planted beneath a golden rain tree), while cilantro was likely crowded out by chard and kale.



The pumpkin vines took over the bottom tier of our terraced area, as well as squash. Yet we only harvested 3 or 4 pumpkins all season. The pumpkins would begin life then rot when still baby-sized. We attributed this to the mosaic virus.

Impressions: Through the month, our three working days per week demanded that we stay in the farm from morning to late afternoon. We agreed that we planted many of our crops too close together. The competition for growing space and nutrients limited their growth and production.

AUGUST

Fresh from the Farm

August takes its toll on the farm. Through prolonged humidity and heat the plants have lost their green freshness. Leaves (especially older ones closer to the ground) yellow, dry, shrivel and are sometimes dusted with a white powdery mold. The vines have stopped growing; flowers are few. The farm appears at rest like a runner at the end of a long race. But perhaps it only seems that way. The plants – for the most part – have now redirected their energy from growth and flowers to fruit.

Squash and zucchinis are emerging from their ground nest like a small army. Watermelons litter the earth like cannon balls. The tomato plants bend under the weight of fruit in various stages of redness. Eggplants and bell peppers defy the size and weight of their load by holding them in a heroic pose, and the leafy herbs and their aromatic flavors serve as a living condiment for the food about to be harvested.

*A bell pepper ready
to be harvested*



Harvesting

The Farm through August is producing about seven bushels of food per week: mostly swiss chard, collard greens, cherry/plum tomatoes, turnip greens, small green peppers, kale and scallions. Where we removed crops (due to *bolting*, disease, or insect damage), we replaced them with radishes, parsley, lettuce and spinach, which would give us a potential late fall crop.



Hot peppers and herbs ready for the kitchen

The produce is carried to Sheridan Hill House and given to Chef Hinds who incorporates it into his menu as locally grown, organic ingredients.

RECIPE: *Cherry Tomato Salad by Chef Hinds*

1 lb of cherry tomatoes
1/3 cup of balsamic vinegar
1/2 cup of olive oil
2 garlic cloves (minced)
1/2 teaspoon of sea salt
1/2 teaspoon of cracked black pepper
1/3 cup of tomato paste
1/2 tablespoon of splenda (natural sweetener)

Rinse and halve the cherry tomatoes, sauté garlic in olive oil. Add tomato paste, seasoning and splenda and stir. Let the mixture cool. Once it is cooled slowly whisk in balsamic vinegar. Add cherry tomatoes and cover and toss with the vinaigrette. Letting the salad sit for a few minutes will improve the flavor. Enjoy.

RECIPE: *Brown Rice Salad by Chef Hinds*

This recipe has a sweet and sour taste and is very healthy to eat as a side dish or a snack.

3 cups of brown rice
1 cup of shredded carrots
1/2 cup of minced onions (Spanish)
1/2 cup of diced fresh celery
1/2 cup of red and green peppers
1/3 cup of basil (thin strips)
1/2 cup of pineapple (drained)
1 bottle of your favorite Italian dressing

Cook brown rice according to directions and let cool, toss all ingredients together, cover with as much of the Italian dressing that you wish. Be careful not to use too much – add small amounts and taste until you are happy with the flavor. Enjoy.

Workshops

Weeding, watering, IPM and harvesting become routine in our daily work in the farm. With things under control we use the hot days of August and farm produce for a series of workshops that help explore nutrition, herbs and healthy living.

Herbal Soap

Soap-making using unscented glycerin soap is an easy and fun way to use herbs grown in the farm. First cut the glycerin into pieces and melt them in a double boiler. Next pour the melted soap into molds of your choosing. Have the fresh ingredients and essential oils open and ready to be used. Now you can get creative! Decide what kind of scent, texture and colors you would like for each mold and start mixing and matching. You will only need a few drops of the essential oil for each bar of soap. The fresh herbs can be mixed directly into the soap. Add sea salt or a pinch of sand to make your soap an exfoliating soap. Finally mix the ingredients together. The soap will start to form a hard film within around 10-20 minutes, so it is important not to let the liquid soap sit for too long before adding the ingredients. The crafted soap should be allowed to cool for around 45 minutes. Once they have hardened completely they can be pried from the mold using a butter knife and wrapping in cellophane or saran wrap.

- unscented glycerin soap
- essential oil of your choice (tea tree oil adds an astringent quality to the soap)
- fresh herbs of your choice (calendula, rosemary, marjoram and lavender are popular)
- sea salt or sand
- double boiler
- molds
- plastic wrap
- spoon

Herb garden at the Morris Avenue farm



Impressions: We sampled baby watermelons, which were not as pink or sweet as anticipated. Perhaps we needed to let them grow longer before harvesting the fruit? The sweet potatoes were also not ready yet. We had trouble figuring out when to pull them up; some people say when the leaves begin to brown . . .

SEPTEMBER

Rewards for Summer

With the summer and its harvests receding, the fall harvest ripening and the fall crops beginning to emerge, September is the proper time to take stock of the farm's successes and failures. It is the last chance to accurately document what worked and what didn't, and this record will be the basis of your planning (in winter) for the farm next year. September has its own rewards, not just in the change of cooler weather, or the bounty of the season's harvest – but the thought and feeling that a vision, through hard work, heat, rain, weeds and pests, had been realized. And there lies the true meaning of success.

General Maintenance

With the change in weather and the faint onset of autumn, both plant and animal pests make this their last hurrah before winter. Annual weeds go into flower hoping to disperse their seeds to winter-over in the farm soil. Perennial weeds are less obvious – moving energy underground to their root system. This will sustain the plant through winter and make it more vigorous when the weather warms next spring.

Therefore, keep the farm free of weeds, especially those that are ready to flower. Make sure to edge your beds from the possible encroachment of lawn; turf tends to spread through rhizomes (horizontal, underground stems). Trenching out the farm's borders prevents grasses from moving back in.

In September, the farm recorded an aphid infestation. Pests also use the last warm days for their final act of proliferation and survival. Continue with IPM. Cut away leaves and branches showing signs of rot and remove them (do not compost). September tends to be dry so continue watering. Perennial herbs such as oregano, lavender and mint will reward you through the fall and keep returning in the spring. Watering will give them well-developed root systems. And of course, fall crops are still growing and require watering and maintenance.

HINT: Keep an eye out and protect beneficial insects such as praying mantis. Soon they will start laying eggs in hard cocoon-like sacks in dense shrubbery around the farm. The eggs stay warm through the winter and hatch in spring providing a new generation of "insect eaters."

Harvest

Apart from tomatoes, chard, kale and squash, a September harvest will be rich in herbs. Thyme, oregano, parsley and basil should be picked fresh and used in the kitchen (a small packet of a few fresh leaves of basil in the market sells for \$2.99). Eggplants also ripen this month and together with zucchini, tomatoes and herbs offer a full nutritious meal – straight from the farm.



RECIPE: Eggplant Pasta Bake by Chef Hinds

A vegetarian meal with fresh eggplant that will keep you coming back for more

One large to medium eggplant (large diced)
1 cup of zucchini (large diced)
½ cup of rough chopped basil
One large onion
2 cloves of minced garlic
½ cup of red and green peppers
6 oz of tomato paste
12 oz of stewed tomatoes
One box of cooked pasta (penne)
Onion powder
1 tablespoon of oregano
1 tablespoon of parsley
1 tablespoon of garlic powder
salt and pepper to taste
⅓ cup of olive oil
2 cups of mozzarella
½ cup of breadcrumbs



Cut the eggplant, zucchini, onions and peppers into large cubes. Using half of the oil, sauté all the vegetables. When vegetables are tender add stewed tomatoes, tomato paste and all the herbs and seasoning and simmer for 10 minutes. In a ½ aluminum pan place a few spoonfuls of the eggplant sauce on the bottom and layer it with pasta then a cup of mozzarella. Add the remaining sauce, then the next cup of mozzarella, then the breadcrumbs and cover with aluminum foil. Place the pan in a 375 degree oven for 25 minutes or until the cheese is melted and the sauce is bubbling. Enjoy.

Impressions: After all the work we did in summer it is surprising no one is tired of working in the farm. We still water, weed and harvest. And we all try to problem-solve when things are not right or going well. We are all amazed at what we did together our first year and the road we traveled to get here.



Oregano



Orange
Bell Pepper



Green
Pepper



Turnip

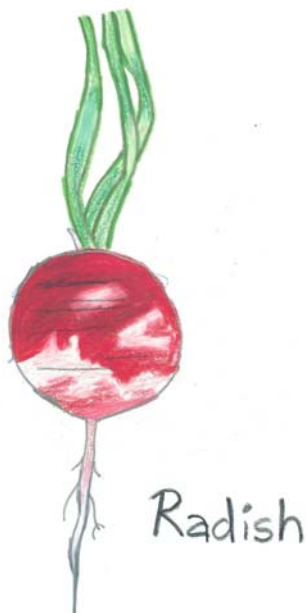
OCTOBER

The Last Harvest of the Year

The farm – like the month – signals a shift in time and season. An Indian summer in early October resonates with the lingering touch of August. But by mid-month, the first sign of breath as we greet the morning air reminds us of the winter to come. The farm responds: annuals explode in a burst of color in an effort to set seed before winter; tomatoes and squash absorb receding energy for the year's final harvest; and the foliage on the aromatic herbs lose their luster. As the days shorten and the cold sets in, the farm appears frozen – not completely wilted – but stopped like a poet in mid-sentence who forgets a line of verse.

Harvest

We harvested radishes, swiss chard, collards, beans, rosemary, oregano, basil, calendula, cherry and beefsteak tomatoes. We put dried spearmint, oregano and rosemary into jars. Our pumpkin crop was meager because of the mosaic virus and only a few small specimens lasted through the summer.



October, just before the first frost, is the time to start harvesting the farm's remaining herbs. Basil can be made into pesto (see recipe), frozen and used through the winter. Other herbs such as rosemary, oregano, lavender and mint can be preserved in oil, used for salad dressing, dried and used for teas and infusions.

Workshop: Drying Herbs

Drying herbs is a great way to keep the wonderful tastes and scents of the farm alive all year round. Especially as the growing season winds down, it is important to make the most of your farm by continuing to harvest your herbs and drying them for later use. There are several easy ways to do this.

Hanging

Harvest your herbs in the late morning once the sun has burned off the dew. When the herbs are no longer damp, gather them into small bunches and tie them together with hemp twine. The bunches should be hung in a cool, dark area for drying. Most herbs will dry within around one week. The dried herbs can then be removed from the stems and stored in clearly labeled glass jars for use in cooking and herbal teas.

Drying racks

If you do not have enough space to hang your herbs, you can use screens to dry herbs on racks in a cabinet. Try to use a cabinet that is dry and dark and that is not likely to be affected by steam from cooking or dishes. The procedure is the same as above except instead of hanging the herbs, they are laid out in cut stalks on the screens. The screens can be stacked as long as there is air passing above and below the herbs. Once the herbs have dried they can be transferred to dry jars for storage.

RECIPE: *Gemelli Pasta with Pesto*

1 lb Barilla Gemelli
2 tbsp pine nuts
4 tbsp olive oil
1 medium potato sliced and boiled (this can be left out)
Salt and pepper
Fresh basil leaves (garnish)
One container of grape tomatoes* (cut tomatoes in half)

PESTO SAUCE:

2 cups fresh basil leaves
½ cup olive oil
2 tbsp pine nuts
1 garlic clove
1 tbsp salt
½ cup grated Parmesan cheese
2 tbsp grated Pecorino Romano cheese



Prepare pasta as directed. Drain. Transfer to a large preheated serving bowl. Add pesto, pine nuts, oil and potato. Add salt and pepper to taste. Mix well. Just before serving, sprinkle with fresh basil leaves. For the Pesto sauce, combine basil, olive oil, pine nuts, garlic and salt in food processor or blender. Process until smooth and add grated cheese.

*Grape tomatoes are optional, but do add color, moisture and taste.

Maintenance

Harvest, harvest, harvest. We removed all the remaining fruit before the frost. We harvested as many flowers and leaves from the herbs as possible. We took down the watermelon trellis. We chopped up the watermelon leaves and vines, sunflowers and kale. We turned some into the soil with compost and added the rest to the compost bins. We dried more herbs. We took down the pumpkin vines. We bottled dried basil, mint and oregano. On warm dry days we watered the perennials which transfer their energy from above ground to their roots below ground. This stored energy allows them to sleep through the winter and reappear in spring.

We continued to weed, removing unwanted plants that were going into flower or seed. Be vigilant. Some weeds can disperse several thousand seeds before they die from frost that will stay in the ground all winter and germinate in spring.

Herbal Tea from the Farm

The first step is to dry available herbs from the farm. The process for making tea is simple, but it is important to know the medicinal value of the herbs you are using before putting them into your teabag. In general, you can add a pinch more or less of an herb or combination of different herbs based on your taste or what you would like the tea to be used for. Place the herbs into an empty tea filter bag. Create a label for the bag so you don't forget what the ingredients are. Staple one end of the string to the label and fold the other end into the closed end of the tea filter bag and staple them together. You can create your own assortment of herbal teas or simply create a new mix as needed. You can steep the bags in a mug for 5-10 minutes and add more herbs if you would like a more powerful tea.

Peppermint, spearmint, lemon balm, hyssop, elderberry, chamomile and rose hips are all common herbs from the farm used to make tea.

Herb Infusion

Herbal infusions are potent water or oil based preparations for extracting the medicinal properties of dried herbs. You can drink them or use them externally as skin washes, compresses, bath or poultices or for other products such as soaps and lotions.

How are they different from a tea? They are made using larger amounts of herbs and are steeped in an air-tight container for at least several hours or if prepared with oil up to 4-6 weeks.

Quart-sized canning jars are ideal to use because they rarely break when you pour boiling water into them as long as they are at room temperature when water is added. They also allow for a tight seal.

Using Dried Leaves

- Put 1 ounce (a large handful) of dried leaves into a quart jar and fill the jar with boiling water

- Screw the lid on tight and let steep until completely cool
- Strain out plant material

Using Dried Roots or Barks

- Put 1 ounce (a large handful) of dried roots or bark into a pint jar and fill the jar with boiling water
- Screw the lid on tight and let steep until completely cool
- Strain out plant material

Using Dried Flowers

- Put 1 ounce (a large handful) of dried flowers into a quart jar and fill the jar with boiling water
- Screw the lid on tight and let steep 2 or 3 hours
- Strain out plant material

(Remember to harvest flowers around 11 am when they are likely to be fully open and dry from the sun)

Using Dried Seeds

- Put 1 ounce (a large handful) of dried seeds into a pint jar and fill the jar with boiling water
- Screw the lid on tight and let steep for ½ hour - no more or the taste will be bitter
- Strain out seeds

HINT: When preparing your herbs with oil you need to infuse for 4-6 weeks, but they must be attended to regularly. Every 4 days, they should be checked for air bubbles, where bacteria can grow. In order to avoid a build up of bubbles, take a wooden chopstick and slowly poke it through the infusion to the bottom of the jar to release the bubbles, then reseal the jar. Some bubbles will no doubt survive, but it is best to try to clear them out. If you find that the oil is getting quite murky, that likely means that there is bacteria in the infusion and it should be thrown out.

NOTE: A good herb book with many different recipes for lotions, teas, medicinal uses, etc. is indispensable for a farming program.



Bok Choy

Impressions: There is something highly rewarding in spending the day harvesting fruit, leaves and flowers through the change of season, hoping for that one additional warm day. In the farm we notice weather, we see the farm evolving and changing with the weather. There is no other work in the city that makes us so aware of the seasons.



Cabbage

NOVEMBER

Putting the Farm to Rest

The farm is still – like a hibernating mammal – and it will rest through winter, its living parts warm and insulated against the cold below ground. Now remaining are skeletal frames, the ligaments of tomato and zucchini vines, or pepper and eggplant stalks, a few bearing unripe fruit that in the metaphorical seasonal race - simply could not finish in time. We see the remnants of six months of seasonal gifts; and now, stripped of pretension and spent of energy, the farm in sleep can seem at its most beautiful. As farmers we will help it rest, and will make sure that come spring, there will be harvests more bountiful than the last. As we turn the earth a few more times we ponder the journey that has taken us this far, and dwell on the knowledge gained.

Putting the Farm to Rest

We removed standing stalks and vines from the beds and continued to chop them up for compost or turn them directly into the soil (one-third of the chopped material was turned in the beds while the rest was composted). We also harvested compost from the bin and turned that over into the soil as well. Any of our perennial herbs such as mint, lavender, sage, rosemary and oregano were left standing. As Mediterranean plants, both rosemary and lavender would only make it through moderate winters (too harsh and they would likely die), while mint, sage and oregano are much hardier and can handle prolonged low temperatures. The beds were then raked and left for spring.

HINT: Flowering bulbs of all kinds such as tulips, daffodils, crocuses, hyacinths, are planted in the fall before the ground freezes. But food crops such as garlic and scallions are also bulbs and can be planted as well. Buy a few ORGANIC garlic bulbs at your local store. Divide the cloves and plant them each separately about 3-4 inches in the soil. Sprinkle in bonemeal – bought from your local nursery. Harvest in late spring.

Planting Cover Crops

It is not optimal to leave the soil in your garden bed exposed all winter. Not only does it expose the soil to erosion from wind and rain, but bare earth becomes easily compacted from water (rain and hail) or from people and animals walking on it. One approach is to mulch the entire garden with either hay or straw, or with wood chips. Rake the wood chips from the beds in spring and spread them in your non-veggie garden. The hay can be left on the beds and planted beneath.

An even better approach is to plant winter grass crops such rye, clover or winter wheat. A wheat crop will hold the soil all winter. But better yet, rye and clover are what we call *nitrogen fixers*. They are those rare crops that can take nitrogen as a gas in the atmosphere and soil, and convert it into a useable nutrient. In spring, the crops are pulled from the roots, chopped with a hoe and turned back into the soil adding valuable nitrogen into your bed. This process is a *green manure*. At Morris, after we removed the old plants

and raked the soil, we planted winter wheat from seed on 3 beds to experiment with winter cover crops. We planted garlic.

Workshops and crafts

With the farm at rest, November is a good time for workshops and for making crafts to use as gifts for Christmas.

- We made a night cream using lanolin, almond oil, sunflower oil and lavender oil
- We made bird feeders using pine cones, bird seed, peanut butter and vegetable shortening
- We made a scented lotion using lavender, sweet orange and peppermint oil

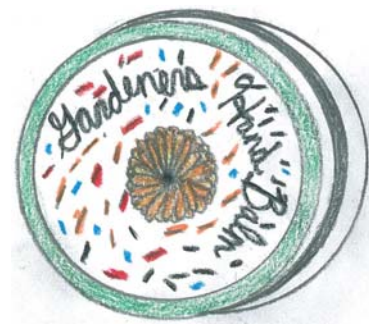
The ideas and opportunities for making things are many; working with herbs, flowers, essences and plant oils allows us to remain in touch with the farm and enables us to share its gifts with our friends and families through winter.

Thick Winter Hand Cream

- 3 parts cut up beeswax in small chunks (1 cup = 3 parts)
- 3 parts olive oil
- 3 parts jojoba oil (if you want it richer, don't use jojoba oil but make it all olive oil. Jojoba is absorbed more quickly while olive oil stays on your skin)
- 10 teaspoons shea butter (shea is extracted from a nut grown in West Africa)
- 2 ½ teaspoons lanolin
- 2 teaspoons vitamin E oil
- 2 teaspoons rose hip seed oil
- 2 teaspoons witch hazel
- Handful dried calendula flowers
- Several drops of one or more essential oils of your preference
- Double boiler, 1 pot, strainer, spoon and tins or containers

Unless you already have an olive oil infusion, put olive oil, dried calendula flowers and witch hazel into the pot, heat oil and let it simmer for 20 minutes so the active ingredients of calendula and witch hazel are infused into the oil. Make sure you use low heat so the plant parts don't stick at the bottom of the pot and burn (if you use jojoba oil, this comes later, it should not be heated that long).

At the same time, measure the other ingredients and melt the beeswax until it is completely liquid. Strain calendula flowers and witch hazel out of the olive oil and make sure the same amount of oil remains and you don't lose oil by straining the flowers. Gradually add oil infusion, jojoba oil, shea butter, lanolin, vitamin E and rose hip seed oil to the liquid beeswax. Stir while blending it all together. Then turn down the heat and add essential oils, stir the mixture for a few moments to make sure the fragrance is right. Essential oils evaporate quickly so you want to add



them at the end with lower heat. Also it is good to use a maximum of two different fragrances that go well together. More than two makes it difficult to distinguish the scents. If you use plastic containers, let the mixture cool for approximately four minutes. Pour the mixture into tins or containers and let it cool a while before closing them.

HINT: A great source for all the materials you need to make these products can be ordered from Glory Bees, a small company based in Eugene, Oregon – www.Glorybees.com. They have an extensive catalogue on-line.

Winter

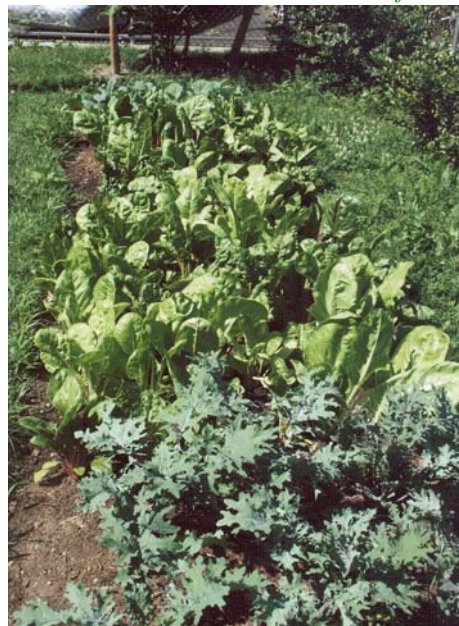
December and January gives the farmer time to assess what worked and what did not, and what changes to make over the coming year. Review the notes you made during the seasons. Take stock of all your knowledge and experience and put it to use the following Spring. Read over the seed catalogues and find new varieties that will make your farm interesting. Experiment. Expand. Compost. And most of all – keep growing!

Impressions: Looking back it is amazing to see all that we have accomplished with our farm – from the hard work to enjoying the fruits of our labor. It seems that we still have much to learn and do to make our farm prosper. Much has changed over the year – not in just this backyard space, but something inside us as well. As we rest in December we also look forward to our work on the farm next Spring.

BEFORE: The Morris Avenue backyard



AFTER: The Morris Avenue urban farm



ABOUT THE ORGANIZATIONS

The Bridge Inc., founded in 1954, is a leading New York City-based mental health, rehabilitation and housing agency that works with New Yorkers with serious mental illness, the homeless, people with substance abuse disorders and HIV/AIDS. Horticulture and this urban farm have become important activities that provide clients with work training and paid employment, a food source, and education about good nutrition and health. This program is part of the agency's initiative to integrate health and mental health to improve quality of life.

The Horticultural Society of New York, founded in 1900, works with community organizations to create rooftop and community farms in urban settings for children and adults. Through this process, HSNY staff members teach people of all ages horticulture skills. These community projects also provide paid work for interns of the Riker's Island Greenhouse Project and its GreenTeam (inmates who have been trained in horticulture).

The Bridge Urban Farm expands the unique partnership between the two organizations to benefit New Yorkers in many ways. Much of the greening of New York City - in Manhattan, the Bronx, Queens, Brooklyn and Staten Island - is being made possible through partnerships like these.

The Bridge Inc.

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