

# **A Young Farmer's Guide to Sustainable Farm Management**

**How to start and manage a farm that's healthy for the environment,  
your finances and for you.**

**by Allegheny Mountain School Fellow, Emily Lawrence**

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## **INTRODUCTION**

So you are interested in becoming a farmer? I am sure you have already heard the scary statistics about how farmers don't make any money and how there are no young farmers anymore. In 2012, the median annual wage for agricultural workers was \$18,910 which equates to \$9.09 an hour, assuming a 40 hour work week (<http://www.bls.gov/ooh/farming-fishing-and-forestry/agricultural-workers.htm>). Also in 2012 the average age of principal farm operators was 58.3 years old and this number is increasing ([http://www.agcensus.usda.gov/Publications/2012/Preliminary\\_Report/Highlights.pdf](http://www.agcensus.usda.gov/Publications/2012/Preliminary_Report/Highlights.pdf)). Soon these farmers will no longer be able to run their own farms and the younger generation will have to take over. If sustainable farming is truly something that you are passionate about, don't let these numbers scare you off. Running your own small-scale farm will be no easy task, but it can be done and it will be a very rewarding experience.

## **PERSONAL FINANCES**

The first step to starting your own farm is to make sure that your personal finances are in order. It is a good idea to save up three to six months worth of living expenses, in addition to the expenses you will need to start your farm. Also make sure that you have a good personal credit score. The higher your credit, the better your chances of getting a larger loan at a lower interest rate.

From the very beginning, keep all personal and business finances separate. Make sure that you have funds to invest in your own business. This will increase the likelihood of others investing in your business. (Ü, 2013)

## **CHOOSING AND BUYING LAND**

The first step to choosing a good plot of land, is to find a livable city that will have a good customer base and then search around it for farm land. Once you find a piece of land that you like, spend time there at different times fo the day and night to observe. Check for weird smells, flight paths, noises, etc.

Remember that no property will be perfect, but here are some of many important things to look for: clean water from a drilled well or pond, quality soil, easily accessible from main road, no contamination from neighboring properties, good pasture land and good sun exposure for vegetables. It may also be a good idea to get a lawyer so figure out what rights you have on the property. For example, if you don't own the gas rights, then the gas company can come and do whatever they want on your land. (Levatino, 2011)

If you don't have the financial means to buy a piece of land you can always rent or lease land instead. There are long term leases that last for 20 to 30 years, although they may have some limitations to what you would like to do on the land. It could also be a good idea to look for a property without a house so that you can start from scratch and observe the land to see where the best house placement will be. (Levatino, 2011)

## **CONSIDER YOUR FIXED COSTS**

There are many costs that come with owning a farm. Real estate tax is one cost. In Highland County, real estate tax is about \$370 per \$100,000 of property value. There is also a trash tax of \$150 per residential dwelling. As far as insurance goes, there are many things you can choose to insure on your farm including: owner occupied dwelling, farm personal property and uncontrollable losses (<https://www.statefarm.com/insurance/home-and-property/farm-ranch>). These plans will range in price depending on your circumstances and what you want covered.

## **SET CLEAR GOALS**

Make sure that everyone involved in your farm has a clear understanding of what the goals of your farm are. Your goal statement should be a written, working document created in a goal-setting process in which all people central to the farm participate. The goal statement should address your quality of life goals, forms of production goals and future resource base goals (Hendersen & North, 2011).

You can determine your future resource base goals by answering the following questions:

What must the social, economic and physical environment be like on the farm far into the future for your production and quality of life goals to become possible?

What must you be like in the future?

What must the land be like in the future to support the quality of life you desire?

What must your community be like in the future to support the quality of life you desire?  
(Hendersen & North, 2011)

Along with helping you run a successful farm, your goal statement will help you to formulate a business plan and raise money to execute that plan.

## **WRITE A BUSINESS PLAN**

A well formulated business plan is critical for attracting capital for your farm. When writing your business plan be sure to keep your language practical and discuss solutions for problems that may arise. If you discuss a timeline for projects in your plan, be sure to build in a longer ramp up period than you might hope. Make sure that you and your business partner(s) agree with and know every aspect of your plan. The most important piece of your plan should be an explanation, to investors, of how your business is going to survive. Also, clearly identify any thresholds you must overcome to be able to start your farm. (Ü, 2013)

## **BUILDING CAPITAL**

If you are like most young people, you probably don't have enough money saved to cover the cost of land and your other fixed costs. Traditional small loans from banks are \$250,000. Although I'm sure you could use this money, it will be very difficult to pay back with the amount of money you will be making farming. Here are alternative ways that you can build capital so you can start your farm. (Ü, 2013)

Online crowdfunding is a good option. Crowdfunding is a way to raise small amounts of money from lots of individuals in your community. The money will be considered a gift so you won't have to pay anyone back with interest. You will set a specific goal for an amount you would like to raise and post that on a crowdfunding website along with a brief story about you and your farm business. Some popular crowdfunding websites are Kickstarter, IndieGoGo, StartSomeGood, Credibles and Three Revolutions. (Ü, 2013)

Next, you can invest in your own business by taking out a personal line of credit. This essentially means that you are borrowing money from yourself and then using that credit for business purposes. You should draft a formal agreement between yourself and your business to account for the investment you make to your business from your personal funds. Lending institutions will look at the following when deciding if they will approve you for a line of credit: how much you want to borrow compared to the value of your collateral, how much other debt you are carrying and your earning power. It will be easier to take out a line of credit while you are still employed. (Ü, 2013)

Peer-to-Peer Lending is another option. Lending Club and Prosper are two of the major online platforms that connect borrowers with lenders. After you fill out an online application and the platform checks your credit rating, they will assign you an interest rate based on how risky your situation is. A description of your loan and financial info will be posted on their website. You will have access to a vast pool to lenders and the interest rates are usually 20-30% less than credit cards. (Ü, 2013)

Direct loans from friends and family are another good choice. Since you are a farmer, you may be able to pay interest in kind (in the form of produce instead of cash). Make sure to explain all of the difficulties of farming to your investors. Make sure to formally document loans and have a good payment tracking system in place to clear up any misunderstandings. (Ü, 2013)

Selling equity is the final option I will talk about, although there are many other ways to raise money. Individuals and angel investors can invest in your company by buying shares. An angel investor is a wealthy individual who can invest their money at a very early state in a company's development in exchange for a portion of the company's equity. The easiest way to find angel investors is through a local angel group. (Ü, 2013)

Now that you have raised enough money to start your farm, it is time to build structures and fencing, install a watering system and buy equipment.

## **STRUCTURES**

Most importantly, you will need to build a house if there is not already one on the property. New farmers tend to try and build their own houses out of as much salvaged material as possible to cut down on costs. You will also need to build structures for housing your animals as well as a hoop house or greenhouse to extend your vegetable growing.

## **FENCING**

Fencing is important to keep predators out and your animals in. It is also important to fence off any springs from your animals to help prevent erosion and water pollution. High tensile fencing for your garden plus a couple strands of electrical fencing will be a good idea for your garden. This will prevent larger animals from jumping in and smaller animals from getting through gaps in your fence.

Barbed wire fencing will probably be enough for your animals that are out to pasture. Especially if they are also contained within portable electric fencing that is part of a rotational grazing system. “Rotational grazing is a process whereby livestock are strategically moved to fresh paddocks, or partitioned pasture areas, to allow vegetation in previously grazed pastures to regenerate” (<http://www.hrwc.net/rotationalgrazing.htm>).

## **VEHICLES AND EQUIPMENT**

A tractor is the biggest piece of equipment that you may want to buy for your farm. You definitely don't need to buy one right away so consider carefully. A tractor with a front end loader can be used to move mulch and other heavy stuff. You can also get an attachment for tilling your beds, a bush hog for mowing fields and a back hoe for digging a pond. If you can afford it, a 4 wheel drive tractor is the best. Horsepower doesn't matter too much unless if you are doing heavy field work. The best idea is to find the closest dealer and buy that type of tractor, so it can be fixed easily. Most importantly make sure the tires are in good condition, new tires are very expensive. (Levatino, 2011)

A walk behind tractor is a smaller more manageable option for tilling and shaping beds. They are cheaper than a regular tractor, but they are also a lot more time consuming and physically taxing to work with. Walk behind tractors cost about \$2000.

You will also probably need a good farm truck to transport veggies to your customers in. You can buy a good used farm truck for about \$4000.

## **WATER**

It is very important to establish a watering system for your crops. Irrigation lines will probably be the best idea. Overhead and drip irrigation are your two main options. 30-40% of the water is lost with overhead irrigation, so unless if a specific plant likes overhead irrigation, drip irrigation will be your best bet. You can run drip irrigation from your well or from rain barrels. You will also need a water pump, filter and/or water pressure regulator. For a one acre garden, your irrigation costs should be about \$2000.

## **VEGETABLE GARDEN**

To establish your vegetable garden, you can shape parallel raised beds with a walk behind tractor. Before you plant any veggies, be sure to come up with a detailed planting map that includes second planting successions for each bed. When planning your gardens after the first year, be sure to rotate all of your crops so that plants of the same family are never planted in the same bed two years in a row.

As a small-scale, sustainable farmer it is important to try to minimize costs for inputs as much as possible. You can minimize inputs by making your own compost and compost tea, getting free woodchips and wood shavings, cover cropping to improve soil health, saving seed, raising worms, etc. However, it takes a while to learn how to do all of these things so you should plan on spending around

An acre of vegetables is more than enough for one or two people to handle. The garden will easily consume all of the time you have left after caring for the chickens and goats. Garden expenses highly variable from garden to garden. Here is just one example of how the numbers might work out:

Expenses	
One-time Expenses	
\$1,000.00	Hoophouse
\$2,500.00	Equipment and tools
\$1,500.00	Fencing
\$2,000.00	BCS Walk Behind Tractor
\$2,000.00	Drip Irrigation
<b>\$8,000.00</b>	<b>Total amount of one-time expenses</b>

Annual Expenses	
\$1,750.00	Seeds per year
\$1,600.00	Soil amendments
\$62,400.00	Labor at \$15/hour for 2 people working 40 hours a week
<b>\$65,750.00</b>	<b>Total expense of garden per year</b>
<b>\$73,750.00</b>	<b>Total expense of garden the first year</b>

## METHODS FOR SELLING VEGETABLES

### WHOLESALE TO RESTAURANTS

One dependable and consistent way to sell your vegetables is to sell them in large quantities to restaurants. Without an organic certification, it may be difficult to get the prices you deserve if you are growing organically on a small scale. Selling wholesale also requires growing larger amounts of just a couple crops. These can be your cash crops that support your farm and then you can still grow a variety of crops on the side. Here is an example of the expenses and revenue of selling garlic wholesale. You don't make nearly as much as you could if you sold the garlic piece by piece at the farmers' market, but you are also not guaranteed to sell all of your garlic at every farmers' market.

Expenses	
<b>\$300.00</b>	<b>Garlic to cover 1000 square feet</b>
0.02	Portion of an acre that 1000 ft <sup>2</sup> covers
4000	Maximum number of cloves of garlic that can be planted in 1000 ft <sup>2</sup> area
4000	Maximum number of heads of garlic that can grow from 1000 ft <sup>2</sup> area
8	Number of heads of garlic in a pound

Revenues	
\$90.00	For 30 lbs of garlic ( <a href="http://rodaleinstitute.org/farm/organic-price-report-tool/">http://rodaleinstitute.org/farm/organic-price-report-tool/</a> )
\$3.00	Price per pound of garlic
\$8.00	Price per pound of garlic if each head is sold separately for \$1
<b>\$500.00</b>	<b>Maximum amount made on garlic harvest if charge \$3 per pound</b>
\$4,000.00	Maximum amount made on garlic harvest if charge \$8 a pound
\$3,500.00	Amount lost on garlic harvest by selling wholesale

### CSA

CSA stands for Community Supported Agriculture. People buy a share of the farm's harvest in advance and then receive vegetables weekly throughout the growing season. If all goes well, they should receive enough vegetables to feed their families for that period of time. Pickups usually take place at the farm or at a central location in town.

Running a CSA is the most secure way for a farmer to sell their veggies. The farmer receives all of the money they need to buy seed and supplies for the season before it even starts and they don't have to worry about losing money if any of their crops do not make it. At the same time, it can benefit the CSA members because they will get extra vegetables if it is a very good season for the farmer.

Traditionally, farmers added up the costs to run their farm and then divided that by the number of members to see how much to charge per share. Depending on the length of the season and size of share, CSA shares range from \$400 to \$900 (<http://growing-small-farms.ces.ncsu.edu/growing-small-farms-csa-guide/>). Here is an example of how the CSA pricing might work.

<b>Revenues</b>	
\$65,750.00	Total revenue from selling CSA shares garden expenses per year divided evenly among members
<b>\$1,095.83</b>	<b>Price of CSA share for season if there are 60 members</b>

If the labor expenses for running the garden are included in the calculation of how much it costs to run the farm for a season, the CSA share price goes above \$900 so it may be difficult to sell these CSA shares if more people don't sign up to become members.

If choosing to sell through a CSA, make sure that you have plenty of variety each week. If you would rather specialize in just a few vegetables or products you may want to consider selling at the farmers' market or wholesale instead.

When deciding how you want to run your CSA ask yourself the following questions:

Which stakeholders do I want to include in the program design process?

Do I want to collaborate with other producers or retailers?

What to include in standard share?

Will members have choices regarding what they will and won't receive?

How often to deliver shares/have share pickups?

How much to charge for shares?

What discount to offer for customers for paying in advance?

Where will the pickup location be?

What happens if members can't collect shares?

How to communicate news?

What is a good yearly contract amount? (Ü, 2013)

## **WINTER CSA**

Usually CSA's only run during the normal growing season. Another idea is to add a winter CSA that will only have winter hardy vegetables or maybe even just winter hardy greens. Since there is less available, the monthly fee would be lower. However, since there are few other sources of fresh vegetables during the winter, this could be a great way to supplement your profits from the regular growing season.

## **FARMERS' MARKET**

Farmers' market are constantly growing in popularity. They are great for building community and providing fresh produce to people all over the US. Although, the market is a great place to advertise your products as well as build personal relationships with your customeres, it is not right for everybody. "I've had new vendors starting out in the past who expected to show up the very first day, and sell out. It generally, if ever, does not work that way. Vendors need to take the long view when deciding if direct sales at the market are right for their business plan. It takes a while for people to try the product, like it, and come back for more. They need to build a customer base and return visits – the good thing is, if they have a quality product, that WILL happen – it just takes time" (Scott Smith, Highland County Farmers' Market Manager).

If you do choose to sell at the farmers' market, here are some pieces of advice you might find helpful:

- Have signage that goes beyond just pricing. Try including weight, cooking instructions and any other valuable information.
- Charge what its worth. Is it rare or organic?
- Don't be afraid to change prices throughout the season
- Give samples
- Suggest cooking and preserving ideas
- Eat your own food
- Give customers personal opinions
- Share the best ways to store vegetables
- Quality is everything
- Choose good varieties and breeds
- Have something to sell all season
- Sell a variety of products
- Work with the market manager
- Cultivate regular, local markets
- Restock constantly and always put produce in the smallest container in which it fits
- Don't be afraid of competition
- Bring photos of your farm
- Be cheerful and active
- Perfect your marketing equipment
- Share your sales information to insure the success of farmers' markets in general (<http://www.newfarm.org/features/0504/farmmarkets/>)

Here is an example of expenses and revenue from selling at the farmers' market:

<b>Expenses</b>	
\$40.00	Fee to Farmers' Market per week, if attending two markets per week
\$680.00	Total fees for two Farmers' Markets a week for short season market (June through September – approx. 17 weeks)
\$1,200.00	Total fees for two Farmers' Markets a week for long season (April through November – approx. 30 weeks)
	Gas cost for transportation of veggies for two markets in a week (Assuming 50 mile drive round trip, \$3.20/gallon cost of gas and average gas mileage of 17 miles per gallon) < <a href="http://www.fuelgaugereport.com/">http://www.fuelgaugereport.com/</a> >
\$18.82	
\$319.94	Total gas cost for short season (17 weeks)
\$564.60	Total gas cost for long season (30 weeks)
<b>\$999.94</b>	<b>Total cost for short season</b>
<b>\$1,764.60</b>	<b>Total cost for long season</b>
8	Hours of labor per market (Assuming 4 hour long market with 4 extra hours for packing veggies, set up and break down)
16	Hours of labor per week
272	Total hours of labor for short season
480	Total hours of labor for long season

<b>Revenues</b>	
\$250.00	Average amount made per market for small scale farm
<b>\$8,500.00</b>	<b>Total amount made from 2 Farmers' Markets a week for short season (17 weeks)</b>
<b>\$15,000.00</b>	<b>Total amount made from 2 Farmers' Markets a week for long season (30 weeks)</b>



## LIVESTOCK

There are many different options for types of livestock to raise. Some are more low maintenance than others. Some are cheaper to raise than others. For any type of livestock, it is important to check on all of your animals at least once a day and socialize with them as much as possible so they will be less aggressive to guests, other animals and to their babies.

When it really comes down to it, you have to raise the types of animals that you enjoy caring for. On my farm I am hoping to have goats and chickens. I also have the most experience with goats and chickens so I will use them as examples in this guide.

## CHICKENS

Chickens are a good starter animal for any new farmer. It is relatively cheap and easy to raise chickens. As the owner of a small-scale sustainable farm, you will want to provide the chickens with as much food from your farm as possible. You can give them access to your compost pile as well as to beds that are ready for a new crop rotation. They will scratch up and add nutrients to the compost and soil and during that process they will get all of the protein they need from the insects and grubs they dig up.

It is a common misunderstanding that you should keep your chicken feeders full of grain at all times. If you only feed your chickens enough grain to get them to go into their coop at night, they will be encouraged to forage for more of their own food and will get plenty of the nutrients they need.

You can just let your chickens free range, or you can include them in a rotational grazing plan with your goats. This way, the chickens will eat whatever food and parasites the goats have left behind and it will give your pasture a chance to regrow between rotations. When allowing your chickens to free range, you may have to watch out for hawks or owls. One way to protect them against predators is to have a guard dog like a Great Pyrenees.

Here is an example of the expenses and revenues associated with have a flock of 24 hens with one rooster. This example assumes that you will be brooding and hatching your own chicks as opposed to buying new chicks every couple of years.

<b>One-time Expenses</b>	
\$310.50	Cost of electric fencing to include chickens in 16 pasture rotation following goats
\$500.00	Year round egg mobile building supplies
\$100.00	Chicken tractor building supplies
\$35.00	Metal Waterer ( <a href="http://www.tractorsupply.com/">http://www.tractorsupply.com/</a> )
\$20.00	Hanging feeder ( <a href="http://www.tractorsupply.com/">http://www.tractorsupply.com/</a> )
\$15.00	Chick feeder and waterer
\$20.00	Price for one pullet
\$480.00	Price for 24 pullets
\$10.00	Price for 1 rooster (will be able to fertilize eggs from 10-12 hens)
\$510.00	Total Expenses for 25 pullets
<b>\$1,490.50</b>	<b>Total One-Time Expenses</b>

<b>Annual Feed Expenses for 25 Chickens</b>	
0.25	Average pounds of food eaten per day per chicken ( <a href="http://www.tractorsupply.com/">http://www.tractorsupply.com</a> )
6.25	Average pounds of food eaten per day for flock of 25
1.56	Avg. lbs of layer feed needed per day for 25 free ranging chickens with access to compost and cover crops
569.4	Pounds of layer feed needed for the year
11	Number of 50 pound bags of layer feed to purchase each year
\$27.50	Cost of 50 lb bag of organic, soy-free layer feed
<b>\$302.50</b>	<b>Total amount spent on layer feed per year</b>

<b>Chick Expenses (Every 3 years)</b>	
21	Number of days it takes a broody hen to hatch chicks
12	Number of eggs that a full sized broody hen can safely keep covered
6	Assuming that the rooster can only fertilize half of the eggs, this many chicks will hatch
3	Number of pullets to expect per batch of chicks
8	Number of times you will need to put eggs under a broody hen(s) in a year to replace all 24 chickens in flock
1	Average pounds of food eaten per day by 25 chicks from 0 weeks to 18 weeks of age
18	Number of weeks to reach sexual maturity
126	Number of days to reach sexual maturity
126	Pounds of grower feed needed to reach sexual maturity
3	Number of 50 pound bags of grower feed to purchase for first 18 weeks of chickens life
\$29.50	Cost of 50 lb bag of organic, soy-free grower feed
\$88.50	Total amount spent on grower feed
36	Number of hard-boiled eggs fed as supplement for extra protein
\$18.00	Value of 3 dozen eggs
\$15.00	Price for 2 pounds of fish meal
3.78	Pounds of fish meal needed to supplement for 3% of diet ( <a href="http://www.sprcentre.com/Online-Shop-Categories/Poultry">http://www.sprcentre.com/Online-Shop-Categories/Poultry</a> )
\$30.00	Price for 4 pounds of fish meal
\$136.50	Total amount spent on feed for 18 weeks every 3 years for chicks
<b>\$1,929.50</b>	<b>Total Chicken Expenses for First 3 Years</b>
<b>\$643.17</b>	<b>Average Expenses/Year for First 3 Years</b>
<b>\$439.00</b>	<b>Total Chicken Expenses for Every 3 Years Following</b>
<b>\$146.33</b>	<b>Average Expenses/Year for Every 3 Years Following</b>

<b>Revenue</b>	
2	Average number of eggs laid per day for every 3 layers in flock
16	Average number of eggs laid per day for flock of 24
5800	Expected number of eggs per year from flock of 24 (rounded down to account for winter months)
483	Number of cartons of a dozen eggs produced per year
<b>\$2,898.00</b>	<b>Revenue per year from selling eggs at \$6 a dozen</b>

<b>Income</b>	
\$2,254.83	Average Income per year for first 3 years
\$2,751.67	Average Income per year for year 4 and onward
<b>\$2,000.00</b>	<b>Average Income for all years rounded down to account for unexpected expenses</b>
<b>\$5.48</b>	<b>Average Amount made per hour for chickens assuming you spend 365 hours in a year</b>

## GOATS

Goats are a great animal to raise for milk because they are easier and cheaper to care for than cows and they require less pasture land. Goat milk is also more easily digested than cows milk and when consumed raw, provides benefits for the digestive tract. It is easy to start out with two dairy goats that are in milk, but keep in mind that if you want to keep getting milk year after year, you will have to breed your goats each year and then figure out what to do with the kids. Each doe will peak in milk production around three years

The average doe has two to three kids for each birth. This means that two does could turn into eight goats total by your second year. Make sure you have a plan for any goats that you do not want to keep. Although milk goats can't usually be sold for meat, you can choose to have goat meat for your family and make delicious stews. You can also sell your goats for a good price if you get them registered. If you do not register your goats, you may be lucky enough to have friends who are interested in buying them. The other option is to bring them to a sale barn where they may only be sold for \$75 per goat if you are lucky.

In addition to milking your goats every day, you will need to trim their hooves every three months, care for wounds, injuries and illnesses, tend to mothers and kids during kidding season and handle pen and fence repairs. Hoof trimming can be done less often if you put several rough cinder blocks in their pen to jump around on. Some people also disbud their goats because their horns can get stuck in fencing and cause injury. (Belanger and Bredesen, 2010)

Goats need good, sturdy housing that will keep them dry and lock securely at night. They will also need a small fenced in area next to their housing so that they can go in and out. Goats are master escape artists, so make sure that gates lock and that all fencing has a row of chicken wire zip-tied along bottom to prevent them from crawling underneath.

As you can see on the cost/benefit chart for the dairy goat herd share, dairy goats are very expensive and time consuming to keep. Since the goal of this guide is to farm as self-sufficiently as possible, here are some ways to cut down on costs. (For the sake of our calculations we will keep all costs in the chart since they are already pretty minimal. This will provide a buffer when calculating how much profit will come from having two dairy goats.)

One way is to make sure that you purchase land that has good quality pasture. This way you will only need to provide hay during winter or if it is raining. Good quality pasture has a variety of grasses and legumes as well as woody plants. Make sure that your pasture is relatively free of weeds toxic to goats. Some of these weeds are: dock, hemlock, milkweed, mountain laurel, oak leaf and sorrel. (Belanger and Bredesen, 2010)

To supplement for some purchased grain, you can plant a goat garden which usually contains the following: sunflowers, mangel beets, Jerusalem artichokes, pumpkins, comfrey, carrots, kale and turnips. You can also feed your goats carrot, apple and sweet corn leftovers. Just make sure that you are feeding each goat at least one pound of concentrated grain mix per day during their lactation cycle. (Belanger and Bredesen, 2010)

Here is a list of expenses and revenue that you may see from raising two dairy goats for milk:

<b>One-time Expenses</b>	
\$600.00	2 Full Sized Dairy Goats
\$300.00	Shelter building materials and maintenance
\$14.00	Hoof trimmer
825	Feet of fencing for one acre
\$1.48	Cost of barbed wire fencing per foot of fence line if you also pay for labor ( <a href="http://www.extension.iastate.edu/agdm/li">http://www.extension.iastate.edu/agdm/li</a> )
\$1,221.00	Total cost of barbed wire fencing for one acre
207	Feet of portable electric fencing needed for 16 section rotational grazing within one acre
\$1.50	Cost per foot of portable electric fencing ( <a href="http://www.premier1supplies.com/fencing.php?mode=detail&amp;fence_id=85">http://www.premier1supplies.com/fencing.php?mode=detail&amp;fence_id=85</a> )
\$310.50	Total cost of portable electric fencing
\$280.00	Solar charger for electric fence ( <a href="http://www.premier1supplies.com/fencing.php?mode=detail&amp;fence_id=85">http://www.premier1supplies.com/fencing.php?mode=detail&amp;fence_id=85</a> )
\$50.00	Stainless steel basic milking kit for hand milking
\$96.00	36 half gallon jars for milk share
\$200.00	Metal Stanchion (can be built by hand out of salvaged wood instead – may not last as long)
<b>\$3,071.50</b>	<b>Total One-Time Expenses</b>
<b>Annual Expenses</b>	
\$10.00	Cost of High Quality Alfalfa Hay per 50 pound bale
3	Pounds of Hay eaten per day per goat (with pasture)
1095	Pounds of Hay eaten per year
22	Bales of hay eaten per year
\$220.00	Cost of Hay to feed goat for one year
\$440.00	Cost of Hay to feed two goats for one year
\$0.30	Average Cost of Grain per pound
3	Pounds of grain concentrate eaten per day
915	Pounds of grain concentrate eaten during 305 day lactation period
\$274.00	Cost of grain concentrate for one goat for 305 day lactation period
\$548.00	Cost of grain concentrate to feed two goats for 305 day lactation cycle
\$22.50	Price of 50 lb bag of kelp – for free choice supply - <a href="http://www.countrysideorganics.com/(goats%20well%20fed%20on%20a%20variety%20of%20herbs%20and%20minerals)">http://www.countrysideorganics.com/(goats well fed on a variety of herbs and minerals)</a>
\$10.00	Cost of oil for comfrey salve – to treat minor cuts and wounds
\$20.00	Worming Formula ( <a href="http://www.fiascofarm.com/herbs/mollysherbals.php/products/herbal-worm-formula-kit">http://www.fiascofarm.com/herbs/mollysherbals.php/products/herbal-worm-formula-kit</a> )
\$10.00	Bandages
\$18.00	Milk filters ( <a href="http://hambydairysupply.com/">http://hambydairysupply.com/</a> )
\$100.00	Raw milk testing fees
\$300.00	Stud Fee for two does
2	Average number of kids per birth per doe ( <a href="http://fiascofarm.com/goats/kidding.htm">http://fiascofarm.com/goats/kidding.htm</a> )
4	Expected number of kids from both does
\$20.00	Registration fee per goat
\$80.00	Registration fees for 4 kids
<b>\$1,548.50</b>	<b>Total Annual Costs</b>
<b>Revenues</b>	
\$20.00	Maximum price herd shares can be sold per gallon
187	Average number of gallons produced per year by one full sized dairy goat
305	Average number of days in lactation cycle
10	Number of months that a goat will produce milk per year
18	Gallons of milk produced per month per goat
36	Gallons of milk produced per month for two goats
32	Gallons remaining after subtracting 4 per month for family use
64	Number of half gallon shares available per month
16	Number of herd share members who can come pick up a half gallon share per week
\$160.00	Amount made per week from herd share with two goats
\$640.00	Amount made per month during 10 month lactation period
<b>\$6,400.00</b>	<b>Amount made for all 10 months of lactation period from herd share with two goats</b>
\$100.00	Average price for young buck
\$200.00	Average price for young doe
<b>\$600.00</b>	<b>Amount you can make from selling kids, assuming that two does and two bucks are born.</b>
<b>\$7,000.00</b>	<b>Total amount made per year</b>
<b>Income</b>	
<b>\$2,380.00</b>	<b>Income made during first year</b>
<b>\$2,000.00</b>	<b>Income made during first year if you round down for unexpected expenses</b>
<b>\$5,451.50</b>	<b>Income made each year after first year</b>
<b>\$5,000.00</b>	<b>Income made each year after first year if you round down for unexpected expenses</b>
\$5.48	Amount made per hour during first year (assuming 365 hours spent)
\$13.70	Amount made per hour for all consecutive years (assuming 365 hours spent)

## **FERTILIZATION/PEST CONTROL**

It is important to avoid sprays and organic fertilizers. These are unnecessary costs that are not always effective and can cause rapid growth of vegetables which will result in poor quality produce. Instead, just amend your soil with compost and compost tea.

The best way to build compost is with a three pile system using constant rotation. Contain your system from predators and cover so that the sunlight will not kill organisms that break down the soil. The fastest way to build your soil organic matter is to cycle biomass (grass and hay) through herbivores and compost the rest with manures that the herbivores produce.

## **CASH CROPS**

As farmers, it is fun to try and grow every single type of crop. However, it is important to specialize in at least a couple cash crops so that you can try to make ends meet. If you grow these crops really well, your customers will keep coming back for more. Consider crops that are in high demand, easy to grow in your climate, require very little maintenance and sell for a good price.

## **HIRING EMPLOYEES**

When you are first starting your farm, it will be very difficult and maybe even possible to have enough money to hire any employees. One option is to have an intern live on the farm with you and provide them with housing, food and just a small stipend per month. You can also try to get volunteers to come to help you with projects. Keep in mind that with anyone who is new to working on the farm, you will have to invest a lot of your time to train them and help them become familiar with your farm.

## **OTHER SOURCES OF INCOME**

Chances are, that you will not be able to afford to pay for all of your land up front so you will need to find other ways to make money to supplement your farming income. If you have a small guest cabin on your property, you can offer farmstays for a relatively cheap amount and encourage your guests to purchase your products. You can also use the farm as a wedding venue for up to \$5000 per wedding. Farm tours can bring up to \$100 per tour. Farm-to-Table dinners and school group days are another option. All of these options will take extra time and possibly extra money, but they will also provide free marketing for your farm.

## **KEEP DETAILED RECORDS**

Although records tend to be the first thing that gets neglected, it is very important to spend a little time each day updating them. You will basically need to keep records on every aspect of your farm but here is a list of things you should consider keeping records of:

Cost of all pieces of equipment

Amendments and pesticides you have purchased

Livestock feed, supplements and medications

Expenses for seeds and production aids (row covers)

Time and money spent marketing, delivering and selling farm products

Ongoing records of how much time, money and energy you spend on each crop, animal or project

Fixed costs – insurance, taxes, mortgage or rental payments

Farm income – review monthly so that your course can be readjusted as you go

At the end of each season you can review all of your records to figure out which crops are worth growing from an economic standpoint. Although, this certainly does not have to be how you decide everything that you grow.

Collect all pieces of paper that represent business transactions and put in a hard filing system for reconciling your books. These include: purchase receipts and invoices, bank statements and checkbook register (balance checkbook), credit card statement, other bills, sales invoices, mileage register for personal vehicles

used for business purposes, payroll records, staff timesheets and contractor invoices (keep track of your own time as well). Enter all of the above into some form of accounting software, which can later be used to generate reports to help manage your business. (Ü, 2013)

## DID YOU MAKE A PROFIT?

Let's look back at our expenses and revenues for each part of our example farm and see if we made a profit overall. For the purposes of this exercise let's assume that you will bought a 3 acre plot of land that costs \$150,000 and you were able to pay \$75,000 out of your own pocket. So you still owe \$75,000 for the land, which may take a few years to pay off. We will also assume that you have chosen to sell your veggies at the long season farmers' market as opposed to having a CSA or selling wholesale.

<b>Expenses</b>	
\$75,000.00	Land
\$4,000.00	Farm Truck
\$8,000.00	One-time garden expenses
\$65,750.00	Total expense of garden per year
\$1,764.60	Expense to attend long season farmers' market
\$3,071.50	One-time goat expenses
\$1,548.50	Annual goat expenses
\$1,490.50	One-time chicken expenses
\$643.17	Average annual chicken expenses for first three years
<b>\$161,268.27</b>	<b>Total first year expenses</b>
\$65,750.00	Total expense of garden per year
\$1,764.60	Expense to attend long season farmers' market
\$1,548.50	Annual goat expenses
\$643.17	Average annual chicken expenses for first three years
<b>\$69,706.27</b>	<b>Total second year expenses</b>
<b>Revenues</b>	
\$15,000.00	Revenue from long season farmers' market
\$7,000.00	Goat revenue per year
\$2,898.00	Chicken revenue per year
<b>\$24,898.00</b>	<b>Total first year and second year revenues</b>

As you can see, you will not even come close to breaking even during your first or second year. This is why you should try to pay off as much of the land as possible and look into many different options for how to sell your products. Remember that had we sold our veggies through a CSA that all of the garden expenses would have been paid off. You can also put the following pieces of advice from seasoned farmers into practice and that may also make it possible for you to make money.

## ADVICE FROM FARMERS

### BE FLEXIBLE

Farming is one of the most difficult careers there is. Although there is nothing that will change that, it is important to get used to rolling with the punches. Have a business plan when you start your farm, but remember that it all has to grow organically (Levatino, 2011). Producing a diversity of products on your farm will help you to be more flexible as well. This diversity will provide some room for less than ideal growing conditions.

## **BE FINANCIALLY SMART**

Avoiding debt is the best way to stay out of financial trouble. If you are starting a farm with a partner, one or both of you could continue to work another job while the farm is in its beginning stages. You can also try to live and work as cheaply as possible.

Use repurposed and scavenged materials wherever possible. If you do have to buy materials, try to buy the cheapest ones you can that will still serve your needs. Start small and add new pieces to the farm very slowly. When you are deciding whether or not to spend money on something ask yourself, will this address the root cause of my problem? You can also estimate your gross income and then limit your expenses based on the profit you think you need to achieve your ideal quality of life. (Henderson & North, 2011)

## **VALUE YOURSELF**

Make sure that you can pay yourself a salary at some point. Always look back at your quality of life standards when you making business decisions. Try to develop the farm, so it will become more and more self-sufficient over time and that way when you would like to retire it will take care of itself. Above all, always make sure that you are being healthy and safe (Levatino, 2011).

## **REST**

There will always be a non-stop list of things to do on the farm. Make sure to take at least one day off a week. If you burn yourself out by doing too much work, your farm may not be sustainable for very long.

## **DEVELOP PERSONAL RELATIONSHIPS**

Develop relationships with your customers. The farmers' market is a good place for that. Also, get to know your agricultural extension agent. He or she can help you out, or at least point you in the right direction, with lots of questions you may have.

## **UNDERSTAND YOUR PLACE IN NATURE**

It is important to be humble as a farmer and realize that nature should and will always take precedence. You might have beautiful crops one day and then the next day they might be wiped out by a storm or a pest. You should plan on having difficulties with nature, but also remember to respect nature.

One way to do this is by supplementing grid energy you may get with things like rain barrels and wood stoves (Levatino, 2011). Even though you may not be ready to live completely off the grid, as a farmer it makes sense for you to try to reduce your energy usage. It will save you money and help you reach your goal of being a sustainable farmer.

## **READ AND OBSERVE**

Live on your selected piece of land for at least a year before you start to establish anything. Read and research as much as you can about the farm components that you would like to have on your farm.

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