POMPANO (T. carolinus): A SUSTAINABLE ECO-POND APPROACH TO PROFITABLE FARMING

Michael F. McMaster, Mariculture Technologies International, Inc.

P.O. Box 1020, Oak Hill, Florida 32759

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PREAMBLE

In the spring of 2013 the firm Manta Consulting, Inc. announced an international competition in partnership with Stanford University, Stanford, California to attract aquaculture/mariculture professionals to offer new business ideas focusing on ecologically sustainable principals. This paper is the firm's submission to that competition in which the presentation placed in the top thirty presentations offered.

One of the prerequisites for the competition was that the business plan must be an investment of less than ten million dollars. The author believes that this goal was met while allowing for business profitability using the design scaled to 500,000 pounds of fresh pompano per year. At this level the project is believed to be a demonstration project rather than a commercial venture.

The efficacy of this Eco-Pond design and business model has been tested previously at the research farm of Mariculture Technologies International, Inc. and has concluded that the plan is viable. Further data on this farming approach can be viewed at www.PompanoFarms.com.

The format for this business plan was provided by Manta Consulting.

Michael McMaster *Pompano Farms*

Business	Applicant
Pompano Farms, LLC Oak Hill, Florida, United States www.PompanoFarms.com	Michael McMaster, President mticooter@aol.com 386-345-3337
Category: Aquaculture Production	

Summary of Business & Opportunity

Pompano Farms is intended as an Aquaculture Farming Corporation with the capability of breeding and raising to market size the Florida Pompano (Trachinotus carolinus).

Based on the technical expertise available to the company, grow-out of the Pompano in eco-earthen ponds is shown to be a highly profitable venture while attractively meeting consumer demand for premium seafood. The Pompano is the premium U.S. finfish. Pompano Farms projects a sale price of $6.00 per pound wholesale and an initial capacity of one half million pounds of pompano per year. Production expense of $1.51 per pound is based on experience and computer modeling and simulations.

At this time, there is a confluence in Pompano breeding technology (Intellectual Property), grow-out in low cost earthen ponds, and an established U.S. Seafood market. The Pompano market is limited by supply with insignificant domestic landings. Now is the time to widely re-establish the Florida Pompano at the top of the Seafood Restaurant Menu.

The principal team members have over the last 35 years developed the most extensive understanding of the biology and farming needs for this species that exists anywhere.

Financing is solicited for $7,276,682 (for the half million pound per year project).

Market & Competitor Analysis

Market Analysis: Describe the marketplace into which you are selling your product or services. (10)

The Florida Pompano remains the nations higest valued marine finfish at this date, 2013. The supply is restricted by the size of the natural fishery and government regulation of the fishery. The company Pompano Farms, LLC is uniquely positioned to capitalize on this opportunity to provide domesticly produced and fresh pompano to the national seafood market.

The U.S. consumption of seafood has been relatively stable (14 to 16 lbs. per capita) over the last several years. The U.S. seafood supply in 2005 (net import/export plus domestic catch) was 5,335 thousand tons (imports 4,608; domestic catch - 3,624; exports - 2,897). There is no commercial aquacultured supply of Florida Pompano. There are however a few start -up companies reportedly investigating the potential opportunity. Pompano Farms, LLC. still remains at the development stage at this writing. Wild caught commercial landings of Florida Pompano were 0.215 thousand tons in 2006. A single Florida Pompano aquaculture farm is scaled to produce one million pounds or 0.500 thousand tons. This is a very small fraction of the current supply of seafood to the USA. It is my belief that the market will pull this project at least to the ten million pound per year level.

Pompano Farms has collected over the last few years the names of companies that have contacted our firm in search of fresh pompano. That coupled with our past relationship with companies like Darden Foods (Red Lobster) that at one time asked to exclusively purchase up to one million pounds per year. I believe that this relationship can be re-established if supplies of pompano were available. Fresh pompano availability is unique and currently has little to no serious competition to the planed venture. Current supplies of pompano are brought to the market frozen. First sales of farmed pompano will be to our known and established seafood wholesalers, resturant chains both local and national. Our brand and reputation will be the focal point of future expansion stratigies. I believe the biggest initial danger to our brand would be to over promote availability thus turning away new solid buyers due to lack of supply. Staying conservitive on this issue and developing one

customer at at time is a stratagy that has worked for us over the years.

Competitor Analysis: Describe your competitors and how your business is differentiated. (10)

It may seem difficult to accept or understand by some not familiar with the pompano fishery and aquaculture, but, the only competitor for this project is the wild catch fishermen. The pompano fishery has always been small relative to other domestic fisheries. It is not envisioned that the wild catch will increase much at all over time. Thus the pompano has enjoyed a very high valued niche in the market place for high end restaurants. Today, those high end restaurants are limited by supply of traditional high dollar fish. A domestic aquaculture pompano farm that can serve the market with daily iced catch will enjoy, at least, for a period of up to ten years, no credible supply competition in our opinion. The challenge for the future would be to establish additional production farms.

Commercial Pompano fishermen are limited in catch by seasonality, regulations, and fishing zones that are within three miles of shore in Florida waters and past nine miles in Federal waters in the Gulf of Mexico. On the Atlantic side of Florida all wild catch pompano come from pole fishing the surf zone. Wild pompano catch size variations are similar to all other wild catch fisheries. The fishermen have no control over maximum size of fish caught but do have control of minimum size caught in Federal waters due to gill net sizing and Florida fish size regulations. In Florida waters this fish can only be caught by hook and line pole fishing. This is inherently a very slow and low yield fishing process. Therefore, it is not expected that the commercial supply can be very price elastic due to the low fishing yield and high time per unit effort involved in pole fishing. The inherently short supply of the wild caught pompano will support higher prices and not the reverse in our opinion.

In contrast to wild caught pompano, the farmed Pompano can offer and accomplish a portion control product that meets the needs of the retail restaurant chef not having to trim and create waste in order to maintain plate portion size. This one advantage is very significant to the marketing of farmed Pompano.

Distribution Channels and Supply Chain Analysis: How will you get the needed inputs for your business, and your products to market? (10)

Fish farming by nature is a very simple and uncomplicated business. Refer to the business model diagram entered in the Phase 2 section. Most components of the supply side of the production scheme are created inhouse as the business is a completely vertically integrated production system. In this more sustainable design for pompano farming the reliance on manufactured foods is greatly reduced but some are still needed. In the USA we have numerous fish feed manufacturers. The parent company, MTI, Inc., has used many of these suppliers for decades and we envision that Pompano Farms, LLC will be the benafactor of these established supplier relationships. The fry production department, the grow-out department, and the packaging department are most vulnerable to lack or interruption of commercail electrical supply. Here in Florida there are from time to time tropical storms that can take out the electric connections. Therefore, the farm design includes an adequate back up generator with automatic switching.

The business design for processing the harvested pompano is simply to kill by carbon dioxide baths, then eviscerate, then ice and placed unfrozen in insulated boxes that are kept cold with dry ice or ice water while being delivered by company trucks in Florida. Delivery outside of Florida will be air freight out of Orlando, Florida or via FedEx door to door service. Currently, MTI, Inc. has been purchasing the insulated shipping cartons from Lifoam Industries located in Tampa, Florida. We would suggest that Pompano Farms will use this supplier as well. Also, MTI, Inc. is currently the largest FedEx shipper for next day priority service between Jacksonville to Cocoa Beach, Fl. Establishing a new relationship for Pompano Farms, LLC with FedEx should be easy as the principals are a known customer.

Pompano Farms, LLC envisions selling to different market levels or channels. Generally, these channels are differientiated by volume or size of the customers orders. A large chain like Darden for example would take large quantities and the product would be delivered to just one distribution center. This level of customer would enjoy our best price of $6.00 per pound. Also,this quantity of product would be delivered in one ton ice bath bins. In contrast, a stand alone retail seafood restaurant would buy less quantity due to its size. The low

volume retail/restaurant customer would be charged $8.00 per pound plus freight and packaging charges.

At least at the begining of this project, only a single product and product form is envisioned. This is, whole, head on, eviscerated, and ice pompano. Valued added product forms are a future opportunity. There exists a demand for fillets of fresh pompano but in our experience it is small. This is due to the traditional style, whole fish, that chefs like to present with this excellent fish.

Financial Return & Risk

Critical Success Factors and Risks: What does your success depend on? (10)

Pompano Farms, LLC is a more sustainable approach to fish farming then modern and traditional methods such as tank farming of fish in indoor facilities and high density fish farms that require intensive energy input and intensive man power input to keep the farm running. Here, the operational risks are greatly reduced due to the low intensity of the inputs such as energy, fish feeds, and man power. It is this low density farming that gives rise to improved profitability and security. The farm will be constructed on salt intruded land in coastal zones of Florida. The cost of this land is not envisioned to have significant impact on the projects funding requirements. It is quite possible, depending on the demand for fill dirt in the local area by the construction industry, that the land and pond costs to the project could be near zero. Currently, MTI, Inc. is having new ponds excavated at zero cost. Simply, the contractor is digging the ponds in exchange for the fill dirt.

Like all businesses, thare are some general catagories of risk that can be discribed here. They are by catagory:

1. Technology: This business is an advanced fishery science operation. The founder, as previously described, developed and has protected the artifical production methodologies for the Florida Pompano. Ask the question " what would happen to the project if the founder was no longer with us"? When this project gets funded, the Founder will issue to Pompano Farms, LLC. a complete manuel from A to Z on how to produce this fish. Second, a current stockholder of MTI, Inc. and a long time associate, Mr. Thomas Kloth, is second in command of all biological and operational protocols. Therefore, Mr. Kloth would be considered back up should anything happen to the Founder.

2. Production issues: As previously mentioned, availability of electricity is paramount, particularly for the fry production part of the plant. An adequate back-up and automatic generator will be a key part of the design. As for the grow out part of the plant, electric is not as important. Pond aeration is an important part of pond farming. The grow out ponds will be fitted with wind mill driven aerators. Back up aeration will be from air blowers and that compressed air will be piped to all ponds on the farm. It is not envisioned that this electric compressed air system will be needed, but it provides a life line redundancy to the farm. Oxygen in ponds is mandatory for keeping fish alive and growing.

3. Regulatory issues: A few decades ago this catagory would not have been thought of as much of a risk. Today, it is a potential risk. Governments at all levels are unstable as to the risk of their tampering with rules that were in place when investments were made. MTI, Inc. has experienced two such issues in the thirteen years of business at its current farm location.

What exit or repayment strategy can you offer investors? (10)

There are two traditional ways to essentially fund business, commercial loans or disribution and sale of common stock. Repayment to commercial loan investors is done the time tested way, monthly repayment with interest until the loan is surrendered. There are many ramifications of this funding vehicle and the outcome would be dertimined through negotiation. The second approach is to raise the capital needed by selling common stock to qualified investors, be it one or many. Those investors holding common stock are free to sell their stock at any time providing there is no stock holders agreement in place that spells out how common stock can be sold in the confines of a small privately held business. Secondly, there is the rewards of sharing profit with investors. Depending on how the company is organized, distributions can be in the form of dividends or K-9's. There is no guarantees of profit in this business or any other legal business that I know of. Success is a team effort and at the financial management catagory of this business, a qualified board of directors, will

provide guidance to the operation. The operators will do their very best to exercise their duties and responsibilities to the share holders or the commercial lenders. With that, a successful business is born.

Social Impacts

Describe how will you identify and manage unintended negative social impacts

There are both positive and negatve "unintended consequences" for everthing humans do on planet earth. For this project, there has been thirty some years of trial and error experience that suggest that considerable due diligence has been designed into the formulation of this new farm project.

Traditional farming practices are suspect of causing negative impacts by, for example, over fertilization and subsequent contamination of surface and ground waters. This low impact, due to low density of fish in ponds, fish farming project should not experience questionable point source comtamination of ground or surface water. Should this not be the case in practice, the alternative would be to exhasust spent pond water down deep reinjection wells similar to what sewer plants now do. The boodstock, hatchery, and processing parts of the farm are all indoors with re-circulated water and not subject to spills outside the walls of the plant. Processing waste will be hauled off site to public disposal facilites and spent water will be sent through the public sewer system.

The desired site location for this project is rural and generally in commercially undeveloped areas. The project is envisioned to bring new and good paying jobs to the community lucky enough to have the venture as a neighbor. Doing business in the United States basically assures all people associated with the farm at all levels that the socially accepted rules of employment, safe work place, equal opportunity for example will be practiced.

One potential risk of negative impact is from essential suppliers of processed fish foods. Custody trail of essential ingredients demonstrating there purity and non-contamination with both chemicals and biologicals is essential. From time to time there are concerns about contmination from fish meal, for example, with mercury, zinc, lead, and other compounds. The fish feed manufacturers do have and make availble to the buyers, certified reports of contamination levels. The responsibility is on the fish feed manufacturers to monitor the wholesomeness of their products. In the event of a problem, the farm would switch to another manufacturer that was not experiencing the given problem. The farms social responsibilty and goal would be to alsways provide their customers with the most wholesome product they can.

On the topic of fish diseases and their communication to humans, we and not aware of any that are known to be a threat to human health. This is unlike the risks possed by warm blooded animals normally consumed by the human race. There are some spoilage type risks in packaging plants that value add to the fresh whole fish. This project is not planning any processing beyond evisceration and is not planning any holding by freezing as the envisioned product is shipped daily and iced. Water source for the cleaning of fish prior to shipping will be public water supply and no reuse.

What is your ability and ambition to create positive social impacts

For decades the hope has been that aquaculture and mariculture would be a positive alternative to dwindling wild caught marine fish. As all are aware, the worlds oceans are being harvest at or over their sustainable levels. Seafood supplies from aquacultured sources have been very slow to take hold in the USA. Wild catch statistics report tonnage to be stable and demand therefore met. If not met by wild sources, it is met by imported sources of both wild and farmed. However, within those statistics is hidden the real truth about individual species catch and sustainablity. Tonnage is one number but what makes up those numbers is something else. The high demand species of old, like red snapper, grouper, cod, and others are over fished and not as available as they once were. The wild catch community moves to other more abundant speices, that were once not marketable, to fill the tonnage requirements. This situation opens yet another door for farming of high value seafood like the Florida Pompano. High-end restaurants need better fish then tilapia from China to offer their customers. There is just not enough premium fish available to the market which forces the market

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to take what it can get. The hope of Pompano Farms, LLC is to make a positive impact on the availibility of one of the nations most respected marine fish. Once this product is available, we are confident that the market will continue to ask for more.

Provide a story that illustrates the social impacts

The parent company, MTI, Inc., and its founder decided in the fall of 2000 to establish a new development stage business to answer some of the as of then, unanswered, technical questions regarding how to farm the Florida Pompano in low salinity earthen ponds. Also to answer the question of, was it profitable? An extensive search of Florida was done to look for unwanted land near the ocean that was intruded with ground water contaminated with salt. It was discovered that there are many places in Florida where this situation occurs. We finally settled on a ten acre plot of land near the little town of Oak Hill, Florida. The ten acre plot was covered with orange tree but nearly half were dead. The death of the trees was due to saltwater intrusion.
The town of Oak Hill has a rich history as a commercial fishing center and to a lesser extent orange groves. However, the State of Florida passed a ban on commercial fishing using entanglement nets (gill nets) in 1985 or close to that date. These fishermen were dependant on these types of nets to catch their fish in the Mosquito Lagoon. It did not take long before the composition of the entire town shifted from people who liked to work to people that could not find work. The younger generation grew up on their dads' boats and the way of life here was entirely fishing. With no fishing opportunity left, they were lost as to what to do, who they were and where do they go next.

The development of the research farm caught significant attention in the community. Unfortunately, the project was small and was not able to hire many of the locals. Just the same, for thirteen years now we always look for local folks to hire when ever possible. The community's transition has been painfully slow for the old established founding families. But, from time to time you hear of good things starting to happen. What they need most of all is jobs that fit their heritage, if at all possible. If not that, any good paying job will go a long way in restoring the confidence of this community that there is hope for the future. Hopefully Pompano Farms, LLC could contribute to the re-development of some of the families in Oak HIll, Florida and similar communities that have been displaced by fishing regulations.

How will you measure social impacts

The goal of the business is to provide the highest quality Florida Pompano using our sustainable model for production. The impact of this business will be best measured by the companies sales records and it's future growth. If the company's plan were to have negative impacts, then the sales and growth record would demonstrate that reality.

Secondly, the company has established a website address and continues to develop a mailing list for those that have signed up for news reports, specials, and more. Internet technology is going to be the fastest and most likely the best way to communicate with customers, suppliers, employees, regulators and others.

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Environmental Impacts

Describe how will you identify and manage unintended negative environmental impacts

Pompano Farms, LLC. use of natural resources are considered to have very low negative impact. The farm site will be on previously damaged agriculture land, not newly cleared wild lands. The damage done to the agriculture land of our interest has been caused by natural intrusion of saltwater from the sea. These salt intruded agriculture lands have very low economic value and very few alternate uses in agriculture or in commercial real estate markets. Our Eco-Pond project needs these types of forgotten agriculture lands. In fact, we do not know of any other commercial agriculture use for these lands. The development project has determined that the Florida Pompano can survive and grow normally in low salinity water. Shallow wells placed on these already salt intruded agriculture lands pose no threat to other near by farms or residential areas. The saline water is retained in earthen ponds on the agriculture land that now naturally contains low salinity water. The farm plan does not include flow through ponds and thus has limited to no exhaust of pond water. Rain water and replenishment low salt water will percolate back down into the existing saline ground water.

As previously mentioned, Pompano grow best on proteins other then from fish meal. The company will be searching for a domestic fish food manufacturer that can utilize waste by-products from squid and shrimp processors in the beginning. The ultimate goal is not to have fish meal in the production diets at all. Should this goal be slow to achieve then fish foods that contain fish meal will have to be used. However, the Eco-Pond design is based upon the ponds having natural prey being cultured along with the target predator, the pompano. The production plan suggests that only 10% to 25% of the protein needed will come from manufactured feeds. The biggest future potential problem is how much squid and shrimp by-product is available? The North Atlantic squid fishery is substantial and is not being fished to it's sustainable harvest level. However, there exists a commercial squid fishery in Peru, S.A. that can supply dried squid kernels. A special pompano food based on squid protein would bring to the commercial fishing community a new market opportunity that is not fish based. This is a win win opportunity for both the farm and the fishermen.

What is your ability and ambition to create positive environmental impacts

After nearly forty years of particapating in and observing on the sideline the conduct, methods, and goals of what has been the most advertised way to farm fish, have concluded that they just do not economically or in most cases biologically work. This country has invested hundreds of millons of dollars, mostly through it's university system, to create what is called RAS (re-circulating aquaculture systems with zero discharge). In our experienced view, this undertaking has been a complete commercial failure. Most importantly, the fish themselves do not like it as it is anything but natural. The industrial production appraoch that is fashioned after the broiler chicken producition model, can work if designed properly using flow through water. However, in this age of over used energy resources and their commensurate costs, this method of intensive, land based fish farming is no longer economcally vialble. Lastly, the open ocean sea cage model most likely is a workable approach but it is not allowed in Florida.

Pompano Farms, LLC not only has the ability, it also has the ambition to change the way people think about farming some quality fish in the USA and elsewhere. We first ask the fish what it wants. Obviously we do not get verbal feed back from them but we do get behavioral clues as to what makes them relaxed in their environment. If the species of fish is relaxed, not stressed, within its environment it will respond by growing faster and having less issues with potential disease. What is missing in most all aquaculutre plans we have reviewed is simply what are the needs of the fish species you wish to farm. Most commonly seen is how many fish can be put in a cubic foot of water and thus reduce the foot print and the impact of the farm amoung other things. The farmer must first know what the needs are of the target species whether it be fish or cows. Once those needs are identified then move to the design of the farming system, not the other way around. Unfortunitely, most modern intensive aquaculture systems are designed by engineers, not biologists. Thus we have experienced one of the greatest wastes of money ever believed possible in this field of aquaculture. It is

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time to take a different direction.

How will you measure Environmental Impacts

Eco-Ponds with no effluent are not required to be water quality tested by the Florida Dept. of Agriculture and Aquaculture. Only effluents leaving a fish production pond and entering state waters is to be tested for nitrate, phosphate and settleable solids expressed in parts per million. Pompano Farms, LLC will have a quarterly testing program that will look for nitrates and phosphates as they are needed within the ponds for phytoplankton growth promotion. Phytoplankton cultures are oringinally added to the new pond water as these plants are instrurmental in producing oxygen. The pond management goal is to always have a phytoplankton bloom occuring in all ponds. The phytoplankton not only is instrumental in oxygen production but it consumes available nitrogen and phospate in the Eco-Pond water. The reason therefore for testing these parameters are two fold: to be sure there is enough nitrogen and phosphate available but not too much that would percolate into the ground water. Under the Florida State rules there is no requirement for reporting other then for inhouse use.

There are concerns by the State of Florida and others that excessive rain water falling on the property be retained on the property for site percolation. This is done by having the pond banks at least two feet above normal pond water levels. These high pond banks also limit the possiblilty of escapement of the Pompano and prey species. The State of Florida Dept. of Aquaculture makes site inspecitons twice per year with the interest in seeing things like two foot pond banks are being maintained. If the pond banks were to be broached due to excessive rains and escapement of pond water and fish were to occur, the farm is required to notify the State Aquaculture Department as soon as possible. Generally, the site location of these Eco-Pond farms is not near enough to open State waters that the escapement of the fish is an issue as they will die as soon as the water drys up. Also, with this project the target speices, the Pompano, is an indigenous species in Florida so no special permits are required.

PHASE 2 Information – For BACKGROUND INFORMATION

Management Team and Partners

CEO

The designated CEO for Pompano Farms, LLC is Michael F. McMaster. Mr. McMaster currently serves as the CEO for Mariculture Technologies International, Inc. (MTI). MTI was established in 1984 by Mr. McMaster and has been in the commercial production of many species over the past 40 years. Of these 40 years, 37 of them have been in private industry of which most all were businesses that Mr. McMaster created and self funded.

The businesses created and managed by Mr. McMaster would all be considered small businesses. For example, the business Ocean Farming Systems, Inc. was established in 1975 and grew to 35 employees and annual sales of $800,000. That business interest was sold in 1984. In 1985 a new business named Florida Brine Shrimp was created and employed 13 workers. It was sold in 1990. Mr. McMaster took five years to persue other interests before returning to the industry and forming Northeast Brine Shrimp in 1995. This company still operates today (2013) as a division of Mariculture Technologies International, Inc. Since 1976, Mr. McMaster's small business experience included the founding, financing and management of nine small and successful corporations .

During the forty year experience track, Mr. McMaster had extensive exposure to the marine environment which included over 8,000 commercial scuba dives. Extensive field observations on the niche biology of many tropical marine species has given rise to a unique and nearly unmatched understanding of not only the biological needs of fish like the Pompano, but as importantly, the physical and nutritional needs of these fish.

Mr. McMaster has authored many business proposals not only for himself but for others as well. These activities have taken place in the Dominican Republic, Belize, Panama, Puerto Rico and Egypt to name a few.

Team & Governance

The core managment team for Pompano Farms, LLC will be:

Michael F. McMaster, President (full time)

Dr. John Coburn, Vice President (full time)

Catherine M. McMaster, Sec./Tres. (part time)

Thomas C. Kloth, Broodstock Manager (part time)

Resumes and importance to the team:

Michael F. McMaster is well experienced at managing all aspects of a marine fish farm. He is a marine biologist and is a well known and respected practitioner of mariculture technologies with 40 years of experience in private industry. Professional certifications are:

Utah State University (BS) Fisheries Management, 1969.

American Fisheries Society - granted- Certified Fisheries Scientist, 1974.

Certified Fishery Research Biologist, 1980

U.S.Coast Guard- Master Captain Licenses - 250 ton

Dive Master Certification, 1985

Certified Environmental Inspector, 1991

Dr. John F. Coburn is Vice President and also serves on the Board of Directors for MTI, Inc. plus being a stockholder. Since Septemeber 2005, Dr. Coburn has worked at the MTI site in Oak Hill, Florida developing Quality Assurance Systems for the ongoing Aquaculture Operations and organizing Research & Development Projects. Dr. Coburn brings to MTI, Inc. and to Pompano Farms, LLC an extremely broad academic and commercial business experience that is uniquely suited to the development needs required for the expansion of this business. Dr. Coburn recieved his Ph.D in Organic Chemistry from Yale University, 1963. He has had two careers prior to joining MTI, Inc. First, Dr. Coburn spent 22 years as Vice President of RD&:E, Solar Thermal Systems, Exxon Enterprises, Inc., Technology Manager-Solar Energy (Executive), Exxon Enterpises, Inc., and

Senior Staff Advisor, Corporate Research, Exxon R&D Co.

After leaving Exxon Dr. Coburn joined Rutgers University as Senior Associate Director of the Center for Advanced Food Technolgy (CAFT) a post he held for 18 years. Also, while at Rutgers he served as the Principal Investigator and Director, US Defense Logistics Agency, Combat Rations Advanced Manufacturing Technology Demonstration and was the Principal Investigator and Partner, USAID/Cairo Egypt, Agriculture-Led Export Business Program.

Dr. Coburns selected Professional Activities are:

American Association for the Advancement of Science,

Institute of Food Technologists, World Aquaculture Society and International Associationof Aquaculture Economics and Management.

Thomas C. Kloth serves on the Board of Directors of MTI, Inc and is a stockholder of MTI, Inc.. Mr. Kloth has 35 years of experience in the field of marine biology. Mr. Kloth has extensive experience in pompano physiology with an emphasis on reproductive physiology. Other areas of expertise include marine fish holding system design, management, and environmental impact evaluations. He has published more than 35 scientific and popular articles in the field of marine biology.

Certifications:

Bowling Green State University: B.S Biology, 1968

University of Texas: MA Zoology/Marine Science, 1970

Certified Fishery Scientist: American Fisheries Society, 1974

Catherine M. McMaster serves as the company Secretary and Treasurer. Catherine is also a stockholder of MTI, Inc.. Ms. McMaster also serves as the company bookkeeper on a part time bases. Her full time vocation is an emergency room RN. Degree was from University of Miami, 1996.

Stakeholders & Partners

Pompano Farms, LLC is a new eco- business proposal and as such has not produced product under it's trade name nor sold any product to the market place. However, the owner of Pompano Farms, LLC is MTI, Inc. is a long established corporation (1984) and has been in the mariculture business since it's inception. It is envisioned that the established stakeholder relationships that MTI, Inc. has with it's essential product suppliers and the company's established buyers will be utilized by the new company where possilbe. The owners and managers of MTI, Inc. are well aware of the value of building solid and trusting business relationships with suppliers, buyers, employees, regulators, and educators.

The company employees are extremely important stakeholders as their's and the company's future and success is dependant on a cohesive understanding of not only the tasks at hand but the importance of exchanging ideas on how to improve the performance of the operation. To that extent, we believe that employees are important partners in the operation.

Florida State Department of Agriculture is the sole Regulator of the Certified aquaculture operations. As such, we consider this department as partners to our operation as they provide surveilance oversight from a Regulators perspective and issues the farm a Certificate of Compliance at least twice per year. During of the last thirteen years of operation, MTI, Inc. has never been challenged on compliance issues and we find that the imput of the Regulator is helpful in managing the business.

The principal investigators at MTI, Inc. have published many articles describing the research interest of the company. The public education institutes and public funded marine research institutes have welcomed and published the work at various symposiums. We consider these institutes stakeholders in the process of learning more about the technical methods needed for successful aquaculture.

Once established, Pompano Farms, LLC. will be in search for new feed supply chain provider/partner. These new providers will be asked to supply a new protein meal made from waste cuttings in both shrimp and squid processing plants. MTI, Inc. has determined that the best food source for the Florida Pompano is shrimp and squid of which neither are commercially available, to our knowledge, in the form of a meal that can be blended into a composite pelleted fish food. This new food source is key to the long term success of pompano farming.

Business Model & Market Conditions

Business Model (see any attached diagrams also)

In the business of Pompano farming there are three distinctly different industrial farming methods. They are referred to as RAS (recirculated aquaculture systems), sea cage farms, and earthen pond farms. The focus of Pompano Farms, LLC. is on low density, earthen eco-ponds.

What is a low density eco-pond and what makes it different from any standard approach to pond farming? The authors' definition of a low density eco-pond (.66 fish per cubic meter) is the utilization of natural production of primary forage organisms that the pompano can best grow and survive on in the eco-culture pond. This approach drastically limits and may even eliminate the need for standard pellet fish foods based on fish meal as the primary protein. For ten years at the laboratory farm of MTI, Inc. this strategy has been developed, tested and proven to work. The remaining question is, is it profitable?

Attached is a schematic Process Diagram for a Pompano Plant. The diagram shows the various and verticaly integrated operational centers depicting a typical industrial pompano farm. The major components or cost centers are egg and fry produciton, grow-out, and harvest plus packing. For the new eco-pond approach to farming the pompano, the cost centers for fry production and packing remain the historical same costs. However, the profitability enhanced by the eco-pond approach is what is of interest here.

The second attached diagram shows the bottom line cost of production for Alternate Grow-Out methods. The bottom line is the cost to produce 0.5Kg of live pompano weight using various farming methods. In answer to the above question, is eco-pond production profitable, the table clearly shows that the eco-pond approach is the best method for farming this species of marine fish. The market wholesale value of fresh Florida Pompano is for the purposes of this business plan set at $6.00 per pound. Based on considerable market research including current sales of fresh pompano at the laboratory farm of MTI, Inc., we believe this wholesale target price is conservative. A recent spotting of pompano fillets in grocery stores in the Atlanta, Georgia area were $24 per pound.

At the development farm of MTI, Inc. the first questions asked about the pompano were, can they live and prosper in low salinity sea water and the answer was yes. The next question was, what was the best food for the pompano? The research has shown that the Florida Pompano does best on proteins from crustaceans and mollusks. This lead to the next challenge, which was, could we find forage species of these two types that could be easily cultured in the same pond that the pompano were being held in and provide enough produciton capacity to feed the population of pompano without the need for supplemental artificial manufactured feeds. The answer is yes and we do have two organisms that are quite easy to culture in the eco-ponds and their reproductive capacity is great enough to feed the projected 2/3 pompano per cubic meter of pond water.

Model fit with market conditions

The authors and owners of this project have struggled for many years to find a way to do profitable pompano farming in the United States as opposed to moving ourselves to other countries that have lower costs of doing business and fewer governmental regulations. The major block to industrial farming of the pompano in the USA has been government regulations in many forms. The net result of this has been that the vast majority of farmed seafood is imported into the USA and not produced here. The corporate challenge therefore has been to try and devise a methodology for the farming of pompano in the USA whereby those methods can be permited and consequently found to be profitable. It is clear that with the high costs of doing many kinds of manufacturing in the USA it becomes a serious challenge as to how to compete in a world market. We believe that the eco-pond is the answer for pompano aquaculture farming in Florida.

Imported cost of seafood is such that it limits the opportunity to farm head to head with countries like China. Tilapia is a prime example in that most is imported from China because their cost of production is extremely low compared to the USA. However, the Florida Pompano is not farmed anywhere else in the world which gives it a special niche in the industry. Short term competion is not forseen.

The State of Florida opened a door by offering a new regulation in 2000 called the Right-To-Farm Act and with it the State of Florida Department of Agriculture took the singular role in managing the future development of aquaculture in the State. It was this act that has allowed MTI, Inc. to do business in Florida and it is the basis of regulatory acceptance of the eco-pond approach to pompano farming. Without that new regulation there

would be no hope for profitable pompano farming in Florida.

The demand for fresh locally produced pompano is strong nationwide at up-scale seafood restaurants. This includes chain operators like Darden Foods, Landry's, and others. MTI, Inc. has been in discussions with Darden Foods for example and they have shown interest in purchasing the entire first one million pounds of our product. Beyond that, MTI, Inc. has compiled a list of many buyers who have contacted us in search of fresh Pompano.

Own brand or technology

Pompano Farms, LLC. is a new venture that will rely on the proven and proprietary intellectual property for the turn-key industrial farming of the Florida Pompano owned by MTI, Inc. The MTI, Inc. Board of Directors has offered to license the technology to Pompano Farms, LLC.

There are no Patents applied for or given to MTI, Inc. for their proprietary technology. The technology is considered proprietary by the company and is held in trust and secrecy between the company owners.

The technology for the controlled, turn-key artificial production of the farming of the Florida Pompano has been practiced by the founder of MTI, Inc. for forty years. Starting in 1972 the world's first pompano farm (OMI, Inc.) was constructed in the Dominican Republic and Mr. McMaster was the chief scientist and VP of Research for that public company. Starting in 1976 Mr. McMaster started his own company with the intent to further develop the methodologies initiated at the previous operation. That effort led to the second largest marine fish farm in the Western Hemisphere (OFS, Inc.).

Due to the State of Florida's new Right to Farm Act law enacted in 2000, MTI, Inc. relocated back to Central Florida and began once again farming the Florida Pompano. First pompano fry production from the company's hatchery took place in 2002 and continued yearly through 2011. Pompano have been test marketed every year and continues today. The laboratory farm is not big enough to produce quantities that are significant to the wholesale market. However, the small quantities have been sold on a regular bases to the pubic at farm gate for $8.00 per pound.

Current Financial Position (see spreadsheets also)

Assumptions about cash flow projections

Pompano Farms, LLC. is a proposed new business. This business is a farm. Starting from anew, the first year is set for property acquistion and property build-out. The second year is the initiation of pompano fry production and grow-out. It is estimated that using the Eco-Pond approach to farming the pompano, it will grow to market size in one year. Thus, the first two years do not have any income. Starting in the first quarter of the third year, sales of market size pompano will start. The cash flow statement reflects this scenario. The planned production for the first year of sales (year three) is 500,000 fish at one pound each. The target wholesale price is set at $6.00 per pound which gives rise to $3,000,000 in sales for year three. Currently, at the laboratory farm of MTI, Inc. the pompano are being sold for $8.00 per pound in the round in small quantities.

Inventory purchases are fish foods used in the hatchery and fry stage prior to release into the Eco-Pond along with the purchase of fry production essentials.

General operating and administrative expenses are those required for plant operation which include most of the expense items shown on the income statement along with some shared expenses for fry production.

Wages and expenses are a normal and straight forward cost of doing business. This figure includes both administrative and farm staff costs.

Income taxes are projected against the pre-tax net profit of $2,074,250 using a 38% rate. Only time will tell if that rate estimate is accurate.

There are no assumptions made for Investing Activities. Instead, the catagory Financing Activities was used to identify the Funds for Property and Plant needed to build out this project. The summation of the the first two years of losses is the amount of new funds needed. The total for new funds needed is $7,276,682. Using the pre-tax figure then the time to breakeven is estimated to be 3.5 years.

This phase one start-up of 500,000 pounds of pompano is, we believe, a small amount needed for our buyer groups. As earlier mentioned, prior to the Florida net ban the commercial landings in Florida were on average

1.2 million pounds per year. After the net ban went into effect, the commercial landings in Florida dropped to 300,000 pounds per year. This one action by the State created a deficit of 900,000 pounds. This deficit remains today. We have one potential and large customer that has represented that they would buy our first one million pounds. They are Darden Foods in Orlando, Florida. If the reader is not familiar with this company, they own and operate Red Lobster, Olive Garden, and others.

Thus, we do not believe that there will be a need for much market push. Instead, the market will be pulling us to produce more. Some seafood experts have suggested that this pull will be strong up to ten million pounds per year.

Current ability to attract investment capital

Pompano Farms, LLC. is a new business proposal focusing on the Eco-Pond technique. This presentation is the first attempt to find funding for this project.

The ten year development period was financed by the parent company (MTI, Inc.) and it's stockholders. The only loans for this period was one from a commercial bank that helped finance the laboratory farm property. The company has not recieved any outside funding in any form.

Sweat equity has been a major source of funding for this and other company projects. The passion for pompano farming success and to be practiced in the USA has been a major company goal. Further, the commercial farming operations and product sales at MTI, Inc. have been the primary source of self funding.

Over the years of being in this business, our group has never been considered expert in finding funding partners. When we were made aware of this Fish 2.0 project it caught our attention as maybe a way to get our message out to a variety of funding sources.

At this time, it is difficult for us to find interested parties that have the ability to fund this project. Financial times are difficult for many. We do recieve considerable attention from potential small investors from time to time, but it most often ends in the reality that the investor really does not have the financial ability. It is our belief that it should be a major firm with the ability to fund such a project especially through the first two years of start-up while the project is cash negative.

What this project needs, in my view, is a grant to demonstrate feasibilty at a phase one effort. New ideas, regardless of who they come from, are alway very hard to attract established commercial businesses as phase one investors. Until someone funds it and accepts that initial risk, important projects like this one will never get past the paper stage. Therefore, we are open to any all ideas on how to get this project off the drawing board.

Impacts

What is your value proposition & Market Impact

The Flrodia Pompano has enjoyed being the highest valued seafood fish starting in 1948 as recorded by the National Marine Fiseries Service. Commercial supplies from fishermen has never been large in Florida or the Gulf region as a whole. Prior to Florida's net ban, the commercial landings ranged in the 1.2 million pounds per year. Post the net ban, the commercial catch dropped to 300,000 pounds per year on average from Florida. It has been the motivation of aquculturists post the net ban to try and fill the newly created void in the supply chain. The business of Pompano Farms, LLC will have a very significant and positive impact on the supply availability of this fine fish. Stakeholders in the seafood business from wholesalers to retails to the consumer will appreciate the new availability that local farming will have for this fish.

With the status of the current State and Federal regulations there are few options for commercialization of marine aquaculture other then this proposal using eco-pond production techniques. Since the farming method is utilizing a natural approach to feeding it is quite possible that an organic label could be captured. This label would open even more market opportunities.

Are you creating Social, Environmental or Systems Change?

Humans have been farming fish in earthen ponds from the beginning of time. Even today, most of the worlds production of fish are farmed in ponds with the exception of salmon which are farmed in sea cages. Fish ponds around the world are mostly fed pelleted fish foods made inpart with fish meal. One of the significant difference with the Pompano Eco-Pond technology is that it is nearly self sustaining. The two forage species that have been developed for this system will grow in the same pond as the pompano and provide most of its food.

When food is needed, that food will not contain fish meal. The initial energy source for this system is nitrogen and phosphorus.

The design for pond aeration systems is based on wind mill driven compressors and not dependant on the commercial electrical grid. This is old green technology that is being resurrected for a modern day pompano farm. Capital costs for wind mill aeration is estimated to be paid out in 3 years when weighed against the operational cost of commercial electricity.

The pompano farm is located in special areas along coastal zones where saltwater has intruded near by dry land. In Florida, there are known to be thousands of acres that are saltwater surface intruded and thus have no use as normal agriculture or housing development. The minimal salt level required for a pompano farm is 12 parts per thousand (natural seawater is 34 parts per thousand).

The Pompano Eco-Pond system will have very little negative impact on surrounding surface freshwater or ground water. Small amounts of low salt ground water (wells) will be pumped into the ponds and all effluent will leave via perculation back into the salt intruded ground water. There will be no off property effluent envisioned. Effluent from broodstock, hatchery, and fry production centers will find there way to a near by saltwater pond. The Pompano will be sold whole and iced thereby minimizing packing department waste. The market demand is for whole fresh iced pompano.

Generally speaking, these saltwater intruded areas in Florida are very commercially under developed. The placement of a Pompano Farm in these areas will bring new jobs and associated commerce. This is a strong and positive social benefit.

This Pompano farming project, based on my 40 years of pompano farming experience, is currently the only profitable approach to pompano farming in the USA.

POMPANO (T. carolinus): A SUSTAINABLE ECO-POND APPROACH TO PROFITABLE FARMING

PLAN ATTACHMENTS

- SWOT ANALYSIS FOR FISH 2.0 SUBMISSION
- COMPETITIVE ANALYSIS FOR FISH 2.0 SUBMISSION
- POMPANO FARMS PRIMARY VALUE CHAIN ACTIVITIES FOR FISH 2.0
- ALTERNATE GROW-OUT COMPARISON FOR FISH 2.0
- PROCESS DIAGRAM FOR A POMPANO PLANT FOR FISH 2.0
- POMPANO FARMS INCOME STATEMENT FOR FISH 2.0
- POMPANO FARMS BALANCE SHEET FOR FISH 2.0

POMPANO FARMS, LLC

SWOT ANALYSIS FOR FISH 2.0 SUBMISSION

The objective of the business venture is to establish a new fish farming business that is designed to make use of sustainable principals while giving rise to profitability.

STRENGTHS:

- Management team with 40 years of experience in this business.
- Essential technologies owned and currently practiced.
- Location of business is in Florida, USA.
- Established supply chain in place for all critical components.
- Established market relationships.
- Established packaging, distribution, and delivery mechanics.
- Cost advantage from proprietary know-how.
- Superior fresh, not frozen product.

WEAKNESSES:

- The need to establish a brand name for the new business.
- The threat of over demand and under supply.
- Farming is a slow process which is front end loaded with funding prior to sales.

OPPORTUNITIES:

- A growing consumer base and a limited wild caught pompano supply.
- A consumer base moving towards consuming more seafood for health reason.
- An ability to expand to ten million pounds per year.

THREATS:

- A change is laws and regulations that limit growth and operations.
- A tropical storm/hurricane damaging the farm and its facilities.
- A general economic collapse that would limit the sales of high end seafood.
- Loss of key-man operators and training of replacement.

Fish 2.0 Competitive Analysis

Pompano Farms, LLC.	Florida Commercial Pompano Fishermen	International Seafood Suppliers
OVERVIEW: Pompano Farms product is a one of a kind. Fresh whole iced farmed pompano. The farm can offer uniform size of fish. The market generally asks for 1 to 1 ¼ pound fish. The farm can offer fresh fish year round.	**OVERVIEW: Wild caught pompano from Florida commercial fishermen are seasonal, vary in size and are most always offered frozen due to multiple distribution levels. Government fishing regulations coupled with seasonal migration behaviors of pompano limit consistent supply.**	**OVERVIEW: There are no supplies of Florida Pompano, wild or farmed, from international sources.**
Additional value: Farmed Florida Pompano that are raised in the sustainable Eco-Ponds have a natural diet similar to its wild counterpart. There is some diet supplementation using manufactured fish foods. Florida Dept. of Agriculture conducted a taste test comparison between wild and our farmed pompano and found no difference.	**Additional value: The market is bifurcated into two distinct market interests. One is some only want wild caught and some will consider farmed as equal to wild. There is an obvious positive edge for wild caught for some segment of the market.**	**Additional value: There are no supplies of Florida Pompano, wild or farmed, from international sources.**
Details: Pompano Farms, LLC. will offer the freshest Pompano to the wholesale market as the fish will be harvest and shipped with 24 hours. It is important to remove the fish from the ponds and ice them immediately which preserve the very best quality and flavor.	**Details: Wild caught pompano from commercial fishermen at most ports hold the fish on board for up to a few days prior to returning to port to off load. This delay degrades the quality of the fish.**	**Details: There are no international supplies of Florida Pompano.**

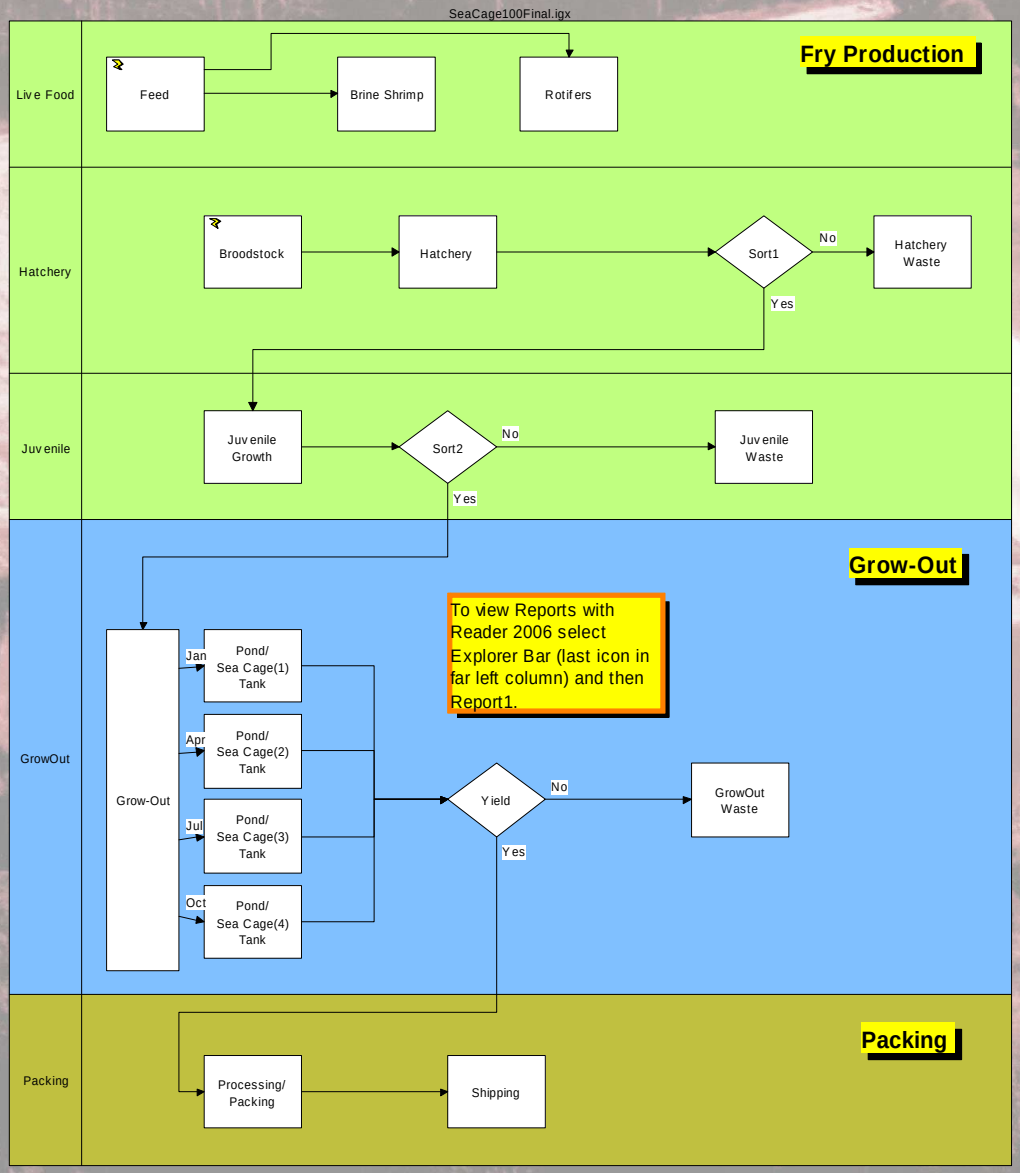
Fish 2.0 Competitive Analysis

Cost: A major market pull will be from control of portion sizes. Uniformity in farming is a positive edge over wild caught. Quality is enhanced by farm to plate being very short. Wholesale price is projected at $6.00 per pound (low end) to $8.00 per pound (top end). At the consumer level, the farmed pompano will be delivered at a lower cost than wild caught.	**Cost: Wild caught Pompano wholesale prices vary on a seasonal base. When fish are plentiful prices decline. When in short supply they climb. Commercial fishermen receive generally between 4 to 5 dollars per pound. The wholesaler/distributor tries to key-stone the cost. Whole wild frozen pompano have been seen in retail grocery stores in Atlanta, Georgia, for example, for $24 per pound.**	**Cost: There are no imported Florida Pompano at any price.**

POMPANO FARMS PRIMARY VALUE CHAIN ACTIVITIES

Inbound Logistics Critical Supplies	Operations	Outbound Logistics	Marketing & Sales	Service
Fry & Grow-Out Foods: Known international suppliers provide low risk of supply interruption which equals stability. Numerous suppliers for these products are currently being utilized. Our selection of these providers is aimed at sustainability.	The business operations include the production of Pompano eggs, fry, and adults. No outside source of these products are required. Advantages are technical expertise, environmentally (climate, saltwater) and centrally located in Florida.	Product delivered to market via company truck, air freight out of Orlando, Fl. for national wholesale customers and Fedex for national retail customers. The firm has existing experience in shipping both fresh and live fishery products nationally.	"Profitability is key to sustainability" Why pompano? High margin and high market value equals profitability. The company currently has a list of buyers that are asking for fresh pompano.	Providing HACCP Services and product handling assistance to next level customers.

Process Diagram for a Pompano Plant



Alternate Grow-out ($ per 0.5kg Pompano)

	RAS High Density	Eco-Pond Low Density	Pond Std Density	Sea Cage Std Density
	60 fish/M^3 100,000 fish	1.0 fish/M^3 400,000 fish	1.5 fish/M^3 400,000 fish	33 fish/M^3 400,000 fish
Feed (FCR 2.0)	$ 0.77 (12%)	$ 0.25 (17%)	$ 0.82 (29%)	$ 0.82 (31%)
Pompano Fry	$ 1.50 (23%)			
Labor	$ 0.79 (12%)	$ 0.50 (33%)	$ 0.87 (31%)	$ 0.87 (32%)
Equipment	$ 1.67 (26%)	$ 0.51 (33%)	$ 0.51 (18%)	$ 0.82 (31%)
Electricity	$ 1.79 (27%)	$ 0.25 (17%)	$ 0.60 (22%)	$ 0.16 (6%)
Total	$ 6.52	$ 1.51	$ 2.80	$ 2.67

Pompano Farms, LLC

Income Statement

For the Years Ending [Dec 31, 2014 to Dec 31, 2016]

Revenue	2014	2015	2016
Sales revenue	0	0	3,000,000
(Less sales returns and allowances)			
Service revenue	0	0	0
Interest revenue	250,000	125,000	12,500
Other revenue			
Total Revenues	**250,000**	**125,000**	**3,012,500**

Expenses			
Advertising	0	0	50,000
Bad debt			
Commissions			
Cost of goods sold	0	125,000	125,000
Depreciation			
Employee benefits			
Furniture and equipment	25,000	0	0
Insurance	10,000	10,000	10,000
Interest expense			
Maintenance and repairs	25,000	25,000	25,000
Office supplies	6,000	6,000	6,000
Payroll taxes	86,550	89,250	89,250
Rent	5,000	5,000	5,000
Research and development			
Salaries and wages	577,000	595,000	595,000
Software	1,000	1,000	1,000
Travel	5,000	5,000	5,000
Utilities	12,000	24,000	36,000
Web hosting and domains	500	500	500
Other			
Total Expenses	**753,050**	**885,750**	**947,750**

Net Income Before Taxes	-503,050	-760,750	2,064,750
Income tax expense			793,060
Income from Continuing Operations	**-503,050**	**-760,750**	**1,271,690**

Below-the-Line Items			
Income from discontinued operations			
Effect of accounting changes			
Extraordinary items			
Net Income	**-503,050**	**-760,750**	**1,271,690**

Pompano Farms, LLC

Balance Sheet

Date:

Assets	2014	2015	2016
Current Assets			
Cash	-		
Accounts receivable			
Inventory			3,000,000
Prepaid expenses			
Short-term investments			
Total current assets	-	-	3,000,000
Fixed (Long-Term) Assets			
Long-term investments			
Property, plant, and equipment	15,990,024	15,990,024	15,990,024
(Less accumulated depreciation)			
Intangible assets	6,900,000	6,900,000	6,900,000
Total fixed assets	22,890,024	22,890,024	22,890,024
Other Assets			
Deferred income tax			
Other			
Total Other Assets	-	-	-
Total Assets	**22,890,024**	**22,890,024**	**25,890,024**

Liabilities and Owner's Equity			
Current Liabilities			
Accounts payable	41,689	201,248	205,752
Short-term loans			
Income taxes payable			793,060
Accrued salaries and wages			
Unearned revenue			
Current portion of long-term debt			
Total current liabilities	41,689	201,248	998,812
Long-Term Liabilities			
Long-term debt	22,890,024	22,890,024	22,890,024
Deferred income tax			
Other			
Total long-term liabilities	22,890,024	22,890,024	22,890,024
Owner's Equity			
Owner's investment			
Retained earnings			
Other			
Total owner's equity	-	-	-
Total Liabilities and Owner's Equity	**22,931,713**	**23,091,272**	**23,888,836**

Common Financial Ratios			
Debt Ratio (Total Liabilities / Total Assets)	1.00	1.01	0.92
Current Ratio (Current Assets / Current Liabilities)	0.00	0.00	3.00
Working Capital (Current Assets - Current Liabilities)	(41,689)	(201,248)	2,001,188
Assets-to-Equity Ratio (Total Assets / Owner's Equity)			
Debt-to-Equity Ratio (Total Liabilities / Owner's Equity)			