

List of Provided Worksheets

Worksheet		Purpose
1	Before You Begin	Document your reasons, expertise and resource needs
2	Introduction	Document the information to include in the Business Plan introduction
3	Vision	Document the information to include in the Business Plan vision statement
4	Mission	Document the information to include in the Business Plan mission statement
5	Goals	Document the information to include in the Business Plan goal discussion
6	Organization & Management	Document the information about the organization & management of your business
7	Market Analysis	Document the information to include in the market section
8	Market Segments	Document the information about customers and market segments (complete one worksheet for each market segment)
9	Product	Document the information about your product (complete one worksheet for each market segment)
10	Distribution	Document the information about your approach to storage and distribution (complete one worksheet for each market segment)
11	Pricing	Document the information about your approach to pricing (complete one worksheet for each market segment)
12	Sales Volume	Document the information about potential sales volumes
13	Competition	Document the information about competitors (complete one worksheet for each market segment)
14	Promotion	Document the information about your approach to promotion (complete one worksheet for each market segment)
15	Fish & Crop Management	Document the information about your approach to production management
16	Aquaponics Harvesting Schedules	Evaluate approach to planting and harvesting
17	Aquaponics Operations Planning (N/A)	Assist in estimating the operating expense for the farm and size and capacity of the farm
18	Yield	Document the information about farm capacity and size

Worksheet		Purpose
19	Physical Resources	Document the information about the physical resource needs
20	Manpower Needs	Document the information about workforce needs
21	Workforce Needs	Document the information about workforce needs
22	Regulation & Policy	Document the information about your approach to regulations and policies
23	Expenses (MS Excel)	Calculate and document annual expenses
24	Income (MS Excel)	Calculate and document the annual income
25	Profit & Loss (MS Excel)	Calculate and document the annual profit or loss
26	Fixed Assets (MS Excel)	Calculate and document the fixed assets and estimated costs to purchase and install
27	Funding (MS Excel)	Calculate and document the sources of funding, the anticipated amount of funding that will be obtained from each source, and what, if any, are the limitations on the use of the funding
28	Funding Information	Document the information concerning the funding needs and sources
29	Risk Management	Document the information about the potential risks that can impact the financial strategy

Worksheets

This includes Worksheets 1-16, 18-22, and 28-29.

For Worksheets 17 and 23-27, refer to the Aquaponic Business Plan Worksheets MS Excel file. Additionally, the Urban Farm Business Plan Worksheets (Microsoft (MS) Excel®) are available at www.epa.gov/brownfields/urban-farm-business-plan-worksheets.

Worksheet # 1 – Before You Begin

Think about the primary reasons why you want to start an urban farm and the expertise and resources needed to develop the business plan.

What are your primary reasons for starting an urban farm?

What expertise is needed on your planning team?

What resources will be needed to develop the business plan?

What values do you bring to this business that will help you define the success of the business?

Worksheet # 2 – Introduction

The introduction describes the purpose of the business plan and the key issues addressed by the plan.

What is the purpose of the business plan?

What information is contained in the business plan?

How was the business plan developed?

Who are the members of the business planning team?

What are the potential risks to the successful start up of the farm?

Worksheet # 3 – Vision

The vision statement is an inspirational statement that describes your vision for the future of the farm and how your values will be incorporated into your farm.

What economic, environmental, or community values are important to the success of the farm?

What products or services (in a general sense) do you expect to provide?

Who are your target customers?

What customer or market needs will your business address?

What do you expect the business to look like in the future?

How do you expect the business to be perceived by the community and customers in the future?

Worksheet # 4 – Mission

The mission statement is a simple statement that communicates the fundamental purpose and expectations for the farm to customers and others outside of the business.

What is the overall purpose of your farm?

What is the overall goal of your farm?

What do you want your business to be known for in the future?

Who do you want the mission statement to communicate to?

What is the overall purpose of your aquaponics project?

What is the overall goal of your aquaponics project?

What do you want your business to be known for in the future?

Who do you want the mission statement to communicate to?

Worksheet # 5 – Goals

The goals describe what is to be achieved by the business in the future.

What will the business market?

How will the business operate?

Who will be involved in operations?

What income or earnings are expected from the business?

What are the short-term goals (1- 5 years)?

What are the long-term goals (greater than 5 years)?

What goals are most important to achieving success in the business?

What short-term goals are necessary for the long term success of the business?

What is the priority of the goals?

Worksheet # 6 – Organization and Management

Describe how the business will be organized and who will manage the business.

How will the business be organized?
What is the ownership structure of the business?
Will there be an overseeing board or board of directors? Who will be on it? What will their roles be in the business? Will there be compensation for these directors?
How will the business management be organized? A simple organization chart may be useful to explain the organization.

Who will be the key managers who will run the business?

What unique skills do the key managers bring to the business?

What will be the duties and responsibilities of the key managers?

How will the key managers be compensated?

Worksheet # 7 – Market Analysis

The market analysis describes the general environment in which your business will be operating.

What are the economic factors that affect a potential customer's purchasing power and spending?

What are the demographic factors that describe who potential customers are, where they are, and how many are likely to buy your product?

What are the social and cultural factors related to the basic values, perceptions, preferences, and behaviors of your potential customers?

What voids in the market will be filled by your farm?

Worksheet # 8 – Market Segments (Customers)

Divide the larger target market into submarkets (market segments), such as direct marketing to individual households or business-to-business marketing. Describe the characteristics of each market segment. Complete a worksheet for each market segment.

Market Segment:
What is the size and geographic location?
What characteristics (demographics) define the target customers?
What are the attributes of the market segment related to personality, values, attitudes, interests, or lifestyles?
What are the needs and preferences of the market segment?

Market Segment:

What are the trends and/or market conditions for the market segment?

What product will appeal to the market segment?

What motivates buying decisions in the market segment?

What evidence is there that potential customers in the market segment want the product?

Worksheet # 9 – Products

*Describe the products to be offered and how they will compete in each market segment.
Complete a worksheet for each market segment.*

Market Segment:
What products will be offered?
What is the product availability (seasonal offerings)?
What specific product characteristics meet the needs of the market segment?
How are your products unique?
Why would a customer prefer your product to a competitor's?

Worksheet # 10 – Distribution

Describe how the product is planned to be distributed and how the product will get to each market segment. Complete a worksheet for each market segment.

Market Segment:
Will the product be pre-packaged? How will the product be packaged?
Will the product be stored prior to sale? How will the product be stored?
How will the product be distributed (farm stand, deliveries)?
How will product quality be maintained during storage and distribution?

Market Segment:
Why is the selected distribution approach best for the market segment?
How will your business gain access to the market segment and distribution channels?
How often will the product be made available to customers in the marketing segment (deliveries, days and hours of operation)?

Worksheet # 11 – Pricing

Describe the pricing strategy for each market segment and why it will be effective with the target customer in the market segment. Pricing is based on prevailing market pricing and costs of producing and distributing the product. Complete a worksheet for each market segment.

Market Segment:
What are the market prices for similar products?
What is the likely ability of your business to set prices?
What is the sensitivity of demand to price?
How will the product be priced for the market segment?
How does your pricing strategy compare with the competition?

Market Segment:

What evidence is there that the target market will accept the price?

Why will the selected pricing strategy be effective?

Worksheet # 12 – Sales Volume

Develop simple sales projections for each market segment using information about average product consumption, geographic location, and customer attributes, needs, and preferences. Complete a worksheet for each market segment.

Market Segment:
When and how long will the product be available for the market segment?
What is the potential number of customers for the market segment?
What are the potential sales per customer for the market segment?
What is the potential sales volume for the market segment?
What assumptions were made about the market segment?
What research was conducted or referenced about the market segment?

Worksheet # 13 – Competition

Describe the competition for each market segment and how the business will be positioned to compete in each market segment. Complete a worksheet for each market segment.

Market Segment:
Who are the competitors for the market segment?
What are the advantages of your business in the market segment?
What are the disadvantages of your business in the market segment?
How will your business differentiate itself from your competitors? Why will customers switch to or select this business?

Worksheet # 14 – Promotion

Describe **how** the product will be sold and what will be communicated to customers in each market segment. Complete a worksheet for each market segment.

Market Segment:
How will your business gain access to the market segments?
What approach will you use for promotion?
How will you communicate the message?
What message will you communicate to your potential customers?
How often will customers be contacted through advertising and communications?

Worksheet # 15 – Crop Management

Production management for an aquaponics operation involves maximizing the fish and plant crops that can be produced in order to meet the objectives of the marketing strategy, in terms of the type, amount, and quality of the fish and crops that are to be produced, and the profitability of those crops.

What is the primary product? Will the focus of the operation be the sale of fish or plant crops? Will fish be a product for sale or used primarily as a source of nutrients for the plant crops?

Describe the aquaponics system design and equipment requirements including appropriate plant to fish ratios used to size the equipment, the primary components of the system, the type of hydroponics system to be used, and systems to monitor operation parameters. Include an equipment layout plan and building floor plan.

What will be your approach to planting and harvesting? Do you expect to have year round plantings and harvesting? How will your planting and harvesting schedules change over the first five years of production?

How will water conditions such as pH, temperature, ammonia, nitrates, nitrites, oxygen, total dissolved solids, and hardness, electrical conductivity (EC) be managed?

What production management alternatives are going to be implemented for issues such as pest, and disease control, water supply, seed and plant selection, waste handling and disposal, and crop quality control?

What type of water supply (e.g., city water, well) will be used? Is a pre-treatment system needed prior to use of the water in the fish and hydroponic tanks?

Will seeds or seedlings be used? How will seed and plant selection be accomplished?

What waste handling and disposal will be required and how will it be accomplished?

What quality control measures will be needed for fish and plant crops during growing and prior to sale?

How will security for the property, equipment, and fish and plant crops be accomplished (e.g., fencing, cameras)?

Identify any other operational management issues (itemize)?

Worksheet # 16 – Aquaponics Harvesting Schedule

Discuss your hydroponic planting system, fish selection, and harvesting schedules.

How will plantings and fish stocking be made to achieve the required fish to plant ratio and meet the marketing strategy?

What is your planting, stocking, and harvesting schedule? Identify the timing of fish to be introduced and harvested.

Crop	Year	Activity	Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec		
		Plant																									
		Fish Harvest																									
		Plant Harvest																									
		Plant																									
		Fish Harvest																									
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		Plant Harvest																									
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		Fish Harvest																									
		Plant Harvest																									
		Plant																									
		Fish Harvest																									
		Plant Harvest																									

Worksheet # 17– Aquaponics Operations Planning

Worksheet #17 (Farm Planning) is not included for the aquaponics farm due to the variability in design related to the fish/crop interdependence. It is recommended that an individual experienced in the design of aquaponics system be engaged to develop the design criteria for the equipment based on the initial and five-year market assumptions. A template to work from is provided in the Aquaponic Business Plan Worksheets MS Excel file.

Worksheet # 18– Yield (Size and Capacity)

Describe the production capacity and plans for future growth. Complete one worksheet for each market segment. An Aquaponics Operation Planning worksheet (Worksheet # 17) created in Microsoft Excel® to assist in estimating the yield of the farm is available for download on the EPA urban agriculture website (<http://www.epa.gov/brownfields/urbanag>).

What is the estimated output for each crop (plant and fish) for this market segment during the first five years of production (e.g., pounds of produce or fish per month)?

Market Segment:

Crop	Year 1	Year 2	Year 3	Year 4	Year 5
Expected Output					

What are the plans for growth of the business for this market segment?

Worksheet # 19 – Physical Resources

Physical resources include building space, hydroponic growing systems, including fish tank(s), and equipment necessary to produce and market your fish and plant crops to meet the objectives of the marketing strategy. Describe your physical resource needs and how they will be acquired.

List the resources needed below.	Describe the physical resource and how it will be acquired. (Describe any issues which may affect the use of or access to the resource (e.g., suspected or known environmental contamination on the property))
Land:	
<ul style="list-style-type: none"> • <i>Size</i> • <i>Location</i> • <i>Topography</i> 	
Building:	
<ul style="list-style-type: none"> • <i>Size</i> • <i>Office area</i> • <i>Growing area</i> • <i>Cold storage</i> • <i>Packaging/shipping</i> • <i>Storage areas</i> 	
Other structures:	

List the resources needed below.	Describe the physical resource and how it will be acquired. (Describe any issues which may affect the use of or access to the resource (e.g., suspected or known environmental contamination on the property))
Equipment:	
<ul style="list-style-type: none"> • <i>Fish tank(s)</i> 	
<ul style="list-style-type: none"> • <i>Pumps/Filters</i> 	
<ul style="list-style-type: none"> • <i>Plumbing</i> 	
<ul style="list-style-type: none"> • <i>Water heaters/heating systems</i> 	
<ul style="list-style-type: none"> • <i>Water testing kits</i> <ul style="list-style-type: none"> ○ <i>pH,</i> ○ <i>temperature,</i> ○ <i>ammonia, nitrates, nitrites,</i> ○ <i>oxygen,</i> ○ <i>TDS, hardness, electrical conductivity (EC)</i> 	

List the resources needed below.	Describe the physical resource and how it will be acquired. (Describe any issues which may affect the use of or access to the resource (e.g., suspected or known environmental contamination on the property))
<ul style="list-style-type: none"> • <i>Lighting</i> <ul style="list-style-type: none"> ○ <i>Building lighting</i> ○ <i>Growing lights</i> 	
<ul style="list-style-type: none"> • <i>Monitoring systems</i> <ul style="list-style-type: none"> ○ <i>Temperature control</i> ○ <i>Water conditions</i> 	
<ul style="list-style-type: none"> • <i>Plant starter beds</i> <ul style="list-style-type: none"> ○ <i>Media beds/media</i> ○ <i>Rafts/net pots</i> 	
<ul style="list-style-type: none"> • <i>Backup power</i> 	
<ul style="list-style-type: none"> • <i>Other Equipment</i> 	
<p>Tools:</p>	
<ul style="list-style-type: none"> • <i>Environmental Controls</i> <ul style="list-style-type: none"> ○ <i>Air temperature</i> ○ <i>water temperature</i> ○ <i>Humidity</i> ○ <i>Light levels</i> 	

List the resources needed below.	Describe the physical resource and how it will be acquired. (Describe any issues which may affect the use of or access to the resource (e.g., suspected or known environmental contamination on the property))
Supplies:	
<ul style="list-style-type: none"> • <i>Growing Systems</i> <ul style="list-style-type: none"> ○ <i>Raft-based</i> ○ <i>Media-based</i> ○ <i>Hybrid</i> ○ <i>Other system</i> 	
Utilities:	
<ul style="list-style-type: none"> • <i>Heating (natural gas, electric, oil)</i> • <i>Electric</i> • <i>Water</i> • <i>Communications (remote monitoring)</i> <ul style="list-style-type: none"> ○ <i>Telephone</i> ○ <i>High Speed Internet</i> 	
Other resources (Itemize):	

Worksheet # 20 – Manpower Needs

Identify the labor tasks and estimate the number of hours per week and weeks per year required for each task.

Task	Year 1			Year 2			Year 3			Year 4			Year 5		
	Hours/ week	Weeks/ year	Total	Hours/ week	Weeks/ year	Total	Hours/ week	Weeks/ year	Total	Hours/ week	Weeks/ year	Total	Hours/ week	Weeks/ year	Total
Marketing															
Marketing Total															
Operations															

Task	Year 1			Year 2			Year 3			Year 4			Year 5		
	Hours/ week	Weeks/ year	Total	Hours/ week	Weeks/ year	Total	Hours/ week	Weeks/ year	Total	Hours/ week	Weeks/ year	Total	Hours/ week	Weeks/ year	Total
Operations Total															
Administrative															
Administrative Total															
Financial															

Task	Year 1			Year 2			Year 3			Year 4			Year 5		
	Hours/ week	Weeks/ year	Total	Hours/ week	Weeks/ year	Total	Hours/ week	Weeks/ year	Total	Hours/ week	Weeks/ year	Total	Hours/ week	Weeks/ year	Total
Financial Total															

Worksheet # 21 – Workforce Needs

Describe the work force effort needed to run the aquaponics operation. This should include management, as well as systems labor.

Position description.	What skills or experience are needed?	How will positions be filled (e.g., full-time, part-time, volunteer, service contractor)?	What benefits will be offered?	Typical salary range.

Position description.	What skills or experience are needed?	How will positions be filled (e.g., full-time, part-time, volunteer, service contractor)?	What benefits will be offered?	Typical salary range.
What training will be required and how will it be accomplished?				

Worksheet # 22 – Regulation and Policy

Identify the type of permits, licenses, regulations, or certifications and associated fees required to start up and conduct the business.

What regulatory requirements exist? What conditions or issues are associated with each requirement? What fees will be incurred? Can the requirement be met?				
Regulatory Issue	Requirement	Conditions or Issues	Fees (\$)	Can it be met?
Planning				
Zoning				
Waste handling and disposal				
Health				

What regulatory requirements exist? What conditions or issues are associated with each requirement? What fees will be incurred? Can the requirement be met?

Regulatory Issue	Requirement	Conditions or Issues	Fees (\$)	Can it be met?
Safety				
Building				
Inspections				
Environmental				
Food handling (handling, storing, packaging, and distributing)				

What regulatory requirements exist? What conditions or issues are associated with each requirement? What fees will be incurred? Can the requirement be met?

Regulatory Issue	Requirement	Conditions or Issues	Fees (\$)	Can it be met?
Business operations				
Sales tax				
Other (itemize)				

Worksheet # 23 – Annual Expenses

For Worksheet 23, refer to the Aquaponic Business Plan Worksheets MS Excel file. Additionally, the Urban Farm Business Plan Worksheets (Microsoft (MS) Excel®) are available at www.epa.gov/brownfields/urban-farm-business-plan-worksheets.

Worksheet # 24 – Projected Income

For Worksheet 24, refer to the Aquaponic Business Plan Worksheets MS Excel file. Additionally, the Urban Farm Business Plan Worksheets (Microsoft (MS) Excel®) are available at www.epa.gov/brownfields/urban-farm-business-plan-worksheets.

Worksheet # 25 – Profit and Loss

For Worksheet 25, refer to the Aquaponic Business Plan Worksheets MS Excel file. Additionally, the Urban Farm Business Plan Worksheets (Microsoft (MS) Excel®) are available at www.epa.gov/brownfields/urban-farm-business-plan-worksheets.

Worksheet # 26 – Projected Fixed Assets

For Worksheet 26, refer to the Aquaponic Business Plan Worksheets MS Excel file. Additionally, the Urban Farm Business Plan Worksheets (Microsoft (MS) Excel®) are available at www.epa.gov/brownfields/urban-farm-business-plan-worksheets.

Worksheet # 27 – Projected Funding

For Worksheet 27, refer to the Aquaponic Business Plan Worksheets MS Excel file. Additionally, the Urban Farm Business Plan Worksheets (Microsoft (MS) Excel®) are available at www.epa.gov/brownfields/urban-farm-business-plan-worksheets.

Worksheet # 28 – Funding Information

Describe the sources of funding (capital) to purchase and install the fixed assets needed to start up the farm and achieve the business plan.

What are the potential sources of funding?
Are there specific limitations on the funding?
What are the critical assumptions concerning the funding?
What is the timing of the funding and how will it impact the achievement of the business plan?
How will the funding be obtained?
Are there expenses associated with the funding?

Worksheet # 29 – Risk Management

Identify and evaluate potential risks that can impact the financial strategy and the success of the business plan.

What are the potential risks that may need to be managed?	How likely is the risk to occur (high, medium, low)?	What is planned to minimize potential risks if they occur?
Production:		
Marketing:		
Financial:		
Labor:		
Other:		