BUSINESS PLAN

rev. 6/2019

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1.0 Executive Summary

The Mon Valley Aquaponics (MVA) business is a new company that is being created to meet the needs of the Greater Pittsburgh Region, and certainly all of Allegheny County, in Pennsylvania, to help reverse the situation recently mentioned in the People's Gas Food21 study that states that only 2% of the food that is consumed in this area is actually grown here. As a coincidence, Juan Lacey, the President of the Mon Valley Aquaponics organization, had been working on a business model to solve this problem since sometime around 2006 after first hearing about aquaponics while working for Walmart's Sam's Club Division. Over the years between then and now he has looked at various business models, both good and bad, with some that definitely failed. He realized that the best models would be on a large commercial size and be patterned after a successful business model.

Over time he located Nelson & Pade that holds a number of US Patents on their systems, has a complete set of Standardized Operating Procedures and has an accomplished list of their systems running successfully around the world by people who have diverse backgrounds, not all in the agricultural industry.

With the system supplier identified, the only thing that was needed was to identify a funding source.

Not until the 2017 Opportunity Zone legislation was passed by Congress was there going to be significant path towards funding. Literally, over night the business found itself in an Opportunity Zone and the chance to not only grow the business in a significant way, but, also capable of significantly assisting our local community to grow jobs and increase the economy of our local town.

Location

The location where we hope to locate the business is in the Regional Industrial Development Corporation (RIDC) McKeesport Industrial Complex. We have selected a 30 acre spot in the McKeesport RIDC Industrial Park that was previously used to store large industrial pipes. The location runs parallel to the Monongahela River. Its location places it within a 20 minute drive time to downtown Pittsburgh and very close to the 2028 extension of the Mon Fayette Highway and its Duquesne, PA entrance to the highway that will allow for quick access to the Pennsylvania Turnpike to take commerce East and West, while the Mon Fayette Highway will grant access going South towards West Virginia and beyond.

Products

MVA will sell a variety of leafy green produce with the ability to grow specialty produce on an on-demand basis. With that said, we are going to focus on growing lettuce, strawberries and tomatoes in the beginning of our operations. These greens will be grown for use in salad mixtures, purchased by the end consumer as well as by restaurants who then serve it to their patrons. Because we have chosen to do this within an aquaponics frame work we will also be raising catfish and perch.

The Market

MVA has decided to target three distinct market segments, individual customers, restaurants and institutional buyers. The individual customers will be buying our products from various farmer markets located in the Pittsburgh, PA region. We will also concentrate on generating individual sales through Harvie, local Consumer Supported Agriculture (CSA) organizations and by selling through our website until we can develop our own mobile app to provide personalized shopping tools for our individual buyers. We also look to develop a home delivery service just to our local market. Our Restaurant sales will be made by using a very personal approach of visiting restaurants to allow them to taste test at their convenience. We will also attend restaurant friendly trade shows in our region to make contacts with chefs and restaurant owners. We view the restaurant market, in the Pittsburgh market to be a great opportunity for growth, since Pittsburgh has been getting high acclaim for its restaurant growth. Institutional customers include such targets as school districts, universities, and government agencies on the federal, state and local levels. We will have an advantage in competition for the institutional accounts because we will qualify as a Minority, Women and Disadvantaged Business Enterprise (MWDBE) contractor that allow us to obtain contracts. That plus that fact that the school districts will qualify, under the Federal Farm to School Federal program, giving them $10,000 each year, should help us to secure their contracts.

Competitive Edge

MVA will have a competitive edge over the competition, that is located out of state, because most consumers actually desire to purchase from growers who are local to their market. And, since we will make large strides to make ourselves known in our local community, we believe that we will have a competitive edge over those who are shipping their products into our area from hundreds of miles away. We also look to work with local agencies to promote their causes to lower heart attack, diabetes and other illnesses that can be lessened by eating wholesome foods. Besides the community causes that will help us advance our business, we will attempt tp leverage automation as much as possible to control our personnel cost. For instance, we hope to work robotic companies to come up with harvesting solutions to gather ripened produce and fruit to maximize our customer's eating experiences. We will also work at developing an online system to provide our consumers with information about the growing history of their products. This, in itself, will separate us from our competition that will fall susceptible to negative impacts from any national food recalls.

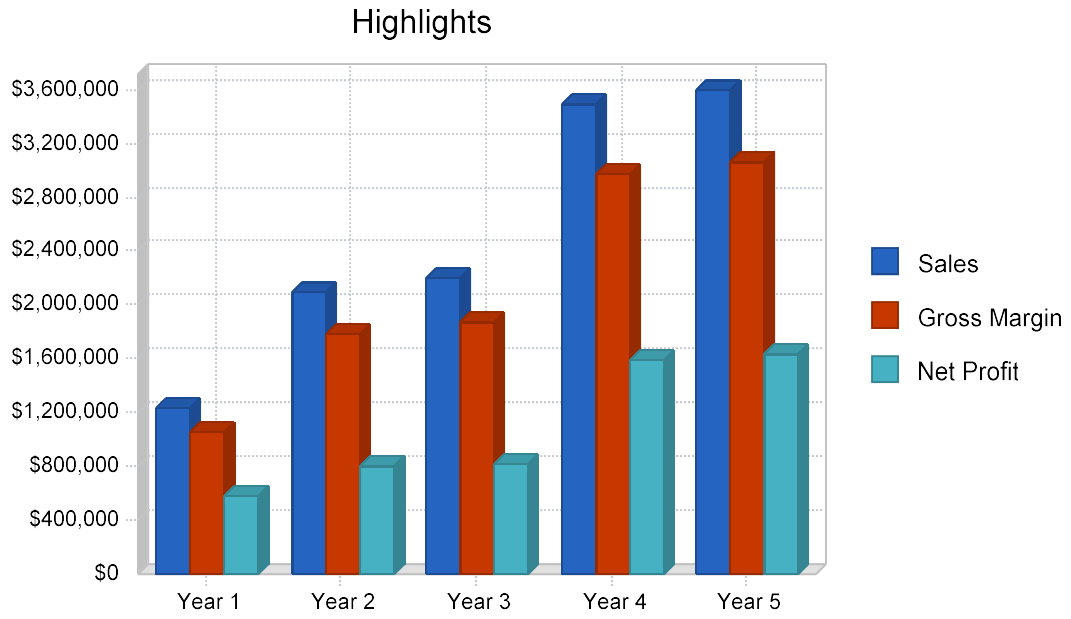
In this regard we are taking a page out of the successful Amazon business model that has as its core focus a desire to make the customer experience the best at all times by applying the following:

1. Better Customer Experience
2 Ease of User Selection
3. Low Prices
4. Great Customer Service
5. Provide More Information for our Customers Purchase Decision

While this is not a fundamental core focus of most farms that believe that if they grow it, they will buy it and eat it!

We believe that we owe it to our consumers to provide a product that can be traced back to its origin and an opportunity to understand how it was grown. The outstanding taste will stand up on its own merits!

Chart: Highlights



1.1 Objectives

The objectives for the first three years of operation include:

1. To create an commercial aquaponic farm company whose goal is to exceed customers' expectations based on profitable, dependable, efficient and sustainable operation practices.
2. To leverage the use of proven, science-based designed commercial aquaponics systems.
3. To utilize the latest developments in food safety technologies.
4. To have a major presence in at least to major produce wholesalers in the Pittsburgh region.
5. To develop a sustainable farm, surviving off its own cash flow.

1.2 Mission

Our mission is to be the leading purveyor of quality, science-based aquaponic systems, training and support and to promote and cultivate success for our customers in aquaponic food production, helping to fill the global demand for sustainably grown, premium quality fish and vegetables.

1.3 Keys to Success

The keys for success for the Mon Valley Aquaponics business are:

- We will use the Nelson & Pade patented growing systems. Nelson and Pade, Inc.®'s Clear Flow Aquaponic Systems® are designed based on scientific research and 20+ years of development, refinement and operation. Clear Flow Aquaponic Systems® produce higher quality fish and vegetables with increased production over other systems.
- We will start our growing systems with completed operation manuals and Standard Operating Procedures (SOPs) for all daily tasks.
- We will grow 12 pounds of produce versus 3 pounds of produce for every 1 pound of fish in our system.
- We will have established safe food handling guidelines.
- We will be looking to potentially use blockchain food safety systems
- We will become a certified minority supplier
- We will become a Minority, Women and Disadvantaged Business Enterprise.
- We will utilize all possible means to significantly lower our utility cost by using solar panels, water turbines and underground heating accumulation systems.
- We will offer produce / fruit for home delivery
- We will explore an upward scale of growth by expanding into small communities with growing systems built for those community consumption rates.

2.0 Company Summary

Mon Valley Aquaponics (MVA), soon to be located in McKeesport, PA, is a startup aquaponic farm. MVA work to deliver customer requested produce in short delivery aquaponic environment. We are looking to develop and operate a sustainable business housed in an environmental favorable structure that also is a positive employee environment where we can provide services like in-house daycare to assist our employee experiences.

2.1 Company Ownership

Mon Valley Aquaponics is a S-Corporation registered in the state of Pennsylvania. After the vast amount of its needed funding to company has been received it will be reorganized as a C-Corporation to permit limitless investments. The President of the corporation, Juan Lacey owns all 10,000,000 of the stock to be distributed to other board members and investors as the need arises in the near future.

2.2 Startup Summary

Mon Valley Aquaponics' start-up costs will include the cost to purchase the land, prepare the ground and then build the building foundation. It will also take care of the costs for the anchor building and the greenhouses to be constructed. The start-up costs also cover the costs for the growing systems, the cogeneration power unit, and the fish and seeds.

The largest part of the startup costs will go towards the greenhouses and the growing systems that go in them afterall we are going to build greenhouses over six acres of land.

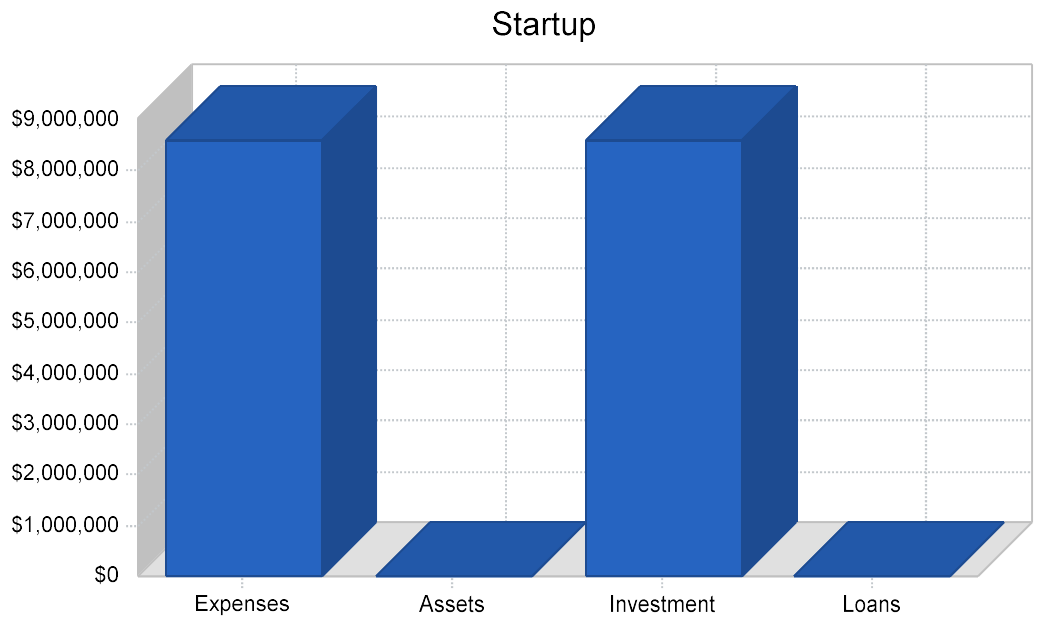
It should be mentioined that we are building the McKeesport location as a total solution model for our growing operations with the goal to eventually scale the operations by locating growing systems in smaller, more local communities that will allow us to offer more unique crops for diverse ethnic neighborhoods in a year-round basis.

Table: Startup

Startup Requirements	
Startup Expenses	
License - Fish	$200
Insurance	$5,000
Cogeneration Power Unit	$180,000
Greenhouses	$1,500,000
Expensed Computer Equipment	$3,500
Growing Systems - Lettuce	$1,700,000
Land	$2,500,000
Software	$150,000
Anchor Building and Greenhouse Site Preparation	$1,390,000
Water Treatment System	$20,000
Air Testing Equipment	$50,000
Growing Lights	$265,000
License	$200
Internet Service	$500
Plants (34,800 Strawberry Plants)	$6,264
Fish	$50,000
Training / Travel	$5,000
Uniforms	$6,000
Growing System (includes greenhouse without aquaponics components) - Strawberries	$303,376
Growing System (includes greenhouse without Aquaponics Components) - Tomatoes	$303,376

Assemble Strawberry Greenhouse	$75,000
Assemble Tomatoe Greenhouse	$75,000
Seed - Tomatoe (10K Rebelski)	$7,553
Plant Rafts	$3,300
Total Startup Expenses	$8,599,269
Startup Assets	
Cash Required	$0
Startup Inventory	$0
Other Current Assets	$0
Long-term Assets	$0
Total Assets	$0
Total Requirements	$8,599,269

Chart: Startup



3.0 Products

The Mon Valley Aquapponics operations will produce two types of products: Produce (including fruit) and Fish.

<u>PRODUCE (including FRUIT)</u> -

We will work to deliver customer requested produce in short delivery aquaponic environment. Our produce options include:

- lettuce
- strawberries
- hemp
- swiss chard
- kale
- collards
- herbs
- peppers
- tomatoes
- cucumbers
- beets
- radishes
- carrots
- green onions
- leeks
- beans
- peas
- kohlrabi
- cabbage
- broccoli
- cauliflower
- sunflowers,
- edible flowers
- aloe
- basil
- mint
- parsley
- cilantro
- rosemary
- oregano
- thyme
- sage

We will even have an environment be able to grow tropical fruit trees in our aquaponic systems! Yes, we can grow:

- bananas
- limes
- oranges
- lemons
- pomegranates

We must mention that at the present time, we anticipate that at some time in the near future we will perform our due diligence to develop the needed growing metrics to qualify all the information to effectively grow hemp. In fact, we will likely add hemp in the near future after we both installed and successfully operated our growing systems for our initial crop

selections. Hemp plants have been proven in other states to be a viable, profitable, alternative crop due to their low maintenance and high-yield proliferation. Hemp grows faster than corn, but is thought to be ecologically-friendly in requiring less water, pesticides, herbicides, fertilizer in outdoor farming environments. In our indoor farming environment, hemp promises to do even better. In fact, Nelson & Pade has already taken the initiative to advertise their growing systems can support hemp in an aquaponic growing system. We are very interested in the profit potential that comes from growing hemp because hemp has numerous industrial uses, including paper, textiles, biodegradable plastics, construction, health food, and fuel.

With that said, we are going to initially focus on growing lettuce, strawberries and tomatoes.

Lettuce -

Lettuce (Lactuca sativa) is the most commonly grown plant in aquaponic systems. This is not only due to the fact that it grows rapidly and is an essential part of most American's diet, but also because many varieties a home gardener or commercial grower may choose to grow do very well in aquaponics.

Leaf lettuce is a natural choice for aquaponics and it matures in an average of 40 days. That is a very quick seed-to-harvest time. Most aquaponic and hydroponic growers avoid the iceberg head lettuce varieties because they can take nearly twice as long to mature (80-90 days) and also contain the least amount of vitamins, minerals and taste.

In commercial hydroponic lettuce production, the common method of growing is with NFT (Nutrient Film Technique) where the plant roots tangle in a trough. There is no growing medium and a thin film of nutrient-rich solution is pumped across the plant roots. Most growers harvest the entire plant with the roots intact and market it as living lettuce. We will do the same, when possible.

The clean white roots give the lettuce an ultra-fresh, premium quality status.

In an aquaponic system we can grow lettuce in NFT channels, on floating rafts or in a flood and drain system with a growing medium. In a raft system the plants are set in small net pots which are placed on a floating raft, usually made of Styrofoam. In a flood and drain system we have a plant grow bed that is filled with a growing medium like perlite, rockwool or expanded clay pebbles. The plants are either seeded directly into the growing medium or are started in another area and then transplanted into the grow bed.

In any of these systems, we will allow for approximately 8 inches (20.3 cm) spacing between the plants to allow each plant to grow to maturity.

Growing Conditions:

Most varieties of lettuce will grow best when the air temperature is between 60° 80° F (15.50° - 26.60° C). When selecting seed, we will study the specific tolerances for the varieties we choose to grow.

If the air temperature is consistently over 80° F (26.6° C), most lettuces will bolt (spike at the top, flower and eventually go to seed). Once a lettuce plant bolts it will taste bitter.

We will control the root temperature by controlling the temperature of the water in the system. This is achieved most easily in a raft system. A heater/chiller allows will allow us to precisely control the water temperature. The ideal water (and root) temperature in a tilapia/lettuce aquaponic system is about 70° - 74° F (21.1° - 23.3° C).

The ideal pH for lettuce is 5.8 - 6.2, but it will grow with a pH as high as 7.0 - 7.5. In aquaponics most lettuce growers will keep the pH between 6.8 and 7.0, which is a compromise for the fish and the plants. The fish prefer a higher pH, around 7.5 and, as mentioned, the lettuce prefers 5.8 - 6.2.

Harvesting:

Lettuce in your aquaponics system can be harvested with the roots intact, as most commercial growers do, or by taking cuttings. No matter which way you choose, it is very important to refrigerate the lettuce promptly after harvesting. If you are growing lettuce on a small scale, you can take cuttings or the outside leaves, allowing the plant to continue to grow. Wash the lettuce, loosely wrap it in a towel while still wet and then store it in the crisper. Using this method, the lettuce will keep for up to a week without wilting or spoiling.

Nutritional Value:

Lettuce is fat free and low in calories. It is a valuable source of vitamin A and folic acid.

Strawberries -

Strawberries are the most popular berry in the United States, according to the California Strawberry Commission, and currently account for 63.9 percent of all berry sales. But the berries are also primarily grown outdoors — 97 percent of strawberries sold in the U.S. are currently field-grown in California, Florida or Mexico, per the California Strawberry Commission — and thus subject to the whims of Mother Nature even before they're harvested.

The result is a crop that isn't always what the consumer is looking for, which is a good-tasting strawberry that they purchase when it's still fresh. It's also a business opportunity for greenhouse growers who could localize strawberry production and turn it into a year-round operation.

Growers who are using substrates to grow tomatoes and/or cut flowers, would have the easiest time producing greenhouse strawberries as opposed to growers using soil.

Genetics: The cultivated strawberry (Fragaria × ananassa) is a domesticated crop resulting from hybridizing several wild strawberry species. The vast majority of cultivar development has been focused on varieties that are well-suited to field production in mineral soils. While there have been some efforts to develop cultivars specifically for controlled-environment production, this has taken place in other counties. For growers here in the U.S., they will

need to trial cultivars to identify which are suitable for their geographic location, production environment and market.

Production systems: Strawberries are most commonly produced in systems using soilless substrate, and there are several systems suitable for production. There are some containers that are manufactured specifically for hydroponic strawberry production and may be suspended on pipes or rails, or placed on top of gutters. Additionally, long, continuous troughs may be filled with substrate and used for strawberry production. In addition to these systems, which are designed specifically for strawberries, smaller-scale producers may utilize containers such as hanging baskets or one-gallon nursery containers. Regardless of which system you select, a growing substrate that is very free-draining should be used. Soilless substrates comprised of organic components like coconut coir and peat moss and inorganic components like perlite are most commonly used.

Propagation and young plant production: Strawberries can be propagated in several ways. Tissue cultured plantlets can be purchased and bulked up prior to transplanting. Runners can be taken off plants, planted into small containers or cell trays filled with substrate, and placed under mist to root. Once rooted, these plants are then grown until they are sufficient size. Plants can also be dug from fields and placed into storage at temperatures below freezing until transplanting. Growers will need to propagate their own plants for production or seek out reputable suppliers of young plants.

Nutrient solution: Strawberries should be irrigated with smaller volumes of water at a greater frequency to avoid water-logging the root zone. Nutrient solution electrical conductivity (EC) can be lower compared to other crops from around 1.0 to 1.5 mS/cm, and pH should be maintained between 5.5 and 6.0 to help manage substrate pH and micronutrient availability. Specifically, strawberry plants can be susceptible to iron deficiencies, and if cooler production temperatures are used, this can be exacerbated. Strawberries also require elevated levels of potassium for developing fruits and calcium for calyces.

Temperature: Day temperatures around 75° F and night temperatures around 60° F are commonly used. Strawberries typically grow best at a maintained 60° F. While strawberries grow well under cool temperatures, growing too cool can result in long crop times. Alternatively, excessively warm temperatures (>85° F) can damage plants and reduce productivity.

Light: Strawberries can be considered a high-light plant. Using supplemental light to increase light intensity in the late fall, winter, and early spring can improve yield and fruit quality. In addition to supplemental light to increase photosynthesis, low-intensity lighting can be used to alter the photoperiod (day length) or light quality. While June-bearing cultivars flower in response to short days and ever-bearing cultivars can flower under a range of day lengths, there are some cultivars that require or are most productive under long days and, as a result, lighting is required to promote flowering when the day length is too short. Some growers use low-intensity light rich in far-red light, as this can promote flower truss elongation and allow the fruits to hang down, out from the canopy.

CO2: Supplemental carbon dioxide (CO2) is useful for enhancing growth in the winter when ventilation is limited and CO2 concentrations in the greenhouse can drop and limit plant growth. Supplemental CO2 to maintain concentrations from 500 to 1,000 ppm can be provided by burners or liquid injection.

Pollination: Strawberry flowers may be self-pollinated. However, complete pollination is important for producing well-formed fruits. Strawberry flowers may be pollinated by hand using a vibrating wand; while this is useful for small plantings, the labor-intensive nature of hand pollination may not be practical or feasible for large operations. In outdoor production, strawberries are pollinated by wind, and this can be mimicked in the greenhouse. Hair driers on the “cool” setting or hand-held leaf blowers can be used to pollinate flowers, and this is less labor-intensive than hand-pollinating with a vibrating wand. Bumblebees can be used to pollinate strawberries and are most effective for large-scale plantings, as they require minimal labor compared to any strategy reliant on labor for execution.

Pruning and training: Older, yellowing leaves are removed since they may consume more energy than they produce; the removal of these leaves also promotes air flow throughout the canopy and crowns of plants. Healthy leaves may also be removed if there is too much foliage and the plant is too vegetative. Flowers may be removed from strawberry plants that are undersized when they are first planted to promote vegetative growth and increase crown size; plants that are too small and allowed to flower will produce fruits that are too small to market, as well as slow down vegetative growth. For strawberry plants that are of sufficient size, flowers may be removed to promote fruit development. Flowers that are lower on the truss moving farther from the terminal flower, referred to as the primary or king flower, may be removed to ensure that the other developing fruits on the truss will reach a marketable size. Misshapen fruits that are not marketable should be removed to promote the development of other fruits that can develop into marketable product.

Pests: Strawberries are susceptible to several insect and mite pests. Aphid feeding can distort new growth, and the honeydew they excrete can promote development of sooty mold. Spider mites can diminish the vigor of plants by damaging foliage and reducing photosynthesis. Thrips feeding can also distort foliage and fruit, and they can also transmit some diseases.

Diseases: Gray mold, or Botrytis, is the most common disease in greenhouse strawberry production and can render fruits unmarketable. The Botrytis that affects fruits can infect the plants while they are flowering and will go undetected until fruits start to develop. Avoid cool, humid conditions and maintain strict sanitation to keep crops clean. If you are recirculating nutrient solution, treat the solution to suppress pathogens such as Pythium and Phytopthora.

Physiological disorders: Deformed fruits are the primary physiological strawberry disorder. When ovaries are fertilized and seeds are produced, they produce auxin and the fruits expand. However, a lack of seed development can occur as a result of several different causes. First, the pollination of the flower may not be thorough enough. Second, pollination may have occurred, but non-viable pollen or cool temperature may have inhibited fertilization of ovules and development of seeds. Additionally, if there is not sufficient pollen

for a bee population, they can become aggressive in their search for pollen and damage flowers.

Another common physiological disorder is tip burn, which can occur both on the foliage, as well as on the calyx on fruits. While tip burn on leaves is undesirable, tip burn on calyces is more problematic because it can reduce the marketability of fruit. Nutrient solution with insufficient calcium concentrations can lead to tip burn. However, conditions that inhibit transpiration (high humidity, low light) or cause excessive transpiration (low humidity) can also lead to deficiencies even when there is sufficient calcium available to plants.

Harvesting: Strawberries should be harvested every day and, during periods of warmer temperatures and high light, twice per day. At a minimum, fruits should be at least 50 percent ripe; depending on the market and supply chain, fruits can get up to 75 percent ripe. While one advantage of controlled-environment production allowing fruits to ripen more on the plant before harvest, avoid letting fruits get over-ripe on the plant since these fruits will be of lower quality once they reach the consumer. When harvesting fruits, be sure to leave the calyx attached to the fruit. Some markets may also pay a premium to have a short section of the stem or pedicle attached to the fruits, but take care when packaging so that the stem doesn't damage other berries.

Postharvest care: Once fruits are harvested, they should be cooled to between 36 to 41° F as soon as possible after harvesting and stored in 90 to 95 percent relative humidity. While many hydroponically grown crops may be hydrocooled by submersing them in chilled water, this is not a suitable practice for strawberries; fruits can be easily damaged, and the moisture can promote disease and speed the rate of spoilage. Rather, forced-air cooling should be used to reduce fruit temperature. Clamshells with holes for ventilation or punnets are both popular packages for strawberries.

Tomatoes -

Tomatoes are one of the most popular hydroponically grown crops and many varieties are bred specifically for those systems.

The tomato (Lycopersicon esculentum) is one of the most popular crops to grow hydroponically. Those grown in greenhouses and controlled environments have been bred specifically for these environments. The four most popular types of tomato cultivars grown hydroponically are: 1) beefsteak, 2) tomatoes-on-the-vine, 3) cherry or cocktail, and 4) grape. The relationship between yield and sweetness (brix) is inversely related for these cultivars; beefsteak and tomatoes-on-vine have greater yields than cherry and grape tomatoes, but the lower-yielding varieties are sweeter compared to the larger fruits. Many of the tomato cultivars developed for hydroponic greenhouse production also are bred to have resistance to pathogens including bacterial speck, powdery mildew, fusarium and verticillium wilts, leaf mold, root-knot nematodes; and viruses such as tomato mosaic, tomato spotted wilt and tomato yellow leaf curl.

Production systems: As a high-wire vine crop, stone wool or coconut slabs are the most popular system for producing tomatoes. For both stone wool and coconut coir, different products are available that vary in their capacity to dry down and rewet, which can be used

to manipulate substrate moisture and steer crops between vegetative and reproductive (or generative) states. Dutch buckets filled with perlite or lightweight expanded clay aggregate (LECA) are also commonly used for tomato production, though the labor involved with washing the containers between crops limits their use to smaller facilities. Tomatoes can be grown in nutrient-film technique channels, though the larger root systems necessitate larger channels and can impede achieving the target flow rate of nutrient solution. Therefore, NFT systems should be avoided for commercial production.

Propagation and young plant production: Tomato plants are propagated from seed. Seed are initially sown in small propagation cubes (~50 to 200 seedlings per flat). With temperatures between 72 to 75° F, seeds will germinate within a few days. Depending on the time of year, providing supplemental light to avoid unwanted stretch is beneficial.

Temperature: Recommended temperatures for producing tomatoes are a 75° F during the day and 65° F at night. Temperatures should not go below 54° F to avoid excessive delays in growth. Similarly, day temperatures should not exceed 86° F, as temperatures above this can cause flowers to abort and decrease yield.

Light: Tomatoes require high light (> 20 mol·m–2·d–1) to maximize productivity and there are several ways in which this can be achieved. First, glass is the preferred glazing material for greenhouses used for tomato production since it has the highest light transmission of any material (up to 93% ambient light transmitted). Also, keeping the glazing material clean can help maximize light transmission. Once transmission of ambient light is maximized, the only way to increase light in the greenhouse is to use supplemental lighting. Both high-pressure sodium lights and light-emitting diodes (LEDs) can be used to provide supplemental light to tomatoes, with each technology having distinct benefits and applications. For overhead lighting, HPS lamps may be a better choice than LEDs for tomato production. When used above a tomato crop, the radiant heat from HPS lamps can promote transpiration and, therefore, calcium uptake; ultimately, this can help reduce the incidence of blossom end rot during low-light times of the year. Alternatively, LEDs are most useful for inter-canopy lighting and promoting photosynthesis in functional leaves that are simply shaded by other plants; the lack of radiant heat in LED light allows for them to be placed close to plant foliage without burning the foliage of the canopy interior. A combination of overhead HPS and inter-canopy LED lighting can be a successful combination for increasing productivity, though the investment in lights and expense in running them must be offset by increased yield to make it economically viable.

CO2: Mature tomato plants can consume carbon dioxide (CO2) very quickly due to the large amount of vegetative growth. This is especially true in the late fall, winter and early spring when ventilation and replenishment of CO2 in the greenhouse from outside air is limited. Therefore, during these times supplemental CO2 should be provided to plants. Maintaining a CO2 concentration of ~1,000 ppm from liquid injection or burners can enhance growth and, ultimately, yield.

Pollination: While tomato flowers can be self-pollinated and do not require a different cultivar to act as a cross-pollinator, tomato flowers must be actively pollinated to maximize the number and quality of fruits. For large greenhouses, bumble bees are most commonly used as a pollinator. For smaller plantings, vibrating wands placed on flower clusters or a

gentle shake of the plant by hand are sufficient for pollination. If pollinating by hand, save time and effort by pollinating only those flowers that are ready. Evidence of a flower ready for pollination includes petals that are reflexed or curving up, as well as anthers with pollen that is a vibrant yellow (not a pale green) color and may also have a rough appearance, indicating the pollen is mature and ready for dispersal.

Pruning and training: The first type of pruning or training you may do is to bifurcate your tomato plants. Instead of planting seedlings and training a single main leader, a second leader is allowed to develop; the stems are then run in opposite directions in double rows. This reduces the number of transplants required, but can delay the time until the first tomatoes are harvested. Whether a single or bifurcated transplant, stems are trained to twine using the “lean and lower” system. Stems are trained to vine on twine suspended from a trellis above the crop, usually at the same height as the gutters, at an angle; as the crop reaches the wire, they are lowered down and allowed to continue to grow vertically. Greenhouse tomato cultivars are indeterminate, meaning the plants should be grown with a single leader and axillary branches or “suckers” should be removed to maximize productivity. If allowed to grow, they divert energy and growth away from desirable vegetative growth and fruits. It is generally best to remove suckers as soon as they are clearly identifiable; they can often be rolled out with your fingers. Larger suckers should be removed using a pruning shear or another tool so the main stem is not damaged. Foliage may also be removed from plants during this process. Old leaves are removed starting when the third or fourth cluster of fruits are starting to form, eventually up until the oldest cluster starts to ripen. In addition to removing the lower foliage, you may also remove one or two leaves between fruit clusters during the summer when light levels are high; this will help balance the vegetative and generative growth of the plant. Depending on the type of tomato grown, you may need to prune fruit clusters. While this is not done for cherry, grape or cocktail tomatoes, some beefsteak or cluster varieties may need to have fruit thinned in order to promote better development of fewer fruits; the least developed or underdeveloped fruits are the ones that should be removed. In order to maximize the number of ripening fruits that can be harvested before terminating the crop, tomato plants are topped four to six weeks prior to the end of the crop. This will focus the remaining energy on the developing fruits instead of new growth that won’t produce marketable fruits before the crop is terminated.

With any of this pruning, be sure to sterilize any tools you are using between plants to avoid spreading diseases among your crop.

Pests: The two primary insect pests are thrips and whiteflies. Thrips are particularly problematic because, in addition to damaging plants and fruits, they serve as vectors for tomato spotted wilt virus. Thrips screening around vents and entryways are used to try and minimize this pest, but chemical and/or biological control may also be used. Parasitic wasps (Encarsia formosa) are a commonly used biocontrol for whiteflies.

Diseases: One of the most common diseases you will find on tomato plants in the greenhouse is powdery mildew. Dehumidifying the greenhouse is one of the best ways to prevent this disease. Viruses including tobacco mosaic virus and tomato spotted wilt can be devastating. These viruses are best managed by prevention: controlling potential insect

vectors such as thrips; employing strict sanitation and hygiene policies for employees; and sterilizing tools used for pruning in between plants.

Physiological disorders: Physiological disorders can be observed on tomato foliage, flowers and fruits. One of the most common disorders observed on tomato foliage is intumescence — protrusions on foliage that look like little bumps. The cause of this disorder is unclear; it has been attributed to a lack of ultraviolet light, as well as high humidity when temperatures are warm and light levels are high. Flower abortion is the most common flowering disorder and is usually related to either excessively warm air temperatures (>86° F) or a unit heater or CO2 burner that is not functioning properly and releasing ethylene from incomplete combustion. Blossom end rot is one of the most common fruit disorders and is caused by a calcium deficiency in fruits. While this can be caused by nutrient solutions low in calcium, it can also occur when there is adequate calcium available, but uptake is inhibited. Catfacing, where the fruit looks puckered from not fully expanding, is the result of incomplete pollination.

Harvesting: The appropriate time to harvest a tomato depends on which type of tomato you are producing. The earliest greenhouse beefsteak tomatoes are harvested is around the “breaker stage,” where the fruit is starting to turn from greenish-yellow to pinkish-red; harvesting at this stage is more for producers who will be shipping their crops farther distances and need firmer fruit to reduce susceptibility to mechanical damage during transport. For local markets or cluster varieties, fruits are to be harvested when they have over 90 percent color; this enhances the flavor of the tomatoes and creates a higher-value product. Regardless of variety, all tomatoes will be harvested by hand. Beefsteak tomatoes may be able to be twisted off by hand (taking care to leave the green calyx on), while cluster varieties should be cut from stems to avoid tearing stem tissue.

Postharvest care: Once fruits are harvested, they should be cooled down. The temperature depends on the degree of maturity; fruits that are fully ripened should be held between 46 and 50° F, while those with less color should be kept a few degrees warmer (52 to 54° F).

Herbs -

There are a variety of herbs that we can grow. Specifically we will yield to those that have a high-yield within a greenhouse growing environment that meet a high demand in our local market.

Of those we will likely grow

parsley
cilantro
rosemary
oregano
thyme
sage

Genetics: When considering what to grow, the number of herbaceous culinary herbs can be staggering. However, there are certain herbaceous herbs which are either widely or more commonly grown. The most popular culinary herb is basil, and, more specifically, sweet basil (Ocimum basilicum). There are other basils that are popular, such as citrus, cinnamon and Thai basils, but these are purchased in a much smaller volume than sweet basil. Culinary herb producers can't grow only basil — a complete palate of herbs must be grown. Some of the other relatively more popular herbs include mint (Menth sp.), flat-leaf parsley (Petroselinum crispum), cilantro (Coriandrum sativum), rosemary (Rosmarinus officinalis), oregano (Origanum sp.), and thyme (Thymus vulgaris), and other seasonal offerings such as sage (Salvia officinalis). There are many other herbs that can be grown, and you can tailor your product mix to suit the market(s) you serve. Regardless of which culinary herbs you select to grow, nearly all herb cultivars were developed for field production and you will want to trial cultivars to see which perform best in your production system and environment. Selecting high-yielding cultivars with good greenhouse performance can be one of the most impactful decisions you'll make.

Production systems: Culinary herbs are produced in the same systems that are used for other leafy crops, such as nutrient-film technique (NFT) and deep-flow technique (DFT) or raft systems. Less-traditional production systems such as beds or containers filled with soilless growing substrate may also be used for herb plantings.

Propagation and young plant production: For NFT and DFT systems, phenolic foam and stone wool are the most commonly used substrates regardless of how herbs are propagated. The majority of culinary herbs are propagated by seed. Seed can be sown either individually or in multiples. While covering can benefit the germination of some species, it is generally not required. High humidity and moderately warm temperatures from 73 to 78° F can promote radicle emergence; lower temperature and increase light as cotyledons develop. Fertilize seedlings from the start of propagation with a diluted fertilizer solution of 100 to 150 ppm N. Some herbs may be propagated from cuttings, such as some cultivars of rosemary or specialty sage cultivars. Culture is comparable to seedling: start off with higher humidity, warmer temperatures and lower light, then as cuttings root and develop, lower the humidity and temperature and increase light. Be sure to check if the varieties you want to propagate by cuttings are protected varieties or not.

Nutrient solution: For culinary herbs grown in water-culture systems like NFT and DFT, the pH and electrical conductivity (EC) of the nutrient solution need to be managed throughout production. Herbs can be grown well across a range of nutrient solution ECs. The EC, if maintained, has little effect on yield, in that increasing EC does not necessarily increase yields. If the EC is consistently maintained at or above 0.5 m and does not fluctuate greatly, the range of ECs suitable for herb production can be relatively wide (0.5 to 4.0 mS/cm). By maintaining an EC of 1.0 to 2.0 mS/cm, you can grow healthy looking herbs with adequate tissue nutrient concentrations. Some herbs have a greater requirement for specific nutrients. Sweet basil is a good example; it requires higher concentrations of magnesium compared to other species, and is also prone to display iron deficiency if inadequate iron is provided or solution pH gets too high.

Temperature: Herbs vary in their response to air temperature, with respect to growth and development, and can be classified as cool, moderate or warm-growing species. The

majority of herbs, including favorites like dill, parsley and cilantro, grow well at moderate greenhouse temperatures with average days up to 72 to 75° F. While these species also tolerate cool temperatures, production time will be increased the cooler they are grown. Alternatively, basil species grow fine at standard temperatures but grow best at warm temperatures into the upper 80s° F. When trying to determine which air temperature(s) to use in your facility, consider the requirements of the different species that you are growing, as well as the area each species occupies in your production area; this is one of the challenges of growing a variety of species in a common environment.

Light: Most culinary herbs grow best with moderate to high daily light integrals (DLI) of 12 to 15 mol·m–2·d–1 or greater. Depending on where you are located, supplemental light is beneficial for increasing DLI during those times of year that are light-limiting, from late fall, through winter, to early spring in many parts of the country. While some herbs have a photoperiodic flowering response, photoperiod is usually not managed for flowering as herbs can be harvested prior to flowering.

CO2: Like other crops, supplemental carbon dioxide (CO2) can increase basil productivity and this is especially true when CO2 can be limiting in the greenhouse (i.e. late fall, winter, and early spring). Maintain CO2 concentrations at up to 1,000 to 1,500 ppm to enhance growth rates. Only add CO2 when vents are closed so additions aren't lost to the atmosphere

Pollination: Since culinary herbs are produced for foliage, not fruit, no flower pollination is required. Some herbs are produced for their seed. But those herbs are produced in the field, not in controlled environments.

Pruning and training: Culinary herbs do not require pruning or training during production.

Pests: Aphids, greenhouse whitefly and spider mites are some of the more common pest problems of greenhouse herbs. Aphid infestations can explode if not caught early and spot-treated. Biological control using beneficial insects is certainly one option for control but, unlike fruiting vine crops, beneficial insects may still be on foliage at the time of harvest.

Diseases: Like any crop grown in NFT and DFT systems, Pythium in nutrient solutions can be problematic if it gets established. Fusarium can also be problematic. Botrytis can be problematic if herb canopies are dense and/or the greenhouse is too humid; for plants that are harvested multiple times, the wound from cutting can be an entry point for the disease. Downy mildew has also been increasingly challenging for basil growers to control if established. Preventing diseases is key, as there are few chemistries which are registered for controlling diseases of greenhouse herbs.

Physiological disorders: There are few physiological disorders associated with culinary herbs. The most common is bolting, or premature flowering. For some species such as cilantro and dill, this can occur if plants are grown with excessively warm temperatures like those seen during summer greenhouse production.

Harvesting: Since herb shoots are harvested, then aggregated and sold in bunches or clamshells, there are two different options for harvesting plants: a single harvest or multiple,

successive harvests. A single harvest can be beneficial for turning crops and replanting with clean material to reduce the chances of pest or disease pressures building up. Multiple harvests result in greater cumulative yield per plant, but the crop time is longer and successive harvests may not be as good as the initial harvest. When making multiple harvests off the same plant, be sure to leave enough leaves to support shoot regrowth.

Postharvest care: Like other crops, herbs should be cooled down after they are harvested and packed. While species vary in their requirements for storage temperatures, most importantly basil should not be stored below 50° F to avoid chilling injury; most other herbs can be stored at cooler temperatures (32 to 35° F) to maintain quality.

FISH -

Our fish options include:

- tilapia
- largemouth bass
- blue gill
- catfish
- koi

We have decided to not grow tilapia because it is the usual selection of aquaponic operations and we believe that the revenue from a dedicated tilapia fish aquaculture system will eventually lead to lower revenue as other growers enter the market. As a result, we have decided to grow tanks of blue gill and catfish mixed together in the same tanks.

4.0 Market Analysis Summary

For purposes of this report, we are looking at the characteristics, challenges, and opportunities in the Pittsburgh Food Shed. We define this region as being primarily the counties in southwestern Pennsylvania around Pittsburgh, but also recognize the broader region that begins in the north around Cleveland, Erie and Buffalo and extends downward to northern West Virginia, western Maryland and southeastern Ohio.Broadly defined, this is the Eastern Lake Erie Food Shed.

The Pittsburgh Food Shed includes ten counties comprising Southwestern Pennsylvania – Lawrence, Beaver, Butler, Westmoreland, Allegheny, Washington, Greene, Fayette, Somerset and Indiana counties. Within these counties are approximately 2.4 million people,

A National Perspective

The American retail landscape is characterized by leading food retailers such as Walmart, Kroger, and Costco. Walmart (excluding Walmart International and Sam's Club) generated net sales amounting to $307.83 billion in 2017 and operated 4,672 stores nationwide. Total grocery store sales were $626.98 billion. Produce is an important part of this plan, and it represents 22.11 percent of all grocery sales. It is the second largest category after meats, fish, and poultry at 27.42 percent

(https://www.statista.com/statistics/237147/shareof-total-sales-of-supermarkets-within-the-us-bydepartment/)

Shoppers in the United States made about 1.5 trips to grocery stores on average per week in 2017. Surveys have shown that U.S. consumers tend to spend the most on groceries at warehouse clubs such as Costco, with an average of about $89 per shopping trip.
Even though online grocery shopping has existed for years, the vast majority of consumers still prefer to buy groceries in stores.

A Local Perspective

Based on those figures, the at home purchases of food would break into these categories. The 2017 US Census counted 12,805,537 people in Pennsylvania (https://www.census.gov/quickfacts/PA). It is comprised of 4,961,929 households with 2.49 people per household. Food is a large industry with total retail and food service sales in the United States amounting to $5.32 trillion in 2017. The food retail industry comprises foods sold at food retailers such as grocery stores, mass merchandisers, drug stores, convenience stores, and foodservice facilities.

Within the Pittsburgh Food Shed there are 73,000 food businesses, and 12,000 active farms. The gross economic activity in this region around food is estimated to be $6.5 billion (SPC, 2015). Employment in the food sector is approximately 20% of the region's total workforce (SPC). Direct purchases of locally grown food are estimated to be about $14 million.

Existing methods of procuring food has the region importing over 80% of all the food consumed – both fresh and processed. Imported fresh produce alone accounts for over 90% of all produce consumed. Meat and poultry are the same or higher. The distance food travels to our region varies, but conservatively the average transport distance is more than 1,000 miles. During the winter months, much of the fresh produce in grocery and supermarkets comes from either the southwest, California, or outside the United States with most of that coming from Mexico and farther.

Despite the dependence on imported food of all kinds, the region has over 1,300,00 acres under cultivation per the USDA. Of the crops grown, over 90% fall into two primary areas – corn and soybeans. Neither the bulk of the corn nor the soybeans are harvested for human consumption. Rather they are trucked out of the region and sent to processing plants – primarily in the Midwest – for conversion into industrial products such as plastics and bio-fuels (ethanol).

The farms – which average less than 110 acres each – are committed mostly to these commodity crops, leaving little good news for growers in terms of their financial sustainability. USDA estimates that the average on-farm income in the Pittsburgh Food Shed was below $30,000 in 2017, and all but a handful of farms rely on off-farm income to survive.

With so much of the region under the management and stewardship of our farmers, their economic well-being represents a challenge to our environment as well. Well run farms are critical to water management, preventing soil erosion, and reducing air pollution. There are a number of farms now in farmland preservation programs but, in many cases, it has come too late to limit nitrate excess, suburban sprawl, and the conversion of open farmland to paved subdivisions and strip malls.

On the food production and processing front, we estimate that there are approximately 500 business establishments that are processing, making, or providing value-add products. The vast majority of these businesses are family-owned and often in the second or even third generation of ownership. Retailers who are seeking locally owned food producers will routinely point this out, and, despite a growing sentiment among consumers for locally owned and produced food products, it is a challenge to find them at a level of expertise and commercial scale capable of being included into the large distribution channels.

On the flip side, however, there is a lot of evidence to suggest that there is an established and growing movement of food producers and developers who are emerging in the region. Food enterprise development is often identified as one of the most active categories from organizations that help local businesses. While there is much to be excited about in this trend, it requires the development of infrastructure support including co-packers, market developers, and well organized sources of raw materials. The absence of these resources complicates the region's ability to sustain and grow farms and farm-businesses while meeting the demands of the end markets.

Another important and often overlooked aspect of the region's food economy is how it impacts a broad range of participants in the workforce. The cited number of jobs (over 20% of total regional employment) in this sector shows how widespread it is. What is not obvious is how many of the jobs are entry level and provide needed starting points for individuals with less than a college education to enter the workforce. The food sector is often the first or second work experience of well over 50% of the population. Building a strong, robust, and expanding food sector directly affects the economic well-being of literally thousands of people entering the workforce for the first time. It is also one of the best sectors for people who have different employment barriers to break out of their cycle of poverty and hopelessness.

The importance of a local food sector in ensuring access to good, fresh, nutritional food is also an area of much concern and importance. A significant lesson in the research on the nutritional quality of fresh food is the excessive length of time it takes to move from field, farm, and ultimately to the market and consumer. This lag time often means that the nutritional benefits of the produce plummet significantly.

Finally, there is the basic need to reduce hunger and access to food in our communities – both urban and rural. The USDA designates areas as food deserts because of lack of access to nutritional foods. In general, there is far too much dependence on our regional anti-hunger programs or the donations of random surpluses and a tendency to mirror our large food system's dependence on imported food. A vigorous and well managed regional food system focusing on building abundance can be equitably shared. This system can and

should be designed to address these shortfalls in both access, as well as in providing locally raised and produced foods to support and feed our neighbors in need.

4.1 Market Segmentation

The potential customer groups for Mon Valley Aquaponic are:

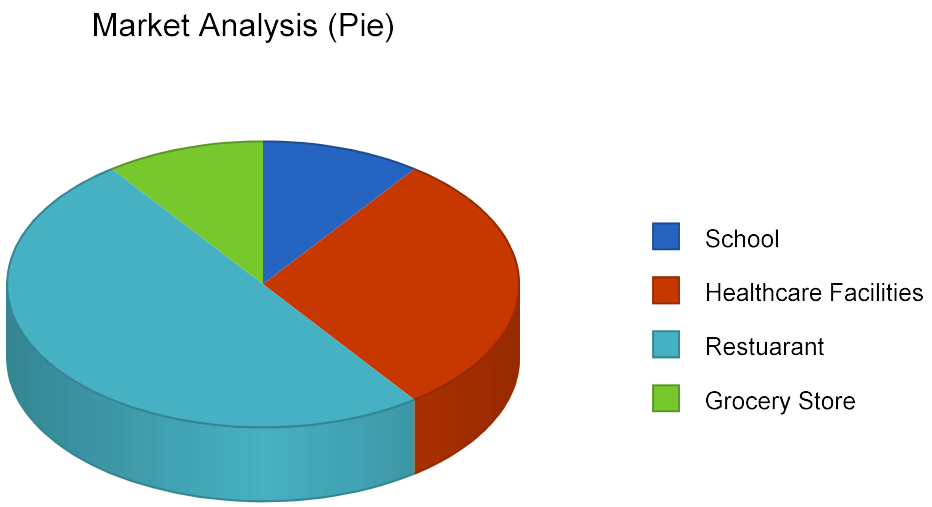
1. **Individuals**. Whether they purcahse our products by way of grocery stores, farmer's markets or by home delivery, this customer group represents our most fundamental customer level.
2. **Restaurants**. While most people who dine out don't know where the restaurant obtains their ingredients, we see this as an advantage. It is our desire to actually work with the restaurants to advertise where they obtain their produce or fruit just as a visitor sees inside a Five Brother's restaurant the name of their potato farmer. The restaurant community will appreciate working with us because we are capable of growing a host of produce in very short periods of time that will allow them to make relative quick changed in their menus to produce that will not need to travle thousands of miles and be ruined at the end of the trip.
3. **Institutions**. MVA will target these customers by introducing MVA and their products to the restaurants through meetings with the buyers at each restaurant. There are over 2700 restaurants in the Greater Pittsburgh region that uses field greens in their salad and MVA intends to approach these to form long-term relationships.

Table: Market Analysis

Market Analysis

Potential Customers	Growth	Year 1	Year 2	Year 3	Year 4	Year 5	CAGR
School	3%	1	3	8	17	25	123.61%
Healthcare Facilities	2%	3	5	10	15	25	69.90%
Restaurant	10%	5	15	35	50	70	93.43%
Grocery Store	2%	1	7	12	20	45	159.00%
Total	101.54%	10	30	65	102	165	101.54%

Chart: Market Analysis (Pie)



4.2 Target Market Segment Strategy

Mon Valley Aquaponic's target market segment strategy is fairly easy. Our tthree different customer groups are:

Individuals. These customers will be buying our products from various farmer markets located in the Pittsburgh, PA region. We will concentrate on those that are closer to McKeesport, PA. They operate mostly on the Spring, Summer and the Fall months. We will also concentrate on generating individual sales through Harvie, local Consumer Supported Agriculture (CSA) organizations and by selling through our website until we can develop our own mobile app to provide personalized shopping tools for our individual buyers.

Harvie is an online marketplace that helps farms improve profitability with customer friendly farm shares in the increasing competitive local food marketplace. It helps farms selling through a CSA / farm share model to increase retention (+15-30% year-over-year retention) and meet sales growth targets while increasing overall profitability. To accomplish these goals, Harvie focuses on providing a better member experience that includes customized shares, flexible share sizes and flexible weeks.

A few local CSAs that we will likely work with is the Penn's Corner Farm Alliance CSA located Pittsburgh, PA and Sarver's Hill Organic Farm & CSA located in Greensburg, PA. Participating in these or other CSA groups can allow us to plug into groups that are specifically created to support both individual and corporate decisions to purchase from local farms. Because of our year-round growing capabilities we will offer those supporters a continuous supply of food that they otherwise would not have from the same local farmer.

While website farm purchases that be shipped to individual buyers is a rare service, we purpose to mirror a similar service being offered by Great Lakes Growers located in Burton,

Ohio. Their website is www.greatlakesgrowers.com. Their online store is located at www.greatlakesgrowersexpress.com. It is our intention to slowly offer this service after we start growing and establish our daily operations. As is the case with Great Lakes Growers, we will look at shipping to a limited range of neighborhoods to insure that our produce will arrive in the best conditions. We will likely do the same as they do, to request a ship to zip code before the order is taken online to fit within that specific geographic range.

Restaurants. MVA will target these customers by introducing a broad range of crops available from Johnny's Selected Seeds located in Maine. We will grow a set of sample plants for the restaurants to sample through direct face-to-face with restaurants owners and chefs at their locations when possible since the Pittsburgh regions has restaurant locations. We will hope to work with third party distributors like Sysco Foods and US Foods to both distribute and sell our products. We estimate that just in the City of Pittsburgh that there is around 2,700 restaurants alone. Once we are able to sell to third party distributors we estimate that we could be looking at supplying 10,000 restaurants when we account for the entire county where Pittsburgh exists as well as its surrounding counties.

Institutions. In many ways MVA will approach institutional buyers in the same way as has been described in our approach towards restaurants - we will use third party distributors. When we look at institutions we are looking at:

1. Public and Private Schools

2. Colleges

3. Hospitals

4. Government Facilities

Public and Private Schools - In Allegheny County there are 43 public school districts with an estimated 144,000 students. There are 43 private schools in Allegheny County with an estimated 25,000 students.

Colleges - There are 96,000 full-time students who are attending 25 collleges in the Southwestern Pennsylvania.

Hospitals - The University of Pittsburgh Hospital Center (UPMC) has 40 hospitals with 8,000 beds. Allegheny Hospital Network has 8 hospitals with 2200 beds.

Government Facilities - This includes but is not limited to prisons and other correctional facilities as well as hospitals, and airports. In many cases there is no valid statistics on these facilities.

MGSG will target these customers by introducing MGSG and their products to the restaurants through meetings with the buyers at each restaurant. There are about 25-30 different restaurants in Eugene that use field greens in their salad and MGSG intends to approach these to form long-term relationships.

4.3 Industry Analysis

There are three different types of competitors that MVA faces:

1. **Supermarkets**. These stores sell a salad greens mix to consumers. The advantage of the supermarket is convenience. There are many supermarkets around the city and they are open many hours during the day. Their disadvantage is price and quality. The quality and variety lower than the standards set by the offerings of MVA and other similar local farmers. The cost is higher, usually 15% more.

2. **Similar local farmers**. These are very similar operations to MVA, sometimes larger and sometimes smaller. There appears to be room in the market for multiple farmers as most of the farmers sell out their products each day at the farmer markets.

3. **Large distributors**. An example of this would be SYSCO Foods which buys a wide variety of products and quality of produce from farmers and distributes them to restaurants. The produce is not usually local, and is a few more days older from the field compared with the local farmers. The price is comparable and the quality can be comparable, but not necessarily. The disadvantage of a food distributor is the lack of flexibility relative to a local grower when serving local customers.

4.3.1 Competition and Buying Patterns

Our competition originates from two markets determined by the current season. In the Spring through Fall, our competition comes from both local as well as distant growers. However, because of the cold climate of the Greater Pittsburgh Region, our competion from Fall through the Spring comes from California, Arizona, Mexico and beyond, wherever their is a warm climate while we are experiencing Winter temperatures and the conventional farmers can not grow produce outside.

Recently, we have seen produce showing up from closer greenhouse grower Nature Fresh that has opened up an operation in Cincinnati, Ohio. While they are not local in the traditional sense, they are looked at as being local growers especially during the Winter.

The good news is that the local food distributors have expressed a high level of interest in buying from us for the following reasons:

1. Close proximity - We will be located within one hour drive time of their distribution centers
2. Grower location in a depressed community - Our local distribution centers actually want to help communities like McKeesport, Pennsylvania because it has been economically depressed since the loss of the Steel Mill Industry in the 1980s
3. Our minority ownership status - We are minority owned - African American.
4. Our ability to qualify as an MWBE status business - Because of our minority ownership status we will be able to qualify as a Minority & Women-Owned Business Enterprise (MWBE) Certified organization entitled to contract set aside contracts and privileges.
5. Lack of other local to Pittsburgh minority commercial farms

Produce Industry Buying Patterns

For more than a decade, perimeter departments have been the hot topic within the grocery industry. Leading up to and during the Great Recession, the fresh foods departments won consumer dollars by offering premium experiences, healthy options and increasingly convenient ways to eat well.

In 2014, the fresh perimeter departments (meat, deli, bakery, seafood, produce and floral) grew 5 percent in dollar sales compared to 2013, a growth rate 3 percentage points higher than center-store food and beverages. In total, the fresh perimeter has added nearly $7 billion in sales in the last three years, with produce contributing 60 percent of that sales growth.

More recently, however, produce sales have wilted. In 2018, the fresh perimeter sales growth rate of 1 percent was actually lower than center-store food and beverages at 2 percent. In addition, produce only posted a 1 percent dollar sales growth rate and average units sold within the produce department was down 1 percent.

A host of factors contributed to this growth slow down within the grocery, mass, supercenter and club multi-outlet channels. Within the store, the frozen, beverages and refrigerated departments have rebloomed, offering consumers a wider variety of premium, convenient and health-forward options. Frozen vegetables have ended up into shopper baskets in increasing volumes. In 2018, a grocery store trip to buy fresh vegetables was three times more likely to also include frozen vegetables than the average trip.

Beyond the store, competition is heating up from all ends of the retail spectrum as more and more outlets identify the fertile ground in fresh foods. On the discount and limited assortment end, Aldi and Lidl have opened more stores especially in the eastern U.S.

While only 28 percent of households have bought fresh foods at an Aldi store, the discount grocer enjoyed a 6 percent increase in average trips annually per shopper in 2018.

On the premium and experiential end of the retail spectrum, the natural channel as well as Trader Joe's and Whole Foods also benefitted from trip frequency increases. While these chains capture a relatively low percentage of households, when trips to these stores increase, they pull dollars from the traditional grocery, mass and club channels.

Where will the growth of the future lie? To answer this and related questions, Information Resources, Inc. (IRI) is partnering with the Food Marketing Institute (FMI) for the fourth year to produce the "Top Trends in Fresh," a series of reports and webinars on trends in store perimeters, but with a new and unique spin.

The 2019 series theme is Balancing the Pendulum, uncovering new pockets of growth that might be overlooked in the constantly shifting and complex retail landscape. The first installment is on the Consumer Pendulum; identifying consumer segments that cumulatively are worth big dollars of opportunity if retailers can appeal to these shoppers' unique needs. IRI debuted this research at the 2019 FMI Mid-Winter Conference and the 2019 NGA Show in February and will highlight it again at the IRI Growth Summit in March.

Retailers have abundant opportunities to reclaim these shoppers. In fact, even small grocers have the opportunity to gain up to $200 million incremental produce sales opportunity by appealing to these specific households. As with so much of CPG retail today, the key is understanding a retailer's high-value shoppers and creating improved

experiences for them at every touchpoint, ranging from ads and promotions to in-store experiences.

For example, one of the fastest-growing household types is the multi-generational upper income. These are millennials with or without children living with baby boomer parents typically in small cities and suburban enclaves. There is a projected 4 percent growth rate expected in these types of households, yet their average annual produce and total fresh foods spend is declining in traditional channels. These households seek experiences and are among the first to try mobile applications to ease their grocery shopping. Offering discounts online to drive them in for the experiential programs such as produce juice bars or cut-in-store fruits and veggies will appeal to them.

Another example rests with smaller households. In urban areas, single parent families with multiple children have been increasing their fresh foods spend in traditional grocery stores. They also make much more frequent trips, especially for products such as fresh produce greens, tangerines and avocados. Marketing vehicles like personalized mailers, paper, and digital coupons and ads that feature convenient meal and snack ideas can win their basket from other chains.

While the current growth rate has slowed, consumers remain highly interested in fresh foods. Seventy percent of consumers surveyed in IRI's 2019 Fresh Foods Survey plan to spend more on the perimeter departments this year than in years past. However, to win with these shoppers, manufacturers and retailers must be strategic, data-driven and creative in their efforts. Gone are the days of "stack 'em high and watch 'em fly."

There is a bumper crop of opportunity for those that deeply understand consumer wants and needs and activate new strategies before their competition.

This is where our local market focus can pay huge dividends for us by leveraging the use of an excellent marketing company like Beyond Spots and Dots.

5.0 Web Plan Summary

The Mon Valley Aquaponics's website will be a dynamic marketing tool for the company that serves the needs of business development, sales, and recruiting. The company site will provide information about MVA's products and services for target customers and potential business partners, such as marketing collateral, technical white papers, and new product updates. As the company grows,its recruiting needs can be addressed by posting career opportunities and FAQs about the company. MonValleyAquaponics.com will also communicate company news to create and maintain positive public relations with the community and investors. The goal will be to implement a functional and professionally designed website that can be adapted to meet the company's growing needs.

5.1 Website Marketing Strategy

The core of the Mon Valley Aquaponics web site is the intention to both determine our clients' needs and to deliver them within their time frame.

The web site will present our story of who we are, how we came to exist and to allow for our client's to receive their desired products according to their need. We will establish a clean looking site that is easy to navigate. In support of the advancement of our products we will include video presentation of recipes being prepared using our fruits, vegetables

and fish. We will also include an on-going blog page that will help us to create social media postings to bring people back to our web site.

The MVA site will also have a home delivery section that will permit shipments to a restricted set of zip codes within a certain radius around our McKeesport location to make sure that the product is delivered with maximum freshness.

5.2 Development Requirements

The website will be built with a customized Content Management System (CMS) platform. A content management system, often abbreviated as CMS, is software that helps users create, manage, and modify content on a website without the need for specialized technical knowledge.

We are looking for a brand new CMS platform along with website design that will have a simple modern design as well as streamlined navigation. We are specifically interested in the Drupal or WordPress CMS platforms. Our believe that a web site that we can manage ourselves will allow us to better meet the needs of our primary target audiences.

The main web site development goal is to create a site that has scalability in line with current and future goals of Mon Valley Aquaponics, while including the capability to consolidate 3+ domains, streamline navigation, modern design, blog functionality, and news features.

6.0 Strategy and Implementation Summary

MGSG will be aggressively courting the farmer markets to ensure the ability to have a booth at the markets. Additionally, MGSG will be aggressive in going after the local restaurants that have a consistent need for the greens. Through an assurance of top-shelf service and superior customer service and reliability, MGSG will continue to grow its number of clients.

6.1 SWOT Analysis

The following SWOT analysis captures the key strengths and weaknesses within the company, and describes the opportunities and threats facing Mon Valley Aquaponics.

6.1.1 Strengths

1. Eliminates soil-borne disease and pests
2. Low water usage (1/10 the water of soil production)
3. Highly productive method of growing vegetables
4. Great "looking" produce
5. Soiless plant culture
6. Fertilizer is supplied:

- Hydroponic System: Roots are suspended in fertilizer solution
- Aquaponics System: Roots are suspended in nutrient rich water provided by fish

7. Global recognized system of growing for:

- Lettuce
- Tomatoes
- Cucumbers
- Peppers
- Eggplant
- Strawberries
- Herbs

8. Efficient use of land and water

9. Aquatic organism farming origin is common world-wide with over 50% raised this way (aquaponic system)

10. Continuous production can be achieved through staggered plantings to allow daily harvests

11. There are no harmful herbicides , pesticides or chemical fertilizers (aquaponics system)

12. No antibiotics, medications or growth hormones are used for the fish aquaculture (aquaponics system)

13. Fish do not carry the same pathogens, such as E-coli and salmonella, that warm-blooded animals do (aquaponics system)

14. Fish produce CO2 - plants need CO2 (aquaponic system)

15. Plant spacing is very dense maximizing space and increasing production

16. Year-round growing allows for continuous and long-term buyer contracts

17. Operations close to urban population centers in the Greater Pittsburgh market brings us the benefit of being a local grower

18. Food Safety

19. Crop Diversity

6.1.2 Weaknesses

1. Relies on mined and manufactured fertilizers (hydroponic system only)

2. Equipment intensive

3. High cost of equipment

4. High energy use

6.1.3 Opportunities

1. Branding for Local Appeal - We recognize that local grown foods that will provide wholesome local grown options will eventually become a crowded situation in the Greater Pittsburgh region. So, to help us gain and retain region recognition we are

planning on using the marketing study results from Information Resources Inc. As an example, we hope to trade mark our organic produce as being "Organic Pittsburgh Grown". This will be accomplished by-way of trademarking combined with a marketing campaign that allows our consumers to recognize us as more than just farmers, actual neighbors living in the community.

2. Produce Protection - A large part of our appeal will be the leverage of cutting-edge technology that we will use to automate the monitoring process of all our produce while on their growing states. We intend to leverage the cutting-edge technologies being developed in such companies like Panacea Ag, an agtech company being launched out of the Pittsburgh-based Alpha Lab Gear. Panacea Ag is developing the ability to mount robot cameras that will constantly watch our crop for signs of plant stress originating from such things as pests and disease. They will be able to link those findings with the ambient conditions in the greenhouse such as air quality, temperature and humidity levels. All of the data will be gathered into individual plant-based data groups that we intend to make available to our ultimate consumers by connection to QR codes on each plant to access the information via our cloud-based storage backbone. We strongly believe that this information, provided in a easy to access manner will do nothing but add to customer loyalty and wholeseller sales. This is but one way that we intend to get in front of our competition and to stay there.
3. The Latest Consumer Trends - We either already find ourselves or will position ourselves in a way to take the fullest advantage of the following fresh produce consumer trends in 2016 and 2017:
    - New Supply Chain
    - Convenience
    - Food Transparency
    - Connected Consumer
    - Prepared Foods
    - Holistic Health
    - Customization to New Consumerism
    - Social and Cultural Alignment
    - Atomization of Personalization
    - Localization
    - Social and Cultural Alignment
    - The Demand for Personalization (explained in #4)
4. Personalization in Retail - Getting personal with our customers starts with being human. While that sounds simple, it’s easy to overlook. There was a time when inserting a first name into an email subject line was considered revolutionary. Now, personalization as a tactic and as a marketing concept has evolved much further. Today, personalization is an imperative; one driven by skyrocketing consumer expectations and advances in technology. So, what do we mean by personalization today? Personalization is a method or strategy by which a marketer uses audience analysis and data to meet the individual needs of a consumer. This is done by collecting and processing information on customers' interests, demographics, and behaviors to create more relevant content that provides more value. The more a marketer can accomplish this, the greater the consumer’s likelihood of repeat visits, purchases or engagements.
5. Growing population of daily Internet users. The importance of the Internet almost equals that of the telephone. As the population of daily Internet users increases, so will the need for the services JavaNet offers.

6. Social bonds fostered by the new Internet communities. The Internet is bringing people from across the world together unlike any other communication medium. JavaNet will capitalize on this social trend by providing a place for smaller and local Internet communities to meet in person. JavaNet will grow some of these communities on its own by establishing chat areas and community programs. These programs will be designed to build customer loyalty.
7. Rail Transportation - We have chosen a location that places us along a railroad spur. This allows us for potential rail transportation of future crop directly off the property.
8. Ability to Scale - Because we have chosen the Nelson & Pade Growing Systems that come in many sizes, we can easily scale our growth into virtually any neighborhood by purchasing a system size that will support a community's food needs. Since many of the tools that we have selected to help us launch are also digital we can easily open a new location with lower operational costs that will support even a remote location of two person teams of a grower and a sales representative.

6.1.4 Threats

1. Crops with no exposure to bees for pollination - At least two of our crops require insects - bees - to provide pollination in order to grow fruit from their flowers. To facilitate this need, we will rent bees throughout our crop growing seasons to enable natural pollination. In the future we will be looking towards potential automation alternatives to renting bee hives. The alternative is to conduct costly manual, labor intensive, pollination.
2. Vertical farms will require a huge amount of power to produce good yields which will be very expensive. Land in the urban areas is also more costly than those in the rural.
3. Air pollutants generated by nearby USS Steel plants - We will be using our own air monitors to constantly observe air pollutant levels. The sensor will be tracking pollutant levels both inside and outside the greenhouse and should the toxic level exceed our standards outside we will have the greenhouse setup to automatically close our roof and side windows until the conditions change.
4. Public water - The quality of water with respect to chemical, microbial and physical properties affects both crop and fish quality and health. We are about the risk of spreading waterborne human pathogens during production and postharvest. Like many other growers, we resolve to use water our public water system to lower the risk of foodborne illnesses and avoid the hassle of testing and treating water. The best part of this decision is that the local water filtration system has been honored for maintaining water at an EPA top quality rating. However, we must still monitor the chemical parameters of our water in order to grow high-quality crops. Also, because public water has chlorine added to it to prevent contamination, we must remove it because both our fish and plants will find it detrimental to their health and ultimately their consumption quality. To accomplish the dechlorination process we will turn to All Water Systems to provide a Chlorination Filtration system to take the chlorine out of the water and Water Reverse Osmosis System that will remove any remaining contaminants to render the water purified.
5. A prolonged natural gas outage - We intend to use Yanmar Cogeneration engines to generate Carbon Dioxide, for the plants, hot steam to heat the facility in the Winter, chilled steam to generate air conditioning and excess electricity to feed back on the Duquesne Power grid and generate a refund from them in the non-Winter months.

However, we will need to maintain an alternative power source like propane on the farm as a backup power source should the gas supply fail.

6. Food safety - Food Safety is paramount for any food business. Maintaining high safety standards will minimize the risk of food safety incidents, protect our brand's reputation and, more importantly, keep unsafe food off the market. But adhering to appropriate food safety standards is not always easy. Shortcuts are tempting, especially when safety tasks are considered difficult, expensive or time-consuming. In the food industry, however, there is no room for shortcuts. An organizational culture that prioritizes food safety is vital to the production of safe food.
7. Lack of Crop Insurance - The federal government does not provide crop insurance for any of the crops that we plan to grow. To help fill that void, the Farm Services Agency (FSA) has the Noninsured Crop Disaster Assistance Program (NAP) to provide a crop insurance-like product to 300+ crops at low cost. This policy will allow us to obtain basic risk protection regardless of our location in the country and no matter to what we grow or how we market it. NAP will cover the organic, direct market, fresh, and processing crop values when adequate pricing data is available.
8. Relying on Third Party Transportation - Transportation has long been one of the most unregulated aspects of the food supply's chain of custody, particularly in relation to food safety. That all changed with the passage of the Sanitary Transportation of Human and Animal Food rule of the Food Safety Modernization Act (FSMA). Among the key aspects of that rule are requirements for ensuring the vehicle and equipment are capable of maintaining temperatures needed for food safety, and having monitoring mechanism and written procedures and records to ensure that food is transported under adequate temperature control. For produce, temperature is often more a factor of quality than food safety. However, there are several instances in which food safety can be impacted by out-of-spec temperatures and environmental conditions. To assure us of staying in control of the traveling conditions we will use sensors on the produce to record conditions during the shipping process.

6.2 Competitive Edge

Mon Valley Aquaponics' competitive edge has seven main aspects:

1. **Food Safety**. When you look at some of the most recent produce recalls you see that they focus on traditional farmers who are growing their product in open fields. Recently, some of the West coast produce grower associations have indicated that the most recent romaine lettuce recall, that occurred in the Fall of 2018, probably occurred because of contaminated water that made contact with the lettuce two-to-three weeks before the lettuce was harvested. Controlled Environment Agriculture (CEA) greenhouse growers were later declared to not be involved in the cause of the recall even though the federal recall told the public to dispose all lettuce despite its origin. As a result, many CEA growers now have a false sense of security that they will always be immune from similar types of recall orders. However, the federal government has no means to indicate to the consumer any delineation between produce origin or origin growing methodology so that the consumer can make a very educated decision as to whether they really need to dump their food into the trash. Herein lies our advantage! We intend to build a food safety backbone into our operations that will capture all our growing development steps and conditions on all our crops on a per produce item

level. In a specific basis the lettuce will be tracked on a per head level. However, on the strawberry and tomato level it will be by the harvested cluster level or plant level. We will leverage this information by housing it in cloud storage via blockchain linked to QR codes that will go out on the product to permit their ulimate consumers to look up the growing history to provide safety information. We will leverage this difference between us and other growers by including this safety information in certain marketing programs and approaches. We understand that our company's food safety culture reflects the stance, values, ethics, and expectations with regard to desire to grow public trust. Like branding, a food safety culture is often more felt than seen. It is our opinion that the federal governemt's request that growers improve food safety on a voluntary basis is a flawed approach that will lead to the next massive recall dump.

2. **Proven Aquaponic System Designs**. By purchasing the Nelson and Pade, Inc.®'s proven Clear Flow Aquaponic Systems®, we will avoid the high costs and problems associated with untested systems and home-built efforts. Each of their system components are sized and designed to provide maximum production, proven component ratios, water flow parameters, water quality and nutrient dynamics deemed important to both protect our investor's capital but also create the best growing environment for it to grow.
3. **Use of a Patented Growing System**. In a development that has brought aquaponics to a whole new level of food production, Nelson and Pade, Inc.® has developed the patented ZDEP® (near Zero Discharge – Extra Production) system. The ZDEP® reuses nutrient rich water in the system to grow more plants, while at the same time reducing water usage and eliminating a waste-water stream from entering the environment. The ZDEP® extracts clean water and captures more nutrients from the sludge that used to be wasted. The clean water leaving the ZDEP® is used to refresh system water, reducing overall water usage while growing more plants in the system. The ZDEP® generates an additional all-natural fertilizer stream that can be used to grow more plants in living filter beds, outdoor raised beds or gardens. Or, this can be disposed of. All Clear Flow Aquaponics Systems® for commercial food production now come with the ZDEP®, reducing water usage and increasing both fish and vegetable production. When examining food production and resources used in our patented Clear Flow Aquaponic Systems® with ZDEP® to traditional field production, the differences are staggering. When comparing lettuce production using 1 acre of Clear Flow Aquaponic Systems® with ZDEP® to 1 acre of lettuce farming in the Gila Valley, Arizona, they grew 6 times more lettuce per acre using 1/6 of the water on an annual basis. This was all done without the use of pesticides, herbicides or chemical fertilizers. Plus, they grew 40,000 lbs. of fish from that same patented Clear Flow Aquaponic Systems® with ZDEP®. In addition to using a minimum of water, these systems are energy efficient as well. The majority of the water flow is achieved through gravity by placing the fish tanks and the other operational components on decking at an elevation above that of the growing beds.
4. **We Have Continuous Support**. We will have access to the Nelson and Pade Grower Program that helps aquaponic growers get off to a great start, with proven aquaponics technical support, continuous access to valuable information and updates and creates recognition and networking opportunities for all their growers in the program. The Nelson and Pade Grower Program is available to aquaponic growers using a Nelson and Pade, Inc.® patented Clear Flow Aquaponic System®. Benefits of participating in the Nelson and Pade Grower Program include:

- Long Term Support:Once enrolled, you are actively supported by Nelson and Pade as long as you are growing using Nelson and Pade, Inc.'s Clear Flow Aquaponic Systems. From the day you add you first fish, on through many years to come, the Nelson and Pade Grower Program is here to help.
- Technical Support via email and phone
- Annual Consultation (by phone, email or in person) by Nelson and Pade senior staff member to review procedures, updates and new developments
- Interpretation of water, nutrient solution and leaf analysis
- Interpretation of water quality data
- Updates to Data forms, SOPS, GAP manuals and Food Safety recommendations
- Marketing recommendations and input
- Exclusive access to the Nelson and Pade Grower Network
- Receive updates on topics that affect every grower:
  - cutting edge research
  - regulation
  - marketing strategies
- Exclusive use of Nelson and Pade, Inc.® logo on your promotional materials and facility. i.e.: Powered by Nelson and Pade, Inc.®
- International recognition of Nelson and Pade brand known for:
  - Standardized, proven systems
  - Comprehensive training programs
  - Comprehensive SOPs and GAP plan
  - Focus on Food Safety and Quality
- Additional revenue streams for your business:
  - Become eligible for Distributor and Trainer programs after 1 year of successful growing
  - Host Nelson and Pade Seminars and Aquaponic Master Classes®

5. **Allow People to Know Their Grower**. Simply put, we aim to become the "Famous Amos" of Lettuce, Strawberries and Tomatoes! Most people purchase produce without really knowing who it is that have grown their food. We are going to put a local face on our produce with a balanced marketing campaign that will leverage the fact that we grow all year, we live here as their neighbor and our children attend the same schools as their children. The campaign will be run by the award-winning local marketing company Beyond Spots and Dots. With their assistance we will leverage a personalization effort in our produce growing that will allow people to our on-demand produce shipments to their home or business within a specific radius to insure fresh delivery. This model is currently being used by Great Lakes Growers under the name Great Lakes Growers Express (www.greatlakesgrowersexpress.com). While we intend to promote knowledge about the corporate founders, we also hope to promote the neighborhood satellite staff members who will be growing in local neighborhoods. We believe that the whole personalization wave will become accelerated by our efforts to both personalize our customer orders but to also encourage our satellite growers to know their local clientele. The result will be stronger customer-grower bonds and stronger sales.
6. **Scale Locally**. By purchasing the Nelson and Pade, Inc.®'s proven Clear Flow Aquaponic Systems®, we gain the ability to have access to growing systems that all work the same way but at various sizes from a tiny hobby system all the way up in size to large commercial systems. As a result, we place our company in a position to be

able to go directly into a small community, acquire property and easily open new growing systems to tailor our products to the food desires of that individual community with easy access to our customers for both quick home and business deliveries.

7. **Flexibility**. With MVA being both small and local in nature, it will be able to be flexible in meeting customer's demands. For instance, if a local restaurant has customers that prefer more arugula in their salad mix, MVA can rapidly shift production to meet the needs of that customer. Most of the farmers, and all of the distributors, typically have their production schedules set up for maximum yield and are unable to modify crop production very much. While we are concerned about maximizing yield, we are more concerned with pleasing the customer. We believe that talking care of the customer is the most important thing.

A combination of these factors will create a sustainable competitive advantage that will allow Mon Valley Aquaponics to succeed.

6.3 Marketing Strategy

We will capitalize on the movement to be personal with all our customers whether they are institutional, distributors or consumers. That personalization effort on our part will start but not end by us telling the human story behind our brands. It is our goal to share stories about ourselves, how we got to this point of launching the business, the purpose that led us to its creation, and the food that we offer. Inclusive in that mission is to provide recipes so that our ultimate consumers can receive the most enjoyment from our food.

We have a few ways that we intend to deliver those messages:

1. Social Media Broadcasts - We would like to leverage such things as Facebook Live to conduct live cooking show broadcasts with an offer the end to receive a discount coupon to drive sales.
2. Webinars - We want to provide recorded webinars tailored to our individual and institutional consumers who might be too busy to participate in a live broadcast. These recording will serve to build a video library of resources for restaurants, caterers and other large kitchen consumers to be viewed on an on-demand basis. We will add a series of recipes and other documents to go along with the broadcasts to increase our participation levels.
3. Digital Newsletters - These communication channels will allow us to create a series of documents that we can add to sales material and trade show handouts.

In all three of the delivery methods we might look to placing information in them about certain local restaurants that have experienced success from using our products as a way to increase our credibility on the local marketplace.

We will also use Harvie Software to create a space in the local CSA marketplace.

Harvie helps farms selling through a CSA / farm share model increase retention (+15-30% year-over-year retention) and meet sales growth targets while increasing overall profitability. To accomplish these goals, Harvie focuses on providing a better member experience that includes customized shares, flexible share sizes and flexible weeks. At the same time, Harvie streamlines administration so the customer-friendly features do not drive farmers crazy with logistics.

Harvie is also a marketing and customer service platform. It provides a customized marketing plan to meet a farms membership goals and also handles customer service inquiries in tandem with farmer efforts.

Harvie makes it easy for produce consumers to be a part of a farm share and support that local farm. Through Harvie, produce consumers receive customized boxes, recipe suggestions, and an accessible platform for desktop and mobile interfaces to make it easy for consumers to connect with their produce supplying farm. They also provide you the opportunity for farms to provide add-ons and extras, which is a great way for them to increase top-line sales and widen their reach to market their products.

6.4 Sales Strategy

MVA's sales strategy will be based on visibility, professional assistance, automation, personalization, home delivery and strategic relationships.

- **Visibility**. MVA will need to generate visibility that sets us apart from the other farmers that sell produce in the Greater Pittsburgh market. This in part will be done through the use of a professional marketing campaign of print and video that will provide our prospective customers the opportunity to see scenes from within our farming operations that sets us apart. Within the print and video spots we will intertwine our safety features and other features that set us apart. This approach is important since most people have either never heard of aquaponics or never seen an aquaponics farm in operations. This visibility will help us to stand apart from the rest of the industry whenever any produce recall occurs. Besides print and video we participate in certain local events that will allow us to interact with other members of the local business community, like chamber associations and the Pittsburgh Business show, as well as health wellness events conducted by the local hospital organizations like the University of Pittsburgh Medical Center (UPMC) and the Allegheny Health Network.
- **Professional Assistance.** MVA has already taken the steps to interview a number of local advertising companies and has decided to use Beyond Spots and Dots. We sincerely believe that we need to secure the very best outside advertising services that knows our local market and has a proven track record in working with local small businesses in their drive to grow and develop a message that will create corporate sustainability. In Beyond Spots and Dots we have found all of those capabilities in a business that has and continues to win awards for their advertising accomplishments.
- **Automation**. We believe that an integrated software approach will provide us with the best chance for sales success. To that goal we have decided to leverage the following tools because of their stand-alone capabilities as well as their ability to integrate with each other seamlessly:
    - Google - We decided to leverage Google G-Suite tool set to help us better manage internal and external communication in a manner that most people will find easy to use because many people already use gmail services in their personal lives.
    - Ring Central - Rather than to go with a legacy, land line phone system, we have decided to use what we feel is the best cloud-based phone systems that also provides a whole host of tools that can be activated and deployed across our operations from day-one. Those tools include such things as analytics,

performance reporting, meeting tools and other things that will allow us to easily scale our operations.
    - Copper - This tool provides a Customer Relationship Management (CRM) capability. It is an approach to manage a company's interaction with current and potential customers. It uses data analysis about customers' history with a company to improve business relationships with customers, specifically focusing on customer retention and ultimately driving sales growth.
- **Personalization**. According to an Accenture study, over 75 percent of consumers are more likely to purchase from retailers that know their name and purchase history and provide recommendations that are appropriately on-taste. Another study from Infosys reveals that 74 percent of customers feel frustrated when a website's content is not personalized. As consumers become more and more acclimated to getting what they want, their expectations from retail marketers have never been higher: for personalization, for meaningful experiences, and for relevant engagement. We believe that customers will align themselves and purchase from brands that recognize them as individuals at every step of their journey, and brands that make experiences as simple and convenient as possible. To that goal we hope to use either Selligent Marketing Cloud or AccionLabs to provide is a marketing automation platform that enables B2C brands to engage consumers across all critical channels. Built for the relationship marketer, this type of solution is best type of marketing method, featuring artificial intelligence and a Customer Data Platform with a universal consumer profile at the core of every action. No matter what the technological solution is that we select in the end, we will make sure that it meets these personalization goals:
    - Treat Consumers as Individuals, not Segments or Buckets (Audience) - In the accomplishment of this goal we will make sure that we are able to recognize individual consumers across channels and collect all profile information in customer data platforms (CDPs). We look to get help from Artificial Intelligence (AI) with features such as smart audience segmentation to assemble the most relevant audience for any given marketing content or sales offer.
    - Meet Consumers where they want to be met (Channel) - Consumers form strong emotional bonds with their preferred communication devices but can be hard to follow in an omnichannel world. We look to adapt to our consumer devices of choice by using AI tools that will conform to their selected channel communication methods.
    - Show Consumers that we have what they are looking for at just the right time (Offer) - Consumers love personal offers that show a brand cares about them and their situation. Over 75% of consumers are more likely to purchase from a retailer who knows their name as well as their purchase history and recommends on-taste products. And after receiving a personalized recommendation, 49% of consumers even report purchasing a product they were not planning on buying. Delivering relevant offers at scale requires a combination of real-time customer data – also to know what products customers already own – and AI capabilities.
- **Home Delivery**. We will have a home delivery service to a specific range of zip codes to our McKeesport location that will allow us to deliver our product with maximum freshness. This will be accomplished through our web site with a requirement to enter the shoppers delivery zip code first before allowing them access to the product page. An example of a farm selling their product by home deliver is Great Lakes Grower using the web site (https://www.greatlakesgrowersexpress.com/). In their narrative they had been

experimenting with home deliver for a while before getting it to its current state. We envision doing a similar ramp up as we develop a knowledge of what works best in this method of selling.

- **Strategic Relationships**. This will be the key for restaurant sales. Restaurant sales are a consistent income that help reduce any seasonality that we might incur. We feel that the key to sustained restaurant sales, as well as institutional sales, will be the development of an effective inside and outside sales force coupled with the development of tools that wil allow our clients to select product that can be grown in short order to meet their changing menus throughout the year. This will also be the key for grocery store sales because what works for one buyer, doesn't work for another buyer. One buyer may be very data driven. While it doesn't mean that we have to go to IRI, Nielsen, or SPINS and buy their data if we can't afford it. However, we can get it from their stores by checking out their sets, counting their SKUs, determining their average price point, and by knowing how they are promoting their section. Understanding all of that before going in to talk to a grocery store is very important.
- **Sustainability**. We will look to use reusable, recyclable or compostable packaging whenever possible to not add to nonsustainable material. We also look to use the How2Recycle®. The new How2Recycle® Member Platform will allow us to track, measure & improve recyclability of our packaging. to empower the public to know how to recycle packaging. The platform will show us how many of our packaging components feature How2Recycle labels within the four categories of Widely Recycled, Check Locally, Store Drop-off, and Not Yet Recycled. This will allow us to track our brands and their progress with placing the How2Recycle label on their packaging, and will provide an idea of what portion of our How2Recycle labels fall under each category. For example, a brand could learn that 104 of their packaging components feature the Widely Recycled label. With the current movement of grocery stores and other distributors to be more environmental conscious we feel that our efforts in this rea will not only be timely but also sought after.

6.4.1 Sales Forecast

The first three months after we receive our needed funding will be used to prepare the ground and to set up the greenhouse to get things underway. There will be preliminary sales activity from the second month with no significant sales activity until month five, one month before the first produce is harvested.

Specifically, we will obtain out CRM or Sales Management Software and start identifying key sales contacts in the area to make our primary sales targets aware of our presence and impending product offerings.

Much of our emphasis on sales will be based on our ability to grow the produce of desire in our market, so we will be looking to our targets to identify what they or their customers want to purchase. Month six will be our first big sales month with expected product capable to be harvested and with tours taking place of oiur facility for prospective clients.

It should be mentioned that the strawberries and tomatoes will be propagated during the early Winter months to allow us to start harvesting in the early Spring months. According to our business model months seven through nine should place us in the Spring time frame.

Table: Sales Forecast

Sales Forecast					
	Year 1	Year 2	Year 3	Year 4	Year 5
Unit Sales					
Grocery Stores - Lettuce	33,500	36,180	41,540	44,864	48,453
School Districts - Lettuce	260,000	290,000	318,600	352,000	394,000
Restaurants - Lettuce	29,500	32,200	35,300	41,000	43,800
Institutions (Non-School Districts) - Lettuce	135,000	145,800	160,380	177,000	192,000
Food Distributors - Lettuce	53,000	75,000	90,000	115,000	125,000
Grocery Stores - Strawberries	42,000	100,000	100,000	200,000	200,000
School Districts – Strawberries	27,000	65,000	65,000	130,000	130,000
Restaurants - Strawberries	25,000	60,000	60,000	120,000	120,000
Institutions (Non-School Districts) - Strawberries	15,000	35,000	35,000	70,000	70,000
Food Distributors – Strawberries	40,000	100,000	100,000	200,000	200,000
Grocery Stores - Tomatoes	50,000	120,000	120,000	240,000	240,000
School Districts - Tomatoes	40,000	100,000	100,000	200,000	200,000
Restaurants - Tomatoes	25,000	75,000	75,000	150,000	150,000
Institutions (Non-School Districts) - Tomatoes	35,000	85,000	85,000	170,000	170,000
Food Distributors - Tomatoes	40,000	120,000	120,000	240,000	240,000
Fish Market - Perch	5,000	5,000	5,000	5,000	5,000
Grocery Stores - Perch	5,000	5,000	5,000	5,000	5,000
Fish Market - Ccatfish	2,500	2,500	2,500	2,500	2,500
Fish Market - Catfish	2,500	2,500	2,500	2,500	2,500
Total Unit Sales	865,000	1,454,180	1,520,820	2,464,864	2,538,253
Unit Prices	Year 1	Year 2	Year 3	Year 4	Year 5
Grocery Stores - Lettuce	$1.50	$1.50	$1.50	$1.50	$1.50
School Districts - Lettuce	$1.50	$1.50	$1.50	$1.50	$1.50
Restaurants - Lettuce	$1.50	$1.50	$1.50	$1.50	$1.50
Institutions (Non-School Districts) - Lettuce	$1.50	$1.50	$1.50	$1.50	$1.50
Food Distributors - Lettuce	$1.50	$1.50	$1.50	$1.50	$1.50
Grocery Stores - Strawberries	$1.50	$1.50	$1.50	$1.50	$1.50
School Districts – Strawberries	$1.50	$1.50	$1.50	$1.50	$1.50
Restaurants - Strawberries	$1.50	$1.50	$1.50	$1.50	$1.50
Institutions (Non-School Districts) - Strawberries	$1.50	$1.50	$1.50	$1.50	$1.50
Food Distributors – Strawberries	$1.50	$1.50	$1.50	$1.50	$1.50
Grocery Stores - Tomatoes	$1.25	$1.25	$1.25	$1.25	$1.25
School Districts - Tomatoes	$1.25	$1.25	$1.25	$1.25	$1.25
Restaurants - Tomatoes	$1.25	$1.25	$1.25	$1.25	$1.25
Institutions (Non-School Districts) - Tomatoes	$1.25	$1.25	$1.25	$1.25	$1.25
Food Distributors - Tomatoes	$1.25	$1.25	$1.25	$1.25	$1.25
Fish Market - Perch	$1.00	$5.00	$5.00	$5.00	$5.00
Grocery Stores - Perch	$1.00	$5.00	$5.00	$5.00	$5.00

Fish Market - Catfish	$0.60	$3.00	$3.00	$3.00	$3.00
Fish Market - Catfish	$0.60	$3.00	$3.00	$3.00	$3.00

Sales					
Grocery Stores - Lettuce	$50,250	$54,270	$62,310	$67,296	$72,680
School Districts - Lettuce	$390,000	$435,000	$477,900	$528,000	$591,000
Restaurants - Lettuce	$44,250	$48,300	$52,950	$61,500	$65,700
Institutions (Non-School Districts) - Lettuce	$202,500	$218,700	$240,570	$265,500	$288,000
Food Distributors - Lettuce	$79,500	$112,500	$135,000	$172,500	$187,500
Grocery Stores - Strawberries	$63,000	$150,000	$150,000	$300,000	$300,000
School Districts – Strawberries	$40,500	$97,500	$97,500	$195,000	$195,000
Restaurants - Strawberries	$37,500	$90,000	$90,000	$180,000	$180,000
Institutions (Non-School Districts) - Strawberries	$22,500	$52,500	$52,500	$105,000	$105,000
Food Distributors – Strawberries	$60,000	$150,000	$150,000	$300,000	$300,000
Grocery Stores - Tomatoes	$62,500	$150,000	$150,000	$300,000	$300,000
School Districts - Tomatoes	$50,000	$125,000	$125,000	$250,000	$250,000
Restaurants - Tomatoes	$31,275	$93,825	$93,825	$187,650	$187,650
Institutions (Non-School Districts) - Tomatoes	$43,750	$106,250	$106,250	$212,500	$212,500
Food Distributors - Tomatoes	$50,000	$150,000	$150,000	$300,000	$300,000
Fish Market - Perch	$5,000	$25,000	$25,000	$25,000	$25,000
Grocery Stores - Perch	$5,000	$25,000	$25,000	$25,000	$25,000
Fish Market - Ccatfish	$1,500	$7,500	$7,500	$7,500	$7,500
Fish Market - Catfish	$1,500	$7,500	$7,500	$7,500	$7,500
Total Sales	$1,240,525	$2,098,845	$2,198,805	$3,489,946	$3,600,030

Direct Unit Costs	Year 1	Year 2	Year 3	Year 4	Year 5
Grocery Stores - Lettuce	$0.23	$0.22	$0.22	$0.22	$0.22
School Districts - Lettuce	$0.22	$0.22	$0.22	$0.22	$0.22
Restaurants - Lettuce	$0.22	$0.22	$0.22	$0.22	$0.22
Institutions (Non-School Districts) - Lettuce	$0.23	$0.22	$0.22	$0.22	$0.22
Food Distributors - Lettuce	$0.22	$0.22	$0.22	$0.22	$0.22
Grocery Stores - Strawberries	$0.22	$0.22	$0.22	$0.22	$0.22
School Districts – Strawberries	$0.22	$0.22	$0.22	$0.22	$0.22
Restaurants - Strawberries	$0.23	$0.22	$0.22	$0.22	$0.22
Institutions (Non-School Districts) - Strawberries	$0.22	$0.22	$0.22	$0.22	$0.22
Food Distributors – Strawberries	$0.22	$0.22	$0.22	$0.22	$0.22
Grocery Stores - Tomatoes	$0.19	$0.19	$0.19	$0.19	$0.19
School Districts - Tomatoes	$0.19	$0.19	$0.19	$0.19	$0.19
Restaurants - Tomatoes	$0.19	$0.19	$0.19	$0.19	$0.19
Institutions (Non-School Districts) - Tomatoes	$0.19	$0.19	$0.19	$0.19	$0.19
Food Distributors - Tomatoes	$0.19	$0.19	$0.19	$0.19	$0.19
Fish Market - Perch	$0.15	$0.75	$0.75	$0.75	$0.75
Grocery Stores - Perch	$0.15	$0.75	$0.75	$0.75	$0.75
Fish Market - Ccatfish	$0.09	$0.45	$0.45	$0.45	$0.45
Fish Market - Catfish	$0.09	$0.45	$0.45	$0.45	$0.45

Direct Cost of Sales					
Grocery Stores - Lettuce	$7,538	$8,140	$9,346	$10,094	$10,902
School Districts - Lettuce	$58,500	$65,250	$71,685	$79,200	$88,650
Restaurants - Lettuce	$6,637	$7,245	$7,942	$9,225	$9,855
Institutions (Non-School Districts) - Lettuce	$30,375	$32,805	$36,086	$39,825	$43,200
Food Distributors - Lettuce	$11,925	$16,875	$20,250	$25,875	$28,125
Grocery Stores - Strawberries	$9,450	$22,500	$22,500	$45,000	$45,000
School Districts – Strawberries	$6,075	$14,625	$14,625	$29,250	$29,250
Restaurants - Strawberries	$5,625	$13,500	$13,500	$27,000	$27,000
Institutions (Non-School Districts) - Strawberries	$3,375	$7,875	$7,875	$15,750	$15,750
Food Distributors – Strawberries	$9,000	$22,500	$22,500	$45,000	$45,000
Grocery Stores - Tomatoes	$9,375	$22,500	$22,500	$45,000	$45,000
School Districts - Tomatoes	$7,500	$18,750	$18,750	$37,500	$37,500
Restaurants - Tomatoes	$4,691	$14,074	$14,074	$28,147	$28,147
Institutions (Non-School Districts) - Tomatoes	$6,563	$15,938	$15,938	$31,875	$31,875
Food Distributors - Tomatoes	$7,500	$22,500	$22,500	$45,000	$45,000
Fish Market - Perch	$750	$3,750	$3,750	$3,750	$3,750
Grocery Stores - Perch	$750	$3,750	$3,750	$3,750	$3,750
Fish Market - Ccatfish	$225	$1,125	$1,125	$1,125	$1,125
Fish Market - Catfish	$225	$1,125	$1,125	$1,125	$1,125
Subtotal Direct Cost of Sales	$186,079	$314,827	$329,821	$523,492	$540,004

Chart: Sales Monthly

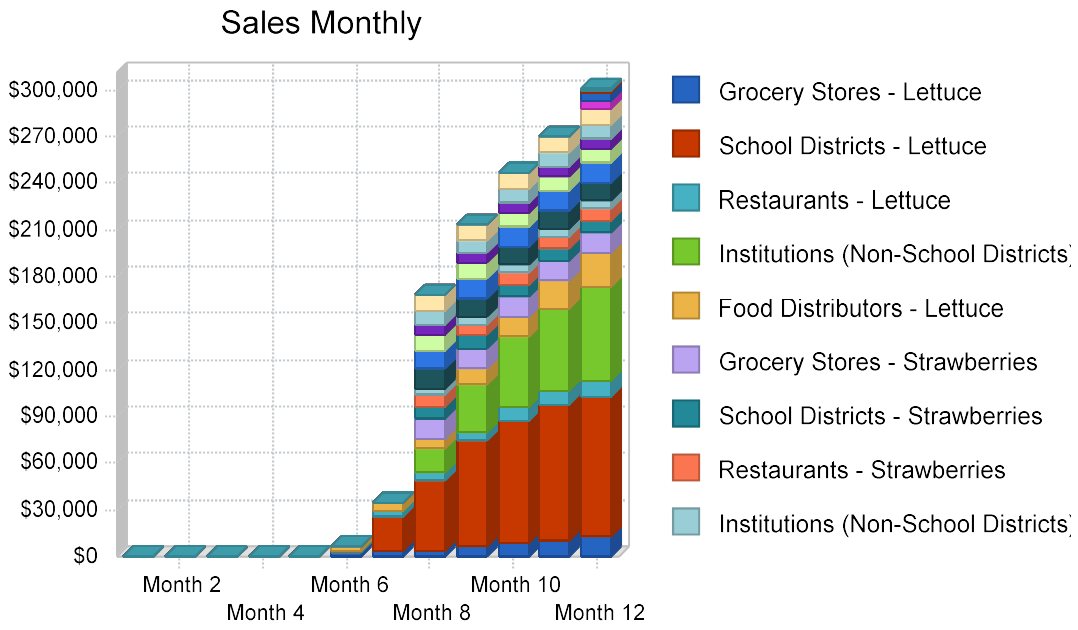
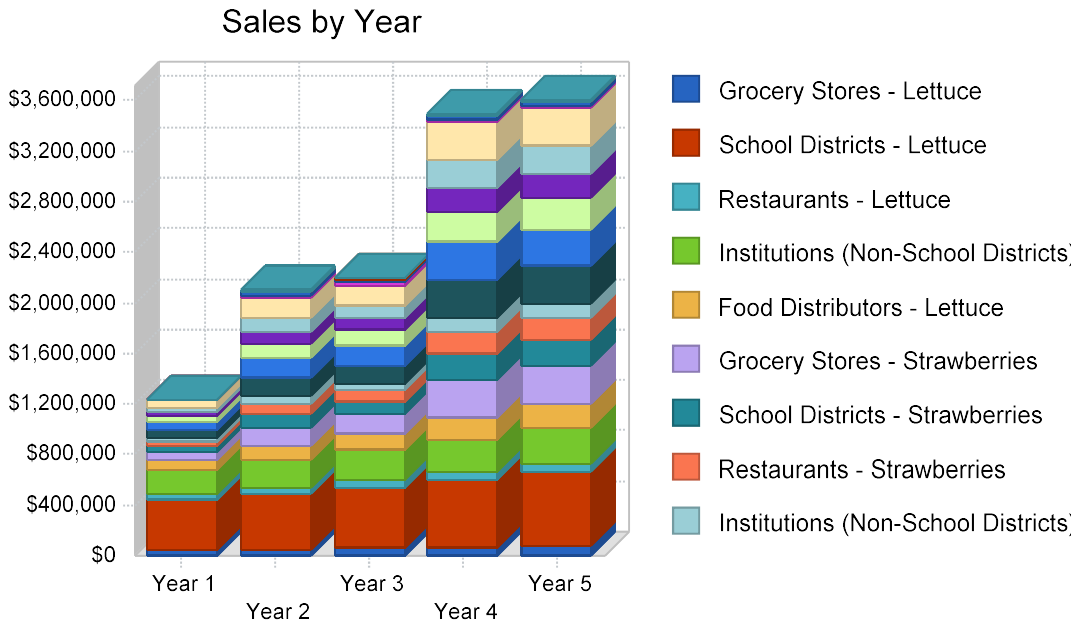


Chart: Sales by Year



6.5 Milestones

Mon Valley Aquaponics has several milestones early on:

1. Incorporate Business - We have incorporated our business as an S-Corporation as of June 1, 2018.
2. Business Plan Completion - A business plan was started when the business was filed as an incorporated entity on the Federal level and as a Pennsylvania business. The business pan is an important component in order to attract and obtain funding. On an on-going basis the progress of the business will look for guidance from the business plan. The plan will be evolved as the core business model changes over time to protect and grow our owners' equity.
3. Funding Received - We anticipate receiving our funding in June 2019.
4. Executive Training - Our corporate leaders will travel to Wisconsin to receive a full week of training by Nelson & Pade, our aquaponic growing system supplier. The training will take place after the growing systems are ordered. If we get our funding in June 2019 then we will arrange to place the order for the growing systems right away and hopefully traing during July.
5. Create a Formal Project Plan - We will notify all our selected vendors and arrange for a project overview meeting as-soon-as-possible to be followed up with the design of a formal project management document by using a major on-line Project Management Software (PMS) package. The PMS software will address these major project issues (among other things):
    a. Greenhouse set-up - After we receive our funding we will have to work on a concert of things that wil range from preparing the first six acres

to building our greenhouses along with the construction of our anchor building. It is believed at this point that the construction of the greenhouse and the anchor building will be accomplished within five to six months after the funding is received. Within that same time frame we are looking to order and acquire the growing systems that we need to start growing our fish and produce / fruit.

b. First batch of produce / fruit sold - Simultaneously to the physical farm structures being ordered and built, we look to acquire our fish and seeds. After the greenhouses are up and the LED lighting installed we will be able to anticipate the growth of our first produce and fruit. The lettuce related products will be grown first since they are not as seasonal as strawberries and tomatoes. We look to start growing our strawberries and tomatoes somewhere in our eighth and ninth month of operations with an expected first harvest coming within a month later. This means that our business will have to build our sales relationship and quickly secure vendor contracts to ship our product during the end of this time period.

c. The end of the consumer season and the ramping up of the restaurant supply cycle - We believe that if we can follow a fairly close time line in the previous mentioned items we will give ourselves an optimum chance of approaching the consumer market and the restaurant market at a point when menus will be changing and food selections will occur because of a seasonal change from Spring to Summer with produce consumption headed into a high point during the year.

Table: Milestones

Milestones

Milestone	Start Date	End Date	Budget	Manager	Department
Incorporate Business	6/1/2018	6/1/2018	$150	Juan Lacey	C - Suite
Business Plan Completion	6/1/2018	6/1/2019	$300	Juan Lacey	C - Suite
Funding Received	6/1/2019	6/30/2006	$0	Juan and Jessica Lacey	C - Suite
Executive Training	7/1/2019	7/31/2019	$15,000	Juan and Jessica Lacey	C - Suite
Create a Formal Project Plan	7/1/2019	7/15/2019	$3,000	Juan and Jessica Lacey	C - Suite
Totals			$18,450		

7.0 Management Summary

Juan Lacey, founder and owner, first became interested in growing vegetables through an aquaponics systems while working at the Pittsburgh, North Hill club after encountering a member of a non-profit organization within Pittsburgh who was turned down on the project plan by the local community in 2007 because the residents believed that the farm would emit a large fish smell in their neighborhood. The idea seemed so interesting that he researched the benefits of aquaponics for every year since being exposed to the idea. And, by-the-way aquaponics does not release a fish odor!

Over the years, Juan has performed enough research to determine that there are at least two constant conditions with aquaponics:

1. Size Matters - Unless you what to create a hobby or a small business that requires your personal labor to keep the farm operational, the farm operations must be large.
2. Science Matter - Many people underestimate the importance of knowing all the scientific principals behind aquaponics until the system starts to exhibit problems.

Both conditions are actually related in that if you create a large system that is science based it will succeed. To that end, the Mon Valley Aquaponics operations has determined that the best solution is to turn to the most respected name in aquaponics, Nelson and Pade, to provide our aquaponic systems.

Besides that, the business will be built on the backgrounds of the three principle individuals in this startup:

Juan Lacey, MBA, President - The following is a summary of his qualifications:

- Current owner of an Anago Cleaning franchise
- Current owner of the A & H Green Solutions business that focuses on commercial office cleaning
- Previous Sam's Club Lead Cashier Supervisor, Membership Champion and Produce Clerk
- Previous Insurance Sales Manager
- Previous Adjunct Instructor with the University of Phoenix and Sojourner Douglas College
- Previous Admissions Representative with Argosy University
- Previous Records and Information Manager for NS&T Bank, and IBEW International Headquarters

He brings a unique blend of corporate back-office and entrepeneurship experiences. By and large the important skill that he brings to this business and

process of getting funded is his ability to team build and leadership. He believes that vendors should not work independent of each other since this in many ways is a blend of skills, services and capacities. Secondary to team building is his multiple industry experiences in sales spanning financial and retail.

Jessica Lacey - The following is a summary of her qualifications:

- European trained Pastry Chef
- Culinary chef
- Received her Associated Degree of Applied Science with a major in Pastry and Applied Science
- Worked in numerous hotels, restaurant and catering facilities throughout the Washington, DC metropolitan and the Greater Pittsburgh and surrounding counties are various culinary positions
- Culinary Arts instructor at the AW Beatty School
- Restaurant Manager at Boston Market
- Real Estate Agent since 2008 in the Pittsburgh, PA region

She brings a very unique blend of sales and food skills to her position that will allow her to effectively talk to restauranteurs as well as institutional food managers to advance our sales. She will particularly have a heavy hand into the digital advertising to personal buyers and restaurants when it comes to recipe and menu development to include our products.

Patrick Bondi, Chief Grower - The following is a summary of his qualifications:

- Advanced Certificate in Accounting Bidwell Training Center Inc., Technical School, Diploma of Horticulture Technology with a specialty in Botany, Greenhouse Production, Pest Management, and Plant Propagation
- Worked as a Horticulturalist with Carnegie Mellon University where he:
    - Involved with Agricultural-Based Research with the Robotics Institute of Carnegie Mellon University
    - Was Responsible for plant and research material for robotic agricultural-based research project
    - Promoted growth on the ALMONO site, situated on a 180 acre brownfield which housed a steel/coke making facility
    - Planted 500 hybrid poplars, maintained 300 trees for a simulated orchard, Switch Grass Research Project, installation of turf
- Worked as a Horticulturalist at the Valley Brook Country Club where he:
    - Was responsible for improving the aesthetics of the 350 acre golf cours
    - Designed, selected, installed, propagated and maintained ornamental planting areas within budget constraint
    - Provided direction and supervise grounds crew as required
- Worked as the Horticulturalist for G-Tech Strategies where he:
    - Was instrumental in the non-profit start-up

- Developed a working plan on the ALMONO site and vacant property within the East Liberty section of Pittsburgh, Pa.

7.1 Personnel Plan

The staff will be working on a part-time basis within the first year as the farm greenhouses are built and the growing systems are erected and put into operations. However, until such time as the systems bacteria levels grow to the point that the business can start planting crop, a limited staff will be working on a full-time basis in the greenhouses to both monitor and harvest the production. The rest of their time will be devoted to developing the operational procedures and the sales and marketing routines.

The full-time staff will consist of the President, Vice President and the Chief Grower. The support staff members represented by the Administrative Assistant, the Sales Representative and the Grower Assistants will be hired as the systems come on-line and in an as-needed basis as the sales and marketing systems are delivered and installed. While the plan shows specific months for the addition of these personnel positions, we will constantly monitor the need for early or delayed fulfillment of these jobs.

An additional factor will effect the fulfillment of jobs - automation. At the current time, we are in communication with agriculture robotic manufacturers to see exactly what their devices will play in our business model. Specifically, we are looking at robotic picking devices for both strawberries and tomatoes. We anticipate that the part-time personnel could be eliminated by using robotics.

We find that we must take these step to automate as many repetitive points of our operations to not eliminate personnel, but to add tools to protect those jobs from future competitive downward budget pressure. With that said, there is another reason that forces us to look at automation and that is the information that in April of 2019, Pittsburgh-area wages rose 5.4% year-over-year, compared with 1% annual wage growth in Pennsylvania and the 2.5% wage growth seen nationwide. Our operation must take steps now to contain the escalation of wage growth across our operation while providing our workforce with a fair and sustainable wage.

It should also be mentioned that we will operate an internal Day Care operations for our employees. We believe that it will greatly enhance our ability to retain employees and also allow our business to effectively recruit from the communities that surround McKeesport. We have already received an agreement from the Maplewood Kids Daycare to operate the center, so we will not have to get the operational certifications because the Maplewood principal will be running our center.

Table: Personnel

Personnel Plan	Year 1	Year 2	Year 3	Year 4	Year 5
President	$12,000	$12,000	$12,000	$12,000	$12,000
Vice President	$12,000	$12,000	$12,000	$12,000	$12,000
Administrative Assistant	$22,264	$22,932	$23,619	$24,327	$25,056
Sales Representative	$0	$24,000	$24,720	$25,462	$26,225
Fish Manager	$0	$0	$28,000	$28,840	$29,705
Chief Grower	$36,630	$38,192	$39,338	$40,518	$40,588
Assistant Grower 1	$18,180	$24,000	$26,000	$28,000	$30,000
Assistant Grower 2	$16,600	$24,000	$26,000	$28,000	$30,000
Assistant Grower 3	$14,300	$24,000	$26,000	$28,000	$30,000
Assistant Grower 4	$12,000	$24,000	$26,000	$28,000	$30,000
Assistant Grower 5	$12,000	$24,000	$26,000	$28,000	$30,000
Assistant Grower 6	$8,000	$24,000	$26,000	$28,000	$30,000
Assistant Grower 7	$8,000	$24,000	$26,000	$28,000	$30,000
Assistant Grower 8	$6,000	$24,000	$26,000	$28,000	$30,000
Assistant Grower 9	$6,000	$24,000	$26,000	$28,000	$30,000
Assistant Grower 10	$4,000	$24,000	$26,000	$28,000	$30,000
Assistant Grower 11	$4,000	$24,000	$26,000	$28,000	$30,000
Assistant Grower 12	$2,000	$26,400	$27,600	$28,000	$30,000
Assistant Grower 13 (Part Time)	$1,500	$18,000	$18,000	$18,000	$18,000
Assistant Grower 14 (Part Time)	$0	$18,000	$18,000	$18,000	$18,000
Assistant Grower 15 (Part Time)	$0	$18,000	$18,000	$18,000	$18,000
Assistant Grower 16 (Part Time)	$0	$18,000	$18,000	$18,000	$18,000
Assistant Grower 17 (Part Time)	$0	$18,000	$18,000	$18,000	$18,000
Assistant Grower 18 (Part Time)	$0	$18,000	$18,000	$18,000	$18,000
Assistant Grower 19 (Part Time)	$0	$18,000	$18,000	$18,000	$18,000
Assistant Grower 20 (Part Time)	$0	$18,000	$18,000	$18,000	$18,000
Assistant Grower 21 (Part Time)	$0	$18,000	$18,000	$18,000	$18,000
Assistant Grower 22 (Part Time)	$0	$18,000	$18,000	$18,000	$18,000
Assistant Grower 23 (Part Time)	$0	$18,000	$18,000	$18,000	$18,000
Assistant Grower 24 (Part Time)	$0	$18,000	$18,000	$18,000	$18,000
Total People	4	20	25	30	40
Total Payroll	$195,474	$615,524	$669,277	$695,147	$721,574

8.0 Financial Plan

The following sections will outline the important financial information.

We want to finance growth through a combination of special funding programs, long term debt and cash flow. Specifically, we want to utilize the 2017 Federal Opportunity Zone funding capability in our farming capitalization. In addition to that is the use of the Keystone Opportunity Funding and other Pennsylvania State programs. We will also try to utilize other traditional Federal Farming Startup programs found through the US Agriculture Department.

It is our goal to purchase our facility, equipment and technology to be used in the iniitial six acre build out through the use of the Federal Opportunity Zone provisions with any shortfall in needed funds being made up through long-term debt.

8.1 Startup Funding

The Mon Valley Aquaponics operation will use the startup funding in two phases. The first phase will be used to create an Opportunity Fund that will be used to fund our business startup. The second phase will be the execution of the Opportunity Funds to actually start the asset purchase process.

Phase One:

1. Secure a business agent that will raise the needed funds to support a contract with the "Eazy Do It" organization and the other components recommended by "Eazy Do It" in their contract that are additional cost to supply us with the needed tools and connections to build an Opportunity Fund. Those components consist of:
    - The actual contract with "Eazy Do It."
    - Registration of our fund domain name
    - Registration of our fund corporation in Delaware
    - NES Financial fund administration account setup
    - Broker Dealer Review. Brokers dealers will usually charge a fee to cany the due diligence costs and risks associated with approving alternative high risk investments like qualified opportunity funds to be sold via broker distribution networks. Eazy Do It will build the fund to meet FINRA 1022 Compliance and Diligence standards. Unless otherwise directed by you, Eazy Do It will seek to have your fund reviewed, and listed on the ENTREX Capital Market and to serve as Master Broker Dealer.
    - Additional Future Events. Various Family Office events are hosted throughout the year. Eazy Do It is routinely asked to be involved with these types of events. The involvement almost always includes the fund and its representatives pitching to high net worth investors. These events are very exclusive and may involve additional travel expenses and sponsorship costs.

Phase Two:

1. Property Acquisition - The plan calls for the purchase of 30 acres in the McKeesport RIDC Industrial Park.
2. Property Preparation - The preparation of the first 6 acres of the 30 acres will begin with the excavation of the one foot of soil across the 6 acres to put in a plastic frost-line barrier installed under a GAHT system. The GAHT (or Ground to Air Heat Transfer System) will allow us to blow heated

air during colder months below ground to heat the ground that will warm the farm at night after the temperatures drop. This is a passive way to heat the facility at night by leveraging the day-time heat. The ground will be returned to their original level and then three feet of dirt will be added to build a higher foundation across the farm.

3. Greenhouse Construction - We will build a greenhouse to enclose the 6 acres with two of the 6 acres attached but separated from the other 4 acres by a barrier wall to permit for the containment of bees to pollinate Strawberry and Tomato flowers.
4. Cogeneration Power (CHP) - The natural gas powered CHP will be ordered almost immediately after funding permits it to be run, as soon as possible, so that we generate credits through our local electric company by putting power back on the electric grid.
5. Water Treatment System - We will order the filtration tanks to take out chlorine and reverse osmosis tanks to take out any other particulants left in the municipal water.
6. Office Construction - We will build a free standing, one story building comprised of a wood frame with a brick masonry facade and a metal roof. The building will be comprised of three private offices, daycare environment, conference room, open area space, restrooms, janitor closet, storage and maintenance room. The building will have twelve foot eaves and an eight foot deep vestibule attached to both the office building and the greenhouse as an airlock vestibule.
7. Growing Systems - We will be ordering and assembling all our growing systems. However, we will only start systems to support our sales.
8. Fish and Plants/Seeds - Like the growing systems, the fish and the plants/seeds will be purchases as our sales increase.
9. Web Site - A professionally designed web site will be developed and installed.

Table: Startup Funding

Startup Funding	
Startup Expenses to Fund	$8,599,269
Startup Assets to Fund	$0
Total Funding Required	$8,599,269
Assets	
Non-cash Assets from Startup	$0
Cash Requirements from Startup	$0
Additional Cash Raised	$0
Cash Balance on Starting Date	$0
Total Assets	$0

Liabilities and Capital	
Liabilities	
Current Borrowing	$0
Long-term Liabilities	$0
Accounts Payable (Outstanding Bills)	$0
Other Current Liabilities (interest-free)	$0
Total Liabilities	$0
Capital	
Planned Investment	
Heidi Ponic	$50,000
Investor 2	$10,000
Other	$0
Additional Investment Requirement	$8,539,269
Total Planned Investment	$8,599,269
Loss at Startup (Startup Expenses)	($8,599,269)
Total Capital	$0
Total Capital and Liabilities	$0
Total Funding	$8,599,269

8.2 Important Assumptions

The following table highlights some of the important financial assumptions.

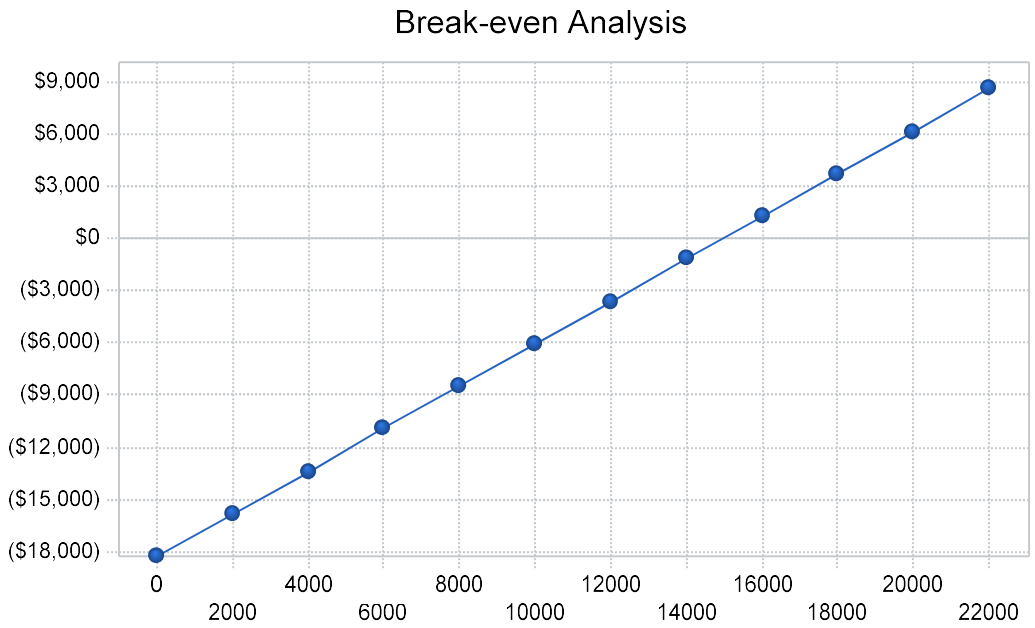
8.3 Break-even Analysis

The Break-even Analysis below indicates the monthly sales needed to break even.

Table: Break-even Analysis

Break-even Analysis	
Monthly Units Break-even	14,972
Monthly Revenue Break-even	$21,472
Assumptions:	
Average Per-Unit Revenue	$1.43
Average Per-Unit Variable Cost	$0.22
Estimated Monthly Fixed Cost	$18,251

Chart: Break-even Analysis



8.4 Projected Profit and Loss

The following table will indicate projected profit and loss. Our losses at start-up are evident, as is the turn of the corner in July when we become profitable.

Table: Profit and Loss

Pro Forma Profit and Loss

	Year 1	Year 2	Year 3	Year 4	Year 5
Sales	$1,240,525	$2,098,845	$2,198,805	$3,489,946	$3,600,030
Direct Cost of Sales	$186,079	$314,827	$329,821	$523,492	$540,004
Other	$0	$0	$0	$0	$0
Total Cost of Sales	$186,079	$314,827	$329,821	$523,492	$540,004
Gross Margin	$1,054,446	$1,784,018	$1,868,984	$2,966,454	$3,060,025
Gross Margin %	85.00%	85.00%	85.00%	85.00%	85.00%
Expenses					
Payroll	$195,474	$615,524	$669,277	$695,147	$721,574
Sales and Marketing and Other Expenses	$0	$0	$0	$0	$0
Depreciation	$2,532	$2,532	$2,532	$0	$0
Leased Equipment	$0	$0	$0	$0	$0

Utilities	$3,000	$3,000	$3,000	$0	$0
Insurance	$2,400	$2,400	$2,400	$0	$0
Rent	$6,000	$6,000	$6,000	$0	$0
Payroll Taxes	$9,608	$10,200	$11,925	$0	$0
Other	$0	$0	$0	$0	$0
Total Operating Expenses	$219,014	$639,656	$695,134	$695,147	$721,574
Profit Before Interest and Taxes	$835,433	$1,144,362	$1,173,850	$2,271,307	$2,338,451
EBITDA	$837,965	$1,146,894	$1,176,382	$2,271,307	$2,338,451
Interest Expense	($130)	($360)	($520)	($560)	($560)
Taxes Incurred	$250,669	$343,417	$352,311	$681,560	$701,703
Net Profit	$584,894	$801,305	$822,059	$1,590,307	$1,637,308
Net Profit/Sales	47.15%	38.18%	37.39%	45.57%	45.48%

Chart: Profit Monthly

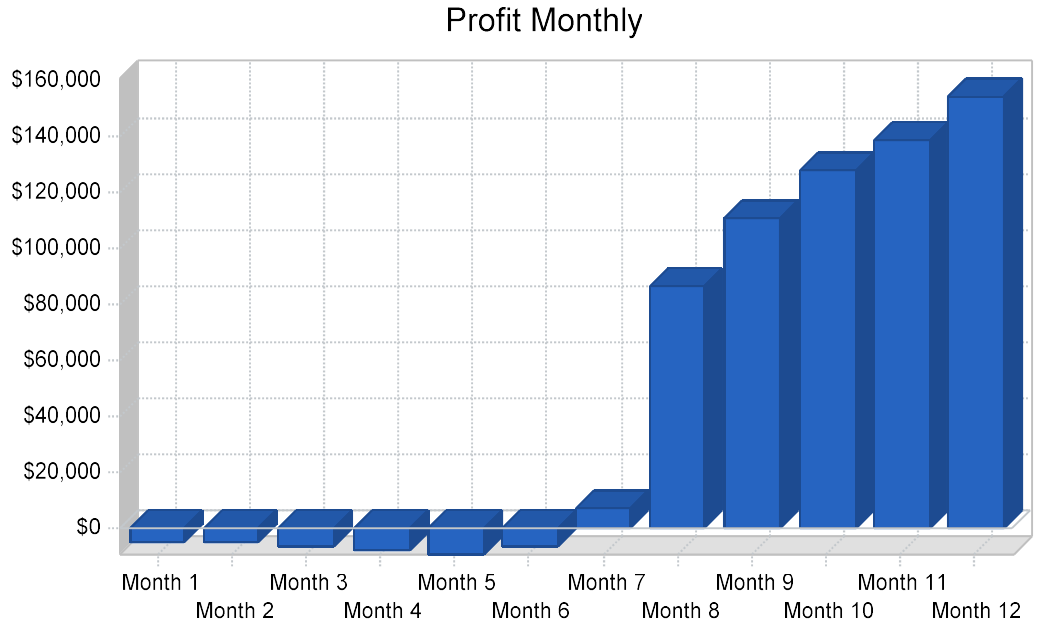


Chart: Profit Yearly

Chart: Gross Margin Monthly

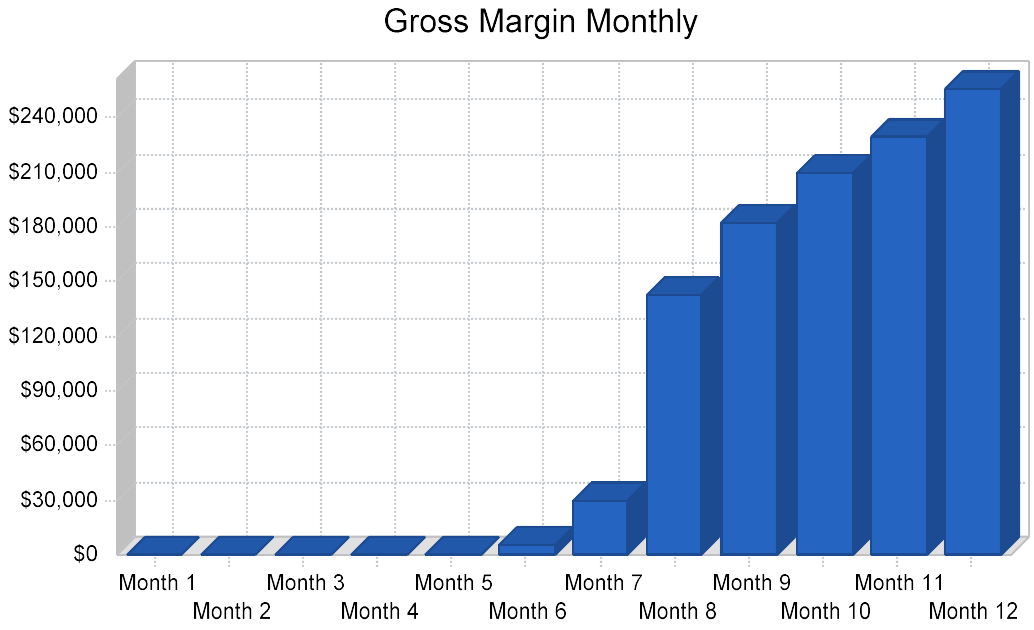
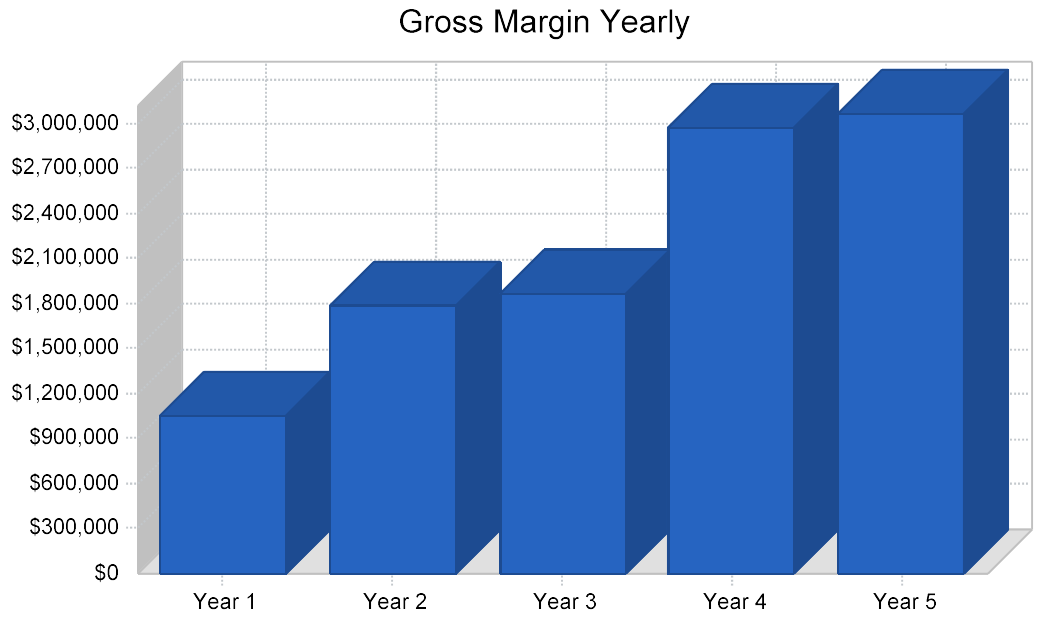


Chart: Gross Margin Yearly



8.5 Projected Cash Flow

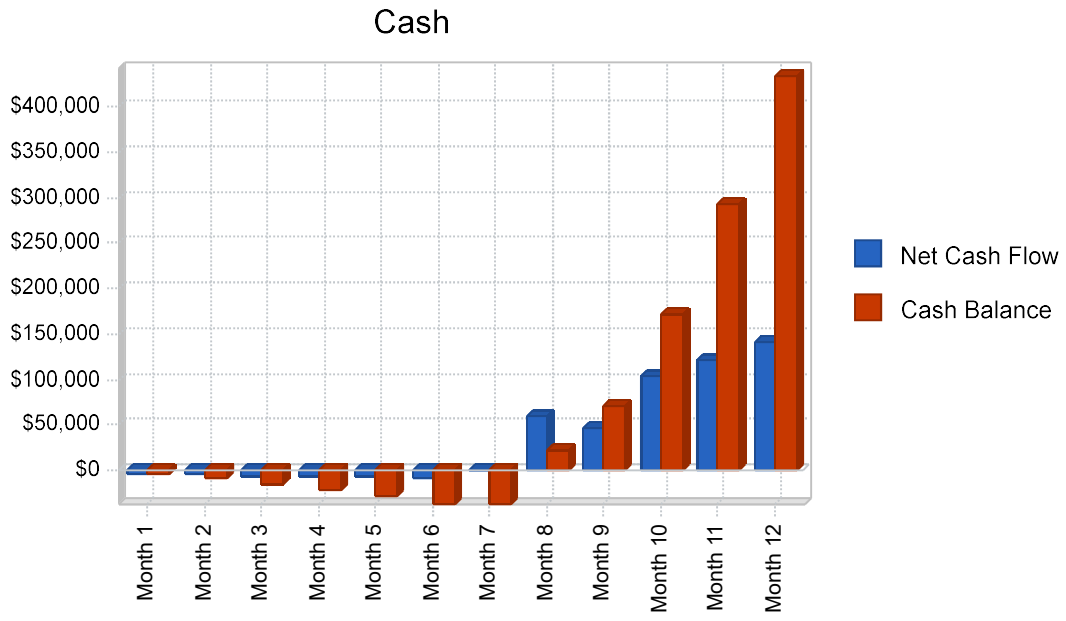
The following chart and table will indicate projected cash flow.

Table: Cash Flow

Pro Forma Cash Flow	Year 1	Year 2	Year 3	Year 4	Year 5
Cash Received					
Cash from Operations					
Cash Sales	$620,263	$1,049,423	$1,099,403	$1,744,973	$1,800,015
Cash from Receivables	$474,801	$948,778	$1,087,681	$1,593,576	$1,787,107
Subtotal Cash from Operations	$1,095,063	$1,998,200	$2,187,084	$3,338,549	$3,587,121
Additional Cash Received					
Sales Tax, VAT, HST/GST Received	$0	$0	$0	$0	$0
New Current Borrowing	$0	$0	$0	$0	$0
New Other Liabilities (interest-free)	$0	$0	$0	$0	$0
New Long-term Liabilities	$0	$0	$0	$0	$0
Sales of Other Current Assets	$0	$0	$0	$0	$0
Sales of Long-term Assets	$0	$0	$0	$0	$0
New Investment Received	$0	$0	$0	$0	$0
Subtotal Cash Received	$1,095,063	$1,998,200	$2,187,084	$3,338,549	$3,587,121

Expenditures	Year 1	Year 2	Year 3	Year 4	Year 5
Expenditures from Operations					
Cash Spending	$195,474	$615,524	$669,277	$695,147	$721,574
Bill Payments	$464,798	$749,813	$659,722	$1,270,954	$1,185,273
Subtotal Spent on Operations	$660,272	$1,365,337	$1,328,999	$1,966,101	$1,906,847
Additional Cash Spent					
Sales Tax, VAT, HST/GST Paid Out	$0	$0	$0	$0	$0
Principal Repayment of Current Borrowing	$2,400	$2,400	$800	$0	$0
Other Liabilities Principal Repayment	$0	$0	$0	$0	$0
Long-term Liabilities Principal Repayment	$0	$0	$0	$0	$0
Purchase Other Current Assets	$0	$0	$0	$0	$0
Purchase Long-term Assets	$0	$0	$0	$0	$0
Dividends	$0	$0	$0	$0	$0
Subtotal Cash Spent	$662,672	$1,367,737	$1,329,799	$1,966,101	$1,906,847
Net Cash Flow	$432,391	$630,463	$857,285	$1,372,448	$1,680,274
Cash Balance	$432,391	$1,062,854	$1,920,140	$3,292,588	$4,972,862

Chart: Cash



8.6 Projected Balance Sheet

The following table will indicate the projected balance sheet.

Table: Balance Sheet

Pro Forma Balance Sheet					
	Year 1	Year 2	Year 3	Year 4	Year 5
Assets					
Current Assets					
Cash	$432,391	$1,062,854	$1,920,140	$3,292,588	$4,972,862
Accounts Receivable	$145,462	$246,107	$257,828	$409,224	$422,133
Inventory	$135,430	$133,164	$86,382	$207,722	$139,259
Other Current Assets	$0	$0	$0	$0	$0
Total Current Assets	$713,283	$1,442,125	$2,264,350	$3,909,534	$5,534,254
Long-term Assets					
Long-term Assets	$0	$0	$0	$0	$0
Accumulated Depreciation	$2,532	$5,064	$7,596	$7,596	$7,596
Total Long-term Assets	($2,532)	($5,064)	($7,596)	($7,596)	($7,596)
Total Assets	$710,751	$1,437,061	$2,256,754	$3,901,938	$5,526,658
Liabilities and Capital	Year 1	Year 2	Year 3	Year 4	Year 5
Current Liabilities					
Accounts Payable	$128,257	$55,662	$54,095	$108,972	$96,385
Current Borrowing	($2,400)	($4,800)	($5,600)	($5,600)	($5,600)
Other Current Liabilities	$0	$0	$0	$0	$0
Subtotal Current Liabilities	$125,857	$50,862	$48,495	$103,372	$90,785
Long-term Liabilities	$0	$0	$0	$0	$0
Total Liabilities	$125,857	$50,862	$48,495	$103,372	$90,785
Paid-in Capital	$8,599,269	$8,599,269	$8,599,269	$8,599,269	$8,599,269
Retained Earnings	($8,599,269)	($8,014,375)	($7,213,070)	($6,391,010)	($4,800,703)
Earnings	$584,894	$801,305	$822,059	$1,590,307	$1,637,308
Total Capital	$584,894	$1,386,199	$2,208,259	$3,798,566	$5,435,873
Total Liabilities and Capital	$710,751	$1,437,061	$2,256,754	$3,901,938	$5,526,658
Net Worth	$584,894	$1,386,199	$2,208,259	$3,798,566	$5,435,873

8.7 Business Ratios

Business ratios for the years of this plan are shown below. Industry profile ratios based on the Standard Industrial Classification (SIC) code 0161, Lettuce Farms, as part of Vegetables and Melons, Not Elsewhere Classified, are shown for comparison.

Table: Ratios

Ratio Analysis	Year 1	Year 2	Year 3	Year 4	Year 5	Industry Profile
Sales Growth	n.a.	69.19%	4.76%	58.72%	3.15%	6.31%
Percent of Total Assets						
Accounts Receivable	20.47%	17.13%	11.42%	10.49%	7.64%	4.53%
Inventory	19.05%	9.27%	3.83%	5.32%	2.52%	8.07%
Other Current Assets	0.00%	0.00%	0.00%	0.00%	0.00%	30.39%
Total Current Assets	100.36%	100.35%	100.34%	100.19%	100.14%	42.98%
Long-term Assets	-0.36%	-0.35%	-0.34%	-0.19%	-0.14%	57.02%
Total Assets	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Current Liabilities	17.71%	3.54%	2.15%	2.65%	1.64%	17.05%
Long-term Liabilities	0.00%	0.00%	0.00%	0.00%	0.00%	44.57%
Total Liabilities	17.71%	3.54%	2.15%	2.65%	1.64%	61.63%
Net Worth	82.29%	96.46%	97.85%	97.35%	98.36%	38.37%
Percent of Sales						
Sales	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Gross Margin	85.00%	85.00%	85.00%	85.00%	85.00%	69.14%
Selling, General & Administrative Expenses	107.19%	78.41%	64.56%	50.00%	0.00%	12.86%
Advertising Expenses	0.00%	0.00%	0.00%	0.00%	0.00%	0.33%
Profit Before Interest and Taxes	67.35%	54.52%	53.39%	65.08%	64.96%	4.25%
Main Ratios						
Current	5.67	28.35	46.69	37.82	60.96	1.47
Quick	4.59	25.74	44.91	35.81	59.43	0.99
Total Debt to Total Assets	17.71%	3.54%	2.15%	2.65%	1.64%	61.63%
Pre-tax Return on Net Worth	142.86%	82.58%	53.18%	59.81%	43.03%	9.43%
Pre-tax Return on Assets	117.56%	79.66%	52.04%	58.22%	42.32%	3.62%
Additional Ratios	Year 1	Year 2	Year 3	Year 4	Year 5	
Net Profit Margin	47.15%	38.18%	37.39%	45.57%	45.48%	n.a
Return on Equity	100.00%	57.81%	37.23%	41.87%	30.12%	n.a
Activity Ratios						

Accounts Receivable Turnover	4.26	4.26	4.26	4.26	4.26	n.a
Collection Days	29	68	84	70	84	n.a
Inventory Turnover	4.00	2.34	3.00	3.56	3.11	n.a
Accounts Payable Turnover	4.62	12.17	12.17	12.17	12.17	n.a
Payment Days	30	50	30	22	32	n.a
Total Asset Turnover	1.75	1.46	0.97	0.89	0.65	n.a
Debt Ratios						
Debt to Net Worth	0.22	0.04	0.02	0.03	0.02	n.a
Current Liab. to Liab.	1.00	1.00	1.00	1.00	1.00	n.a
Liquidity Ratios						
Net Working Capital	$587,426	$1,391,263	$2,215,855	$3,806,162	$5,443,469	n.a
Interest Coverage	0.00	0.00	0.00	0.00	0.00	n.a
Additional Ratios						
Assets to Sales	0.57	0.68	1.03	1.12	1.54	n.a
Current Debt/Total Assets	18%	4%	2%	3%	2%	n.a
Acid Test	3.44	20.90	39.59	31.85	54.78	n.a
Sales/Net Worth	2.12	1.51	1.00	0.92	0.66	n.a
Dividend Payout	0.00	0.00	0.00	0.00	0.00	n.a

8.8 Long-term Plan

In addition to the enclosed financial information contained in this Business Plan, MVA would like to make the following observations that were not emphasized in this Business Plan:

The Business Plan covers five years of activities. We consider the financial projections in the Business Plan as conservative. Since the beginning of the idea to build an aquaponics business was conceived by Juan Lacey, he decided to find systems and solutions that had proven track records and could be duplicated with relative ease and with virtual little training. He also worked with the premise to create a business that could easily adapt to market conditions and demographic buying shifts. For those reasons, the long-term plan is gravitated to the conservative side with the potential to perform in a manner that will outperform its competitors because of its business model that will continually listen and engage with its current and future customers to deliver value.

With this said, our plan looks to properly manage our operations and to grow into potential other areas of expansion such as Salmon Farming and Hemp Farming. This is but one reason why an Opportunity Zone Fund investor will find us a very good target since their maximum benefit horizon is actually ten years.

For that purpose we look to make significant movements to embrace the potential to establish satellite small farm locations around Allegheny County and even within the City of Pittsburgh to provide a neighborhood year-round farming operation that can cater to very local food demands that may not ever have had a chance to get what a local community wants on a twelve month basis within a short drive or even a short walking distance.

By performing a very localized expansion we will look to take advantage of local tax and funding advantages.

Table: Sales Forecast

Sales Forecast

		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
Unit Sales													
Grocery Stores - Lettuce	0%	0	0	0	0	0	2,000	2,500	3,000	4,500	6,000	7,000	8,500
School Districts - Lettuce	0%	0	0	0	0	0	0	15,000	30,000	45,000	52,000	58,000	60,000
Restaurants - Lettuce	0%	0	0	0	0	0	1,000	2,000	3,000	4,000	6,000	6,500	7,000
Institutions (Non-School Districts) - Lettuce	0%	0	0	0	0	0	0	0	10,000	20,000	30,000	35,000	40,000
Food Distributors - Lettuce	0%	0	0	0	0	0	1,500	3,500	4,500	7,500	9,000	12,000	15,000
Grocery Stores - Strawberries	0%	0	0	0	0	0	0	0	8,400	8,400	8,400	8,400	8,400
School Districts - Strawberries	0%	0	0	0	0	0	0	0	5,400	5,400	5,400	5,400	5,400
Restaurants - Strawberries	0%	0	0	0	0	0	0	0	5,000	5,000	5,000	5,000	5,000
Institutions (Non-School Districts) - Strawberries	0%	0	0	0	0	0	0	0	3,000	3,000	3,000	3,000	3,000
Food Distributors - Strawberries	0%	0	0	0	0	0	0	0	8,000	8,000	8,000	8,000	8,000
Grocery Stores - Tomatoes	0%	0	0	0	0	0	0	0	10,000	10,000	10,000	10,000	10,000
School Districts - Tomatoes	0%	0	0	0	0	0	0	0	8,000	8,000	8,000	8,000	8,000
Restaurants - Tomatoes	0%	0	0	0	0	0	0	0	5,000	5,000	5,000	5,000	5,000
Institutions (Non-School Districts) - Tomatoes	0%	0	0	0	0	0	0	0	7,000	7,000	7,000	7,000	7,000
Food Distributors - Tomatoes	0%	0	0	0	0	0	0	0	8,000	8,000	8,000	8,000	8,000
Fish Market - Perch	0%	0	0	0	0	0	0	0	1,000	1,000	1,000	1,000	1,000
Grocery Stores - Perch	0%	0	0	0	0	0	0	0	1,000	1,000	1,000	1,000	1,000
Fish Market - Ccatfish	0%	0	0	0	0	0	0	0	500	500	500	500	500
Fish Market - Catfish	0%	0	0	0	0	0	0	0	500	500	500	500	500
Total Unit Sales		0	0	0	0	0	4,500	23,000	121,300	151,800	173,800	189,300	201,300

Unit Prices	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
Grocery Stores - Lettuce	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50
School Districts - Lettuce	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50
Restaurants - Lettuce	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50
Institutions (Non-School Districts) - Lettuce	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50
Food Distributors - Lettuce	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50
Grocery Stores - Strawberries	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50
School Districts - Strawberries	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50
Restaurants - Strawberries	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50
Institutions (Non-School Districts) - Strawberries	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50

Food Distributors - Strawberries	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50
Grocery Stores - Tomatoes	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25
School Districts - Tomatoes	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25
Restaurants - Tomatoes	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25
Institutions (Non-School Districts) - Tomatoes	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25
Food Distributors - Tomatoes	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25
Fish Market - Perch	$5.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$5.00
Grocery Stores - Perch	$5.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$5.00
Fish Market - Ccatfish	$10.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$3.00
Fish Market - Catfish	$10.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$3.00

Sales

Grocery Stores - Lettuce	$0	$0	$0	$0	$0	$3,000	$3,750	$4,500	$6,750	$9,000	$10,500	$12,750
School Districts - Lettuce	$0	$0	$0	$0	$0	$0	$22,500	$45,000	$67,500	$78,000	$87,000	$90,000
Restaurants - Lettuce	$0	$0	$0	$0	$0	$1,500	$3,000	$4,500	$6,000	$9,000	$9,750	$10,500
Institutions (Non-School Districts) - Lettuce	$0	$0	$0	$0	$0	$0	$0	$15,000	$30,000	$45,000	$52,500	$60,000
Food Distributors - Lettuce	$0	$0	$0	$0	$0	$2,250	$5,250	$6,750	$11,250	$13,500	$18,000	$22,500
Grocery Stores - Strawberries	$0	$0	$0	$0	$0	$0	$0	$12,600	$12,600	$12,600	$12,600	$12,600
School Districts - Strawberries	$0	$0	$0	$0	$0	$0	$0	$8,100	$8,100	$8,100	$8,100	$8,100
Restaurants - Strawberries	$0	$0	$0	$0	$0	$0	$0	$7,500	$7,500	$7,500	$7,500	$7,500
Institutions (Non-School Districts) - Strawberries	$0	$0	$0	$0	$0	$0	$0	$4,500	$4,500	$4,500	$4,500	$4,500
Food Distributors - Strawberries	$0	$0	$0	$0	$0	$0	$0	$12,000	$12,000	$12,000	$12,000	$12,000
Grocery Stores - Tomatoes	$0	$0	$0	$0	$0	$0	$0	$12,500	$12,500	$12,500	$12,500	$12,500
School Districts - Tomatoes	$0	$0	$0	$0	$0	$0	$0	$10,000	$10,000	$10,000	$10,000	$10,000
Restaurants - Tomatoes	$0	$0	$0	$0	$0	$0	$0	$6,255	$6,255	$6,255	$6,255	$6,255
Institutions (Non-School Districts) - Tomatoes	$0	$0	$0	$0	$0	$0	$0	$8,750	$8,750	$8,750	$8,750	$8,750
Food Distributors - Tomatoes	$0	$0	$0	$0	$0	$0	$0	$10,000	$10,000	$10,000	$10,000	$10,000
Fish Market - Perch	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$5,000
Grocery Stores - Perch	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$5,000
Fish Market - Ccatfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,500

Fish Market - Catfish		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,500
Total Sales		$0	$0	$0	$0	$0	$6,750	$34,500	$167,955	$213,705	$246,705	$269,955	$300,955

Direct Unit Costs		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
Grocery Stores - Lettuce	15.00%	$0.00	$0.00	$0.00	$0.00	$0.00	$0.22	$0.22	$0.22	$0.22	$0.22	$0.22	$0.22
School Districts - Lettuce	15.00%	$0.00	$0.00	$0.00	$0.00	$0.00	$0.22	$0.22	$0.22	$0.22	$0.22	$0.22	$0.22
Restaurants - Lettuce	15.00%	$0.00	$0.00	$0.00	$0.00	$0.00	$0.22	$0.22	$0.22	$0.22	$0.22	$0.22	$0.22
Institutions (Non-School Districts) - Lettuce	15.00%	$0.00	$0.00	$0.00	$0.00	$0.00	$0.22	$0.22	$0.22	$0.22	$0.22	$0.22	$0.22
Food Distributors - Lettuce	15.00%	$0.00	$0.00	$0.00	$0.00	$0.00	$0.22	$0.22	$0.22	$0.22	$0.22	$0.22	$0.22
Grocery Stores - Strawberries	15.00%	$0.00	$0.00	$0.00	$0.00	$0.00	$0.22	$0.22	$0.22	$0.22	$0.22	$0.22	$0.22
School Districts - Strawberries	15.00%	$0.00	$0.00	$0.00	$0.00	$0.00	$0.22	$0.22	$0.22	$0.22	$0.22	$0.22	$0.22
Restaurants - Strawberries	15.00%	$0.00	$0.00	$0.00	$0.00	$0.00	$0.22	$0.22	$0.22	$0.22	$0.22	$0.22	$0.22
Institutions (Non-School Districts) - Strawberries	15.00%	$0.00	$0.00	$0.00	$0.00	$0.00	$0.22	$0.22	$0.22	$0.22	$0.22	$0.22	$0.22
Food Distributors - Strawberries	15.00%	$0.00	$0.00	$0.00	$0.00	$0.00	$0.22	$0.22	$0.22	$0.22	$0.22	$0.22	$0.22
Grocery Stores - Tomatoes	15.00%	$0.00	$0.00	$0.00	$0.00	$0.00	$0.19	$0.19	$0.19	$0.19	$0.19	$0.19	$0.19
School Districts - Tomatoes	15.00%	$0.00	$0.00	$0.00	$0.00	$0.00	$0.19	$0.19	$0.19	$0.19	$0.19	$0.19	$0.19
Restaurants - Tomatoes	15.00%	$0.00	$0.00	$0.00	$0.00	$0.00	$0.19	$0.19	$0.19	$0.19	$0.19	$0.19	$0.19
Institutions (Non-School Districts) - Tomatoes	15.00%	$0.00	$0.00	$0.00	$0.00	$0.00	$0.19	$0.19	$0.19	$0.19	$0.19	$0.19	$0.19
Food Distributors - Tomatoes	15.00%	$0.00	$0.00	$0.00	$0.00	$0.00	$0.19	$0.19	$0.19	$0.19	$0.19	$0.19	$0.19
Fish Market - Perch	15.00%	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.75
Grocery Stores - Perch	15.00%	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.75
Fish Market - Ccatfish	15.00%	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.45
Fish Market - Catfish	15.00%	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.45

Direct Cost of Sales												
Grocery Stores - Lettuce	$0	$0	$0	$0	$0	$450	$563	$675	$1,012	$1,350	$1,575	$1,912
School Districts - Lettuce	$0	$0	$0	$0	$0	$0	$3,375	$6,750	$10,125	$11,700	$13,050	$13,500
Restaurants - Lettuce	$0	$0	$0	$0	$0	$225	$450	$675	$900	$1,350	$1,462	$1,575
Institutions (Non-School Districts) - Lettuce	$0	$0	$0	$0	$0	$0	$0	$2,250	$4,500	$6,750	$7,875	$9,000
Food Distributors - Lettuce	$0	$0	$0	$0	$0	$337	$787	$1,012	$1,687	$2,025	$2,700	$3,375
Grocery Stores - Strawberries	$0	$0	$0	$0	$0	$0	$0	$1,890	$1,890	$1,890	$1,890	$1,890
School Districts - Strawberries	$0	$0	$0	$0	$0	$0	$0	$1,215	$1,215	$1,215	$1,215	$1,215
Restaurants - Strawberries	$0	$0	$0	$0	$0	$0	$0	$1,125	$1,125	$1,125	$1,125	$1,125
Institutions (Non-School Districts) - Strawberries	$0	$0	$0	$0	$0	$0	$0	$675	$675	$675	$675	$675
Food Distributors - Strawberries	$0	$0	$0	$0	$0	$0	$0	$1,800	$1,800	$1,800	$1,800	$1,800
Grocery Stores - Tomatoes	$0	$0	$0	$0	$0	$0	$0	$1,875	$1,875	$1,875	$1,875	$1,875
School Districts - Tomatoes	$0	$0	$0	$0	$0	$0	$0	$1,500	$1,500	$1,500	$1,500	$1,500

Restaurants - Tomatoes	$0	$0	$0	$0	$0	$0	$0	$938	$938	$938	$938	$938
Institutions (Non-School Districts) - Tomatoes	$0	$0	$0	$0	$0	$0	$0	$1,313	$1,313	$1,313	$1,313	$1,313
Food Distributors - Tomatoes	$0	$0	$0	$0	$0	$0	$0	$1,500	$1,500	$1,500	$1,500	$1,500
Fish Market - Perch	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$750
Grocery Stores - Perch	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$750
Fish Market - Ccatfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$225
Fish Market - Catfish	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$225
Subtotal Direct Cost of Sales	$0	$0	$0	$0	$0	$1,012	$5,175	$25,193	$32,056	$37,006	$40,493	$45,143

Table: Personnel

Personnel Plan

		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
President	0%	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000
Vice President	0%	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000
Administrative Assistant	0%	$0	$0	$2,200	$2,200	$2,200	$2,200	$2,200	$2,200	$2,266	$2,266	$2,266	$2,266
Sales Representative	0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Fish Manager	0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Chief Grower	0%	$3,000	$3,000	$3,000	$3,000	$3,000	$3,090	$3,090	$3,090	$3,090	$3,090	$3,090	$3,090
Assistant Grower 1	0%	$0	$0	$0	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,060	$2,060	$2,060
Assistant Grower 2	0%	$0	$0	$0	$0	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,300	$2,300
Assistant Grower 3	0%	$0	$0	$0	$0	$0	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,300
Assistant Grower 4	0%	$0	$0	$0	$0	$0	$0	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000
Assistant Grower 5	0%	$0	$0	$0	$0	$0	$0	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000
Assistant Grower 6	0%	$0	$0	$0	$0	$0	$0	$0	$0	$2,000	$2,000	$2,000	$2,000
Assistant Grower 7	0%	$0	$0	$0	$0	$0	$0	$0	$0	$2,000	$2,000	$2,000	$2,000
Assistant Grower 8	0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,000	$2,000	$2,000
Assistant Grower 9	0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,000	$2,000	$2,000
Assistant Grower 10	0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,000	$2,000
Assistant Grower 11	0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,000	$2,000
Assistant Grower 12	0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,000
Assistant Grower 13 (Part Time)	0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,500
Assistant Grower 14 (Part Time)	0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Assistant Grower 15 (Part Time)	0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Assistant Grower 16 (Part Time)	0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Assistant Grower 17 (Part Time)	0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Assistant Grower 18 (Part Time)	0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Assistant Grower 19 (Part Time)	0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Assistant Grower 20 (Part Time)	0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Assistant Grower 21 (Part Time)	0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Assistant Grower 22 (Part Time)	0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Assistant Grower 23 (Part Time)	0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Assistant Grower 24 (Part Time)	0%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total People		0	3	3	4	4	4	4	4	4	4	4	4
Total Payroll		$5,000	$5,000	$7,200	$9,200	$11,200	$13,290	$17,290	$17,290	$21,356	$25,416	$29,716	$33,516

Table: Profit and Loss

Pro Forma Profit and Loss		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
Sales		$0	$0	$0	$0	$0	$6,750	$34,500	$167,955	$213,705	$246,705	$269,955	$300,955
Direct Cost of Sales		$0	$0	$0	$0	$0	$1,012	$5,175	$25,193	$32,056	$37,006	$40,493	$45,143
Other		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Cost of Sales		$0	$0	$0	$0	$0	$1,012	$5,175	$25,193	$32,056	$37,006	$40,493	$45,143
Gross Margin		$0	$0	$0	$0	$0	$5,738	$29,325	$142,762	$181,649	$209,699	$229,462	$255,812
Gross Margin %		0.00%	0.00%	0.00%	0.00%	0.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%
Expenses													
Payroll		$5,000	$5,000	$7,200	$9,200	$11,200	$13,290	$17,290	$17,290	$21,356	$25,416	$29,716	$33,516
Sales and Marketing and Other Expenses		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Depreciation		$211	$211	$211	$211	$211	$211	$211	$211	$211	$211	$211	$211
Leased Equipment		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Utilities		$250	$250	$250	$250	$250	$250	$250	$250	$250	$250	$250	$250
Insurance		$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200
Rent		$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500
Payroll Taxes	15%	$510	$735	$735	$848	$848	$848	$848	$848	$848	$848	$848	$848
Other		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Operating Expenses		$6,671	$6,896	$9,096	$11,209	$13,209	$15,299	$19,299	$19,299	$23,365	$27,425	$31,725	$35,525
Profit Before Interest and Taxes		($6,671)	($6,896)	($9,096)	($11,209)	($13,209)	($9,561)	$10,027	$123,463	$158,285	$182,275	$197,737	$220,287
EBITDA		($6,460)	($6,685)	($8,885)	($10,998)	($12,998)	($9,350)	$10,238	$123,674	$158,496	$182,486	$197,948	$220,498
Interest Expense		($2)	($3)	($5)	($7)	($8)	($10)	($12)	($13)	($15)	($17)	($18)	($20)

Taxes Incurred	($2,001)	($2,068)	($2,727)	($3,361)	($3,960)	($2,865)	$3,011	$37,043	$47,490	$54,687	$59,327	$66,092
Net Profit	($4,669)	($4,825)	($6,364)	($7,841)	($9,240)	($6,686)	$7,027	$86,434	$110,810	$127,604	$138,429	$154,215
Net Profit/Sales	0.00%	0.00%	0.00%	0.00%	0.00%	-99.05%	20.37%	51.46%	51.85%	51.72%	51.28%	51.24%

Table: Cash Flow

Pro Forma Cash Flow

		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
Cash Received													
Cash from Operations													
Cash Sales		$0	$0	$0	$0	$0	$3,375	$17,250	$83,978	$106,853	$123,353	$134,978	$150,478
Cash from Receivables		$0	$0	$0	$0	$0	$113	$3,838	$19,474	$84,740	$107,403	$123,740	$135,494
Subtotal Cash from Operations		$0	$0	$0	$0	$0	$3,488	$21,088	$103,452	$191,593	$230,755	$258,718	$285,972
Additional Cash Received													
Sales Tax, VAT, HST/GST Received	0.00%	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
New Current Borrowing		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
New Other Liabilities (interest-free)		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
New Long-term Liabilities		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sales of Other Current Assets		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sales of Long-term Assets		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
New Investment Received		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Subtotal Cash Received		$0	$0	$0	$0	$0	$3,488	$21,088	$103,452	$191,593	$230,755	$258,718	$285,972
Expenditures		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
Expenditures from Operations													
Cash Spending		$5,000	$5,000	$7,200	$9,200	$11,200	$13,290	$17,290	$17,290	$21,356	$25,416	$29,716	$33,516
Bill Payments		($542)	($911)	($1,421)	($2,582)	($3,688)	($1,999)	$3,622	$25,847	$123,336	$102,129	$108,449	$112,558
Subtotal Spent on Operations		$4,458	$4,089	$5,779	$6,618	$7,512	$11,291	$20,912	$43,137	$144,692	$127,545	$138,165	$146,074
Additional Cash Spent													

Sales Tax, VAT, HST/GST Paid Out	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Principal Repayment of Current Borrowing	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200
Other Liabilities Principal Repayment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Long-term Liabilities Principal Repayment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Purchase Other Current Assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Purchase Long-term Assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Dividends	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Subtotal Cash Spent	$4,658	$4,289	$5,979	$6,818	$7,712	$11,491	$21,112	$43,337	$144,892	$127,745	$138,365	$146,274
Net Cash Flow	($4,658)	($4,289)	($5,979)	($6,818)	($7,712)	($8,003)	($24)	$60,115	$46,700	$103,010	$120,353	$139,697
Cash Balance	($4,658)	($8,947)	($14,926)	($21,744)	($29,456)	($37,459)	($37,483)	$22,631	$69,331	$172,341	$292,694	$432,391

Table: Balance Sheet

Pro Forma Balance Sheet		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Mon
Assets	Starting Balances												
Current Assets													
Cash	$0	($4,658)	($8,947)	($14,926)	($21,744)	($29,456)	($37,459)	($37,483)	$22,631	$69,331	$172,341	$292,694	$43
Accounts Receivable	$0	$0	$0	$0	$0	$0	$3,263	$16,675	$81,178	$103,291	$119,241	$130,478	$14
Inventory	$0	$0	$0	$0	$0	$0	$3,037	$15,525	$75,580	$96,167	$111,017	$121,480	$13
Other Current Assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Total Current Assets	$0	($4,658)	($8,947)	($14,926)	($21,744)	($29,456)	($31,159)	($5,283)	$179,389	$268,789	$402,599	$544,652	$71
Long-term Assets													
Long-term Assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Accumulated Depreciation	$0	$211	$422	$633	$844	$1,055	$1,266	$1,477	$1,688	$1,899	$2,110	$2,321	$
Total Long-term Assets	$0	($211)	($422)	($633)	($844)	($1,055)	($1,266)	($1,477)	($1,688)	($1,899)	($2,110)	($2,321)	($2
Total Assets	$0	($4,869)	($9,369)	($15,559)	($22,588)	($30,511)	($32,425)	($6,760)	$177,701	$266,890	$400,489	$542,331	$71
Liabilities and Capital		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Mon
Current Liabilities													
Accounts Payable	$0	$0	$524	$898	$1,910	$3,427	$8,399	$27,237	$125,465	$104,044	$110,239	$113,852	$12
Current Borrowing	$0	($200)	($400)	($600)	($800)	($1,000)	($1,200)	($1,400)	($1,600)	($1,800)	($2,000)	($2,200)	($2
Other Current Liabilities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Subtotal Current Liabilities	$0	($200)	$124	$298	$1,110	$2,427	$7,199	$25,837	$123,865	$102,244	$108,239	$111,652	$12

Long-term Liabilities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Total Liabilities	$0	($200)	$124	$298	$1,110	$2,427	$7,199	$25,837	$123,865	$102,244	$108,239	$111,652	$12
Paid-in Capital	$8,599,269	$8,599,269	$8,599,269	$8,599,269	$8,599,269	$8,599,269	$8,599,269	$8,599,269	$8,599,269	$8,599,269	$8,599,269	$8,599,269	$8,59
Retained Earnings	($8,599,269)	($8,599,269)	($8,599,269)	($8,599,269)	($8,599,269)	($8,599,269)	($8,599,269)	($8,599,269)	($8,599,269)	($8,599,269)	($8,599,269)	($8,599,269)	($8,599
Earnings	$0	($4,669)	($9,493)	($15,857)	($23,698)	($32,939)	($39,624)	($32,597)	$53,836	$164,646	$292,250	$430,679	$58
Total Capital	$0	($4,669)	($9,493)	($15,857)	($23,698)	($32,939)	($39,624)	($32,597)	$53,836	$164,646	$292,250	$430,679	$58
Total Liabilities and Capital	$0	($4,869)	($9,369)	($15,559)	($22,588)	($30,511)	($32,425)	($6,760)	$177,701	$266,890	$400,489	$542,331	$71
Net Worth	$0	($4,669)	($9,493)	($15,857)	($23,698)	($32,939)	($39,624)	($32,597)	$53,836	$164,646	$292,250	$430,679	$58