

Jobenomics-Sprung Structures **Controlled Environment** **Agriculture (CEA) Program**

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1 May 2021

Proprietary Information

Jobenomics-Sprung Structures Controlled Environment Agriculture (CEA)

This document includes a draft business plan for the Jobenomics-Structures Controlled Environment Agriculture (CEA) program. This document's forward-looking financial projections are subject to ongoing analysis and business planning. CEA entails various technologies (soil-based, hydroponics, aquaponics, etc.) and products (fish, vegetables, herbs, seedlings, etc.). Consequently, the financial projection herein represents only a sampling of potential outcomes.

This plan features a 34,500-sf CEA facility with hydroponic and aquaponic technology and a 5,250-sf microfarm with a soil-based growing system and a fish farm. Sprung Structures CEA systems range from as small as 4,000-sf to 8-acres (approximately 350,000 square feet).

Jobenomics (<https://jobenomics.com/>) specializes in mass-producing local startup businesses and sustainable jobs in underserved and under-resourced communities. The Jobenomics National Grassroots Movement has reached an estimated 30 million people via national media, Jobenomics TV, website, blog, and lectures. As a result of this exposure, Jobenomics' unique economic, community, business, and workforce development activities gained international recognition. Dozens of cities and regions in North and South America, West Africa, and Arabia implemented Jobenomics Chapters. To meet local citizens' immediate needs, Jobenomics formed partnerships with leading companies (like Sprung Structures) and institutions to create a wide variety of highly scalable startup programs that could quickly mass-produce new locally-owned and operated startup businesses.

The Jobenomics Circular Agrarian Economy initiative creates a closed-loop system for more efficient and profitable agriculture, emphasizing mass-producing agriculture-related startup businesses and jobs. At the heart of this initiative includes CEA, agricultural waste to biofuels, regenerate agriculture, soil remediation, and remote area power/telecom/internet programs.

Sprung Structures (<https://www.sprung.com/>), established in 1887, specializes in "immediate building solutions" for industrial and non-industrial applications that can be operational within weeks of contract award. Today, 13,000 Sprung Structures are in 110 countries. Sprung designed its structures to be adapted and reused. They may be disassembled, reconfigured, or expanded and relocated for another application. No demolition is required, and no waste goes to the landfill. As a fast, reliable alternative to conventional construction, a Sprung structure dramatically reduces construction timelines. Each system arrives at our client's site prefabricated, eliminating substantial waste associated with traditional construction.

Sprung Structures is a global leader of Controlled Environment Agriculture (CEA) systems with thousands of operational units worldwide. Sprung Structures provide an ideal growing environment with their air and watertight building envelope, enabling customers to control light, ventilation, temperature, humidity, nutrients, and water. For more information, see <https://www.sprung.com/structures/industrial-buildings/controlled-environment-agriculture/> and the following documents:

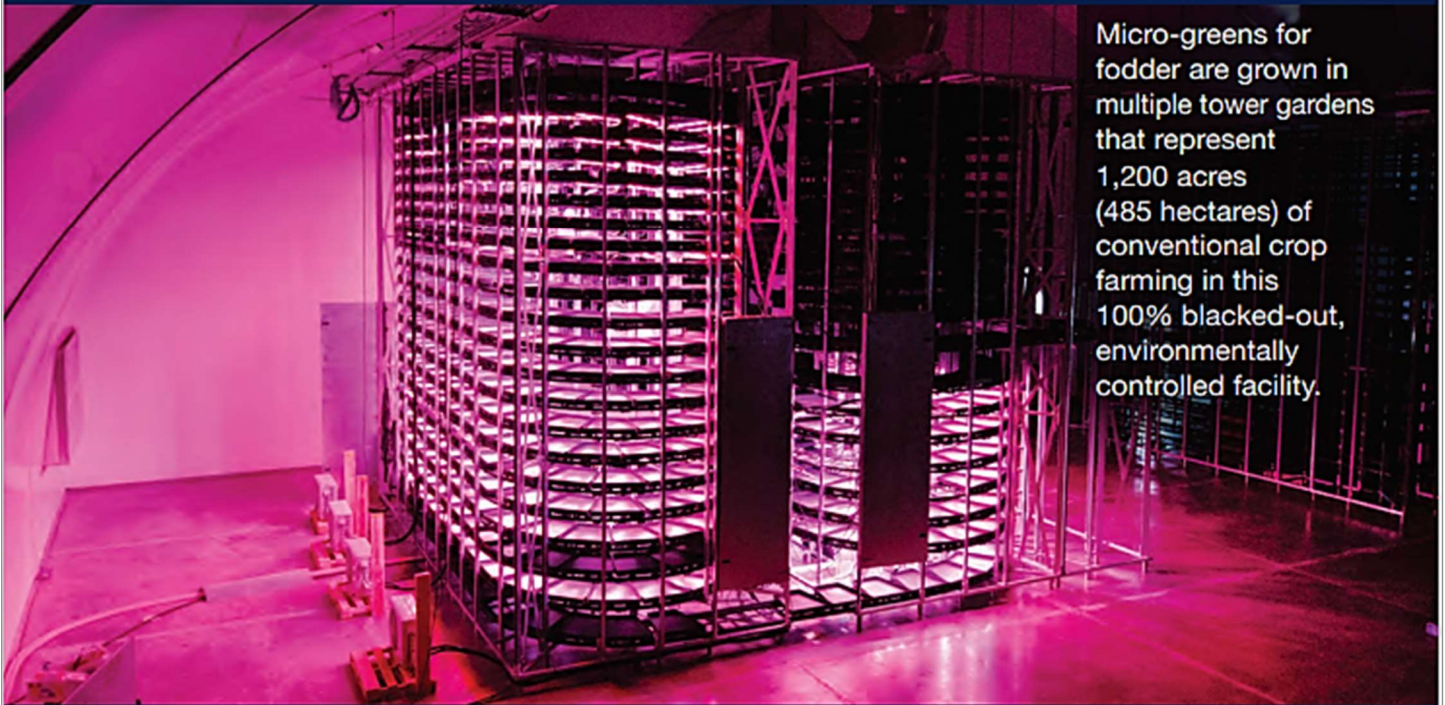
- Sprung CEA Greenhouse Presentation - April 2020
- Sprung CEA Frequently Asked Questions - April 2020
- CEA Growing Solutions Written For Jobenomics - February 2021

Controlled Environment Agriculture

A Better Way to Grow



Giving seeds the perfect day. Every day.



Micro-greens for fodder are grown in multiple tower gardens that represent 1,200 acres (485 hectares) of conventional crop farming in this 100% blacked-out, environmentally controlled facility.

Optimizing water, energy, space, capital and labor.



- Designed for high humidity growing environments
- Better overall envelope complete with R-30 plant based fiberglass insulation
- Extreme air tightness maximizes energy efficiency
- Installed in a fraction of the time of conventional construction

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Controlled Environment Agriculture

A Better Way to Grow
Engineered & Manufactured by Sprung Instant Structures



**Sprung Campus
On-site Greenhouse**
Calgary, Alberta
40' wide x 105' long
(12.2m wide x 32m long)

Vegetables are locally grown and free of pesticides in a year round controlled environment.

- The construction method allows for faster assembly times with lower initial investments
- Sprung's highly translucent membrane provides diffused lighting for optimal growing conditions and backed by a 10 year membrane guarantee
- Minimal air loss, extreme air tightness combines with solar gain, and passive solar technologies to dramatically reduce energy costs



**Rocky Mountain
Shrimp Farm**
Strathmore, Alberta
60' wide x 150' long
(18.2m wide x 45.7m long)
8' leg extension (2.4m)

Alberta's first shrimp farm located in land locked Alberta is thousands of miles from any ocean.

- No antibiotics, pesticides or preservatives
- Low in calories, high in protein
- Loaded with key nutrients
- Great tasting

"Our shrimp are loaded with all of the things you want and none of the things you don't. We never use antibiotics, harsh chemicals or preservatives and only feed premium domestically sourced feeds."



Regina Food Bank
Regina, Saskatchewan
Controlled
Environment Agriculture
40' wide x 65' long
(12m wide x 19.8m long)

The Regina Food Bank is best known as a place that collects and distributes food, and is now also growing its own fresh produce. Regina Food Bank provides fresh greens from their environmentally controlled Sprung structure using LED Lights and 48 garden "towers". The towers are planted with broccoli, chinese cabbage, and other vegetables. The food bank grows healthy food for its clients and community partners 12 months of the year.



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34,500 Square Foot CEA Center Analysis & ROI

34,500 Square Foot CEA Center Summary

The Jobenomics CEA Center will be designed and implemented by Sprung Structures, one of the world's leading controlled agriculture companies. Sprung CEA facilities range from 4,000 square feet to over 8-acres in size.

Upon contract award, the CEA Center, a 34,500 square foot facility with hydroponic and aquaponic growing systems, will be operational within six to eight months at the cost of \$2,815,629. The expected annual revenue project is \$776,836 with an EBIDTA of \$256,251. The expected payback period is 3.4 years.

CEA & Sprung Overview

A recent surge of investment and growth in controlled environment agriculture (CEA) has created new business and workforce opportunities in America's oldest industries. The following trends contributed to the explosive growth of CEA:

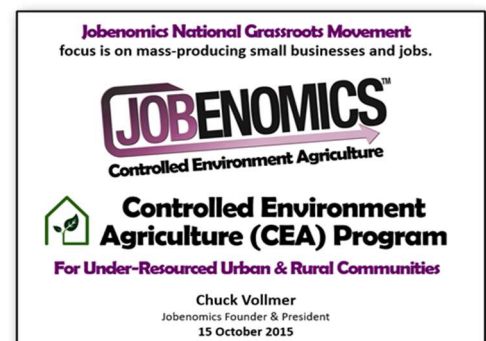
- Customer preference for organically grown, herbicide/pesticide-free, and non-GMO (Genetically Modified Organisms) farm-to-table foods,
- Climate change and extreme weather events are destructive to traditional outdoor farming methods,
- More efficient and cost-effective method of growing high-value crops, vegetables, and seedlings,
- Retailers desire to diversify food sources, shorten supply chains and offer same-day fresh products,
- Increased government and public concern regarding malnutrition, obesity, and lack of access to healthy food sources, and
- Burgeoning economic, community, startup business, and workforce development opportunities for underserved and under-resourced communities and neighborhoods.

In 2015, Jobenomics began developing a CEA Program for urban agricultural applications in underserved and under-resourced communities. Today, Jobenomics has strategic partnerships with the leading CEA growers, technologies, and structure manufacturers in dozens of countries.

CEA is a technology-based approach to indoor food and plant-based material production. CEA aims to provide protection and maintain optimal growing conditions throughout the development of the crop. Production takes place within an enclosed growing structure such as a greenhouse or artificially lit structure. CEA aims to optimize resources such as water, energy, space, capital, and labor.

CEA technologies include:

- **traditional** (soil-based growing)
- **hydroponics** (soil-less growing of plants),
- **aquaculture** (raising fish),
- **aquaponics** (a combination of hydroponics and aquaculture fish waste as plant nutrients), and
- **aeroponics** (a method used to grow plants in the air without the use of soil).



Jobenomics selected Sprung Structures, Hollogram Solutions (their engineering company), and their CEA research and development group (Agro Resilience Kit, LTD) as our CEA supplier. For over 120 years, Sprung Structures have designed, built, and installed over 12,000 installations in over 100 countries. Their expertise in CEA is unmatched by thousands of CEA facilities. We anticipate full operational capability within six to eight months after contract award.



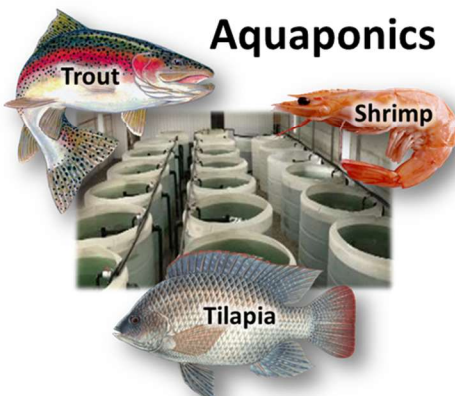
34,500 Square Foot (100' x 345') CEA Center



Hydroponics



Aquaponics



Sprung greenhouses meet building regulations and codes for fire, smoke, snow, and wind loading, which is atypical for most agriculture applications. In addition, to our knowledge, Sprung's translucent greenhouses are the only type of growing structure that can be insured for structural and crop damage.

The following comparison table is an overview of the relative differentiation of a membrane-based structure over a more traditional construction strategy.

Sprung Membrane Greenhouses Versus Conventional Greenhouses

Consideration	Membrane	Double Poly	Polycarbonate	Glass
Base Building Cost (FOB Factory)	~\$25 ft ²	~\$7.50 ft ²	~\$15 ft ²	~\$15 ft ²
Foundation	Not Required	Required (~\$10-15/ ft ²)		
Fabrication Time ⁽¹⁾	3 - 4 weeks	9 – 10 Weeks	7 – 8 Weeks	9 – 10 Weeks
Installation Costs	~ 1500 ft ² per day	Foundations must be laid first, then beams need to be erected and finally glazing panels installed. Labour intensive (even more so for glass panels) and caulking can only be completed in warm, dry weather		
Life Span ⁽²⁾	50 Year warranty of substructure, 10 Year on membrane in high humidity environment with a life expectancy of 15 years (replacement cost is ~30% of original)	Panels need to be replaced every 2-5 years	~10-12 Years for the panels longer for the side walls, caulking ~ ever 5 years (replacement cost is ~ 50% of original)	25 years for the panels, caulking ~ every 5 years
Fire Certifications	Certifications in Place	Not Available		
Snow Loads	Structurally engineered and stamped for snow loads without heat application	Heat is required at roof level to prevent snow load collapse		
Wind Loads	Can be designed to be insurable up to Category 5 hurricane wind speeds	There are several designs of sidewalls and roof tops available but, generally these structures cannot handle extreme wind loads		
Hail Susceptibility	Warranted against hail damage	Very susceptible to hail damage	Very susceptible to hail damage	Susceptible to hail damage
Insurability	Yes	No – Generally Greenhouses are not insurable in North America		
Light Transmittance	Removes UV and diffuses light without annual cost of whitewashing	Annual cost of whitewashing	Annual cost of whitewashing	Except for more expensive etched glass, annual cost of whitewashing

Weight	Clear span from load bearing wall to load bearing wall. ~ 4 lbs / ft ² Light	Relatively Light	Relatively Light	Very Heavy Panels
Air Permeability of Building ⁽³⁾	Near Zero	Poor air tightness		
Energy Efficiency ⁽⁴⁾	Up to 20% energy savings over conventional greenhouse building structures	Better than Glass at retaining heat if treated with IR film that adds to the cost	Better than Glass at retaining heat	Poor ability to retain heat in the winter months as the glazing panels transmit heat quite efficiently

Preliminary ROI Analysis

This ROI Analysis is for REFERENCE ONLY and is a scaled version of actual Sprung-based greenhouse data from 2010 and 2017. We did not adjust for price escalation (inflation, increased demand for organic foods, and increased supply chain costs due to the pandemic, which is likely to remain high post-pandemic).

Many variables impact the actual cash flows of an operational program versus this analysis. Like we have done in other cities, the Jobenomics team will need to visit local grocery stores, big box stores (e.g., Target, Walmart), and other food outlets (e.g., restaurants, hotels, etc.) to determine demand. Consequently, we arbitrarily picked the following mix of products (kale, dino kale, chard, lettuce, and trout) to compare against actual data produced in a Sprung CEA facility.

We also need to conduct additional analyses such as:

- Environmental analysis specific to the growing location (sunshine, temperature variations, etc.)
- A local labor force comparison, which should increase profitability due to lower labor rates),
- Assessment of local utility rates for impact on operational costs,
- Evaluation of other variables such as renewable energy subsidies that could fund photovoltaic options (as shown),
- A local pricing (services, insurance) survey, and
- Assess actual crops proposed for production to assess best growth strategies for incorporating environmental control production equipment and materials.



Thus, operating budgets can change substantially. It is conceivable that we could modify the CEA facility to grow other high-dollar value CEA products, as shown below. Herbs are the highest value produce. Hemp is the fastest growing and most profitable agricultural industry that needs quality seedlings. Jobenomics customers asked us to evaluate producing drought and pest-resistant tree seedlings for reforestation and the World Economic Forum's One Trillion Trees Initiative, an ambitious global effort to plant or conserve one trillion trees worldwide by 2030. While this may sound a little farfetched, many international funding sources would favor sourcing contracts to a minority-owned CEA center to produce and ship to global customers high-quality, genetically engineered, climate-change tolerant forestry products.

High \$ Value CEA Products

Common Crops

- Culinary Herbs
- Lettuce
- Spinach
- Tomatoes
- Strawberries
- Peppers
- Cucumbers



Specialty Crops

- Medicinal Herbs
- Flowers
- Mushrooms
- Ground Covers
- Ornamental Grasses
- Bamboo
- Hemp

Our Canadian teammate, Jason Holloway, provided a Canadian government publication of reference revenues for other greenhouses within the climate and geographical location for our reference case. This valuable document shows that Sprung designs far exceed competitor CEA structures and technology – primarily due to the aquaponics incorporation and Sprung/ARK energy efficiency technologies.

Our Phase 0 effort will develop a detailed CEA business plan incorporating reliable revenue, operating cost, and cash flow models. It will also determine the ideal product mix and optimum growing systems. For example, we will tailor CEA technologies to the product mix. For example, one cannot just mix any crop with another within the same building. They need to be at least from the same climate zone to optimize the environment (i.e., carrots and tomatoes do not go together). Once we understand the proper mix, then we can implement the correct technologies to optimize production. Likewise, the incorporation of aquaponics is not just a simple measure of adding fish tanks. Instead, with aquaponics, you would now have a closed ecosystem where fish provide the fertilizers to the plants, and the plants clean the water of the fish but require no external fertilizers.

With these caveats, the Jobenomics Sprung team is pleased to present the following top-level revenue, expense, and EBITDA projections for this 34,500-sf CEA Center's first operation year, which could be operational as soon as six months after contract award. Based on this analysis (and caveats), the Simple Payback Period is 3.39 years—a reasonably short period for investors interested in an exit strategy.

Preliminary 34,500 Square Foot CEA Construction Cost Analysis

BUILDING INFORMATION		
Size (ft ²):	34,500	
Dimensions (ft):	100 x 345	Includes 45' of "awning area" for coverage over an open-air market. It can be removed if desired.
Calculated Growth Space Area (ft ²):	11,500	

Material:	Translucent, Non-Insulated			
Intended Use:	Leafy Green Production			
Grow Medium & Support Infrastructure:	Single Tier, Hydroponic troughs, Supplemental Lighting & Processing Area			
Delivery Schedule:	3 - 4 Weeks			
Structure Installation Schedule:	5 Weeks			Assume a 12-person installation crew for 25 days
Equipment Installation Schedule:	5 Weeks			
PRICING - EQUIPMENT AND MATERIALS	Quantity	Unit Cost	Sub Total	Notes
Structure				
Base Building:	1	\$1,005,000	\$1,005,000	
Delivery:	1	\$20,000	\$20,000	
Mechanical				
Forced Air Heater:	0	\$2,363	\$0	
Dehumidification Units:	0	?	\$0	It is not clear at this time if needed
Velcro screens 8' X 4':	90	\$488	\$43,875	
Wind turbine with electric actuator:	10	\$3,150	\$31,500	
HVAC - Circulation Fans (36"):	20	\$713	\$14,250	
HVAC - Controls/Monitoring System:	1	\$4,000	\$4,000	
Air Purification Systems:	0	\$0	\$0	Assume not needed for Greenhouse model
CO2 Injection:	0	\$0	\$0	Not considered at this time
Fire Suppression:	0	\$0	\$0	Assume not needed to meet municipal building codes
Water Distribution/Plumbing				Assume clean water supply to the facility is provided by others
Filtration & Aeration:	1	\$35,000	\$35,000	For aquaponic integration
Fertilization/Nutrient Equipment:	0	\$10,000	\$0	Does not include any water treatments of utility water
Pumps:	40	\$1,125	\$45,000	We can likely get this number down with larger pumps
ABS Plumbing:	21	\$450	\$9,450	
Water cooling:	5	\$4,000	\$20,000	
COGEN (Optional):	0	\$0	\$0	Not considered at this time
Electrical				

Electrical Distribution:	1	\$20,000	\$20,000	Does not include any electrical utility tie in and associated equipment required at the site
Lighting:	300	\$900	\$270,000	For Greenhouses, lighting is designed as supplemental lighting. Assume 1 fixture / 10' of grow bench length. Assume 12 bench rows.
Climate battery:	0	\$11,250	\$0	Not included at this time as it is not clear if needed.
Automation:	1	\$750	\$750	Included Automation is for lighting control only - photocell control on greenhouses
Security:	0	\$0	\$0	We have not considered any electrical security at this time
Telecom:	1	\$375	\$375	For monitoring and alarm
Production Equipment				
Grow Bed Framing (2x6x10):	1540	\$9	\$13,860	Base framing - does not include movable racking systems, assume trough based hydroponic model
Grow Bed Liner (ft ²):	11900	\$8	\$89,250	
Styrofoam grow rafts:	1925	\$8	\$15,722	
Germination Chamber	14	\$113	\$1,575	
Fish Tanks:	9	\$4,000	\$36,000	
Processing Equipment:		\$0	\$0	This is dependent on the client - manual or machine-based, a separate facility, Refrigeration truck? The time between processing and shipment?
Waste Disposal:		\$0	\$0	Weekly disposal of waste is not included in the budget
Refrigeration:		\$0	\$0	On-site or separate? Is this needed (dependent on time before shipment)?
Civil Works				
Facility Fencing (120' x 320', 8' Chain Link, swing gate):	0	\$65,100	\$0	Not included at this time
PRICING - SERVICES				
Project Design				
Business Plan Development:	1	\$10,000	\$10,000	Optional

Project Management (including for installation efforts):	1	\$35,000	\$35,000	
Engineering:	1	\$110,000	\$100,000	Does not include site assessment/visits or travel costs associated with any site visits. *** Budgetary *** subject to local engineering rates
Installation				
Civil Works - Site Survey:	1	\$10,000	\$10,000	*** Budgetary *** - Subject to site conditions and local rates
Civil Works - Grading/foundation:	1	\$245,000	\$245,000	*** Budgetary *** - Subject to site conditions and local rates. Assume simple gravel pad base.
Civil Works - Utility Tie-ins	0	\$0	\$0	Not Included in Estimate - Subject to site conditions
Installation Supervision (Structure):	1	\$12,000	\$12,000	Assume travel and living and rate for 33 days on-site
Structure Installation:	1	\$145,000	\$145,000	Assume a 12-man crew on site for 25 days to erect the structure - Includes a \$25,000 budget for rental of a large crane for 40 hours of use.
Mechanical Installation:	1	\$25,000	\$25,000	Assuming local supplied personnel *** Budgetary *** subject to local rates
Electrical Installation:	1	\$35,000	\$35,000	Assuming local supplied personnel *** Budgetary *** subject to local rates
Production Equipment Installation:	1	\$25,000	\$35,000	Assuming local supplied personnel *** Budgetary *** subject to local rates
Cogen installation (Optional):	1		\$0	Not included at this time
Training				
Grow Consulting Services:	1	\$22,500	\$22,500	Optional and subject to amount of consulting requested - Budgetary amount is for two weeks and includes travel costs.
CONTINGENCY				
	1	\$465,521	\$465,521	20%
TOTAL BUDGET			\$2,815,629	

Preliminary ROI Analysis

Revenue Example - 34,500 sq ft CEA Building:

Product	Units/lbs. per year	Number of Plants	Price per lb. (\$US)	Total (\$US)
Kale:	23,681	2,631	\$6.24	\$147,768.19
Dino Kale:	26670	2,667	\$6.24	\$166,417.68
Chard:	22094	1,473	\$6.24	\$137,863.44
Lettuce:	1706	1,365	\$1.76	\$2,994.03
Trout:	Lb.	41,256	\$7.80	\$321,792.90
Total Revenue:				\$776,836.24

Comparison Data Source:

Alberta Government Survey (2010 & 2017) Commercial Greenhouse Revenue:	\$464,203.91
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Operating Expenses Example - 34,500 sq ft Building:

Operating Cost	Unit	Quantity	Price (\$US)	Total (\$US per Year)
Labor	Hours	15,444	\$11.70	\$180,694.80
Utilities				
Electricity				
Air Pump	kWh	15,036	\$0.11	\$1,641.98
Water Pump	kWh	53,239	\$0.11	\$5,813.69
Lights (1,000W)	kWh	469,755	\$0.11	\$51,297.25
Fans	kWh	15,015	\$0.11	\$1,639.64
Natural Gas				
Heating/Cooling	Gas	3,411	\$4.68	\$15,961.37
Water	Liters	270,656	\$0.11	\$30,115.80
Sub Total Utilities:				\$106,469.73
Other				
Seeds	Pack	429,000	\$0.01	\$3,346.20
Fish Feed	Bag (40 Lb.)	722	\$62.40	\$45,062.16
Fingerlings	Cohort	45,381	\$2.34	\$106,191.66
Fertilizer				\$3,346.20



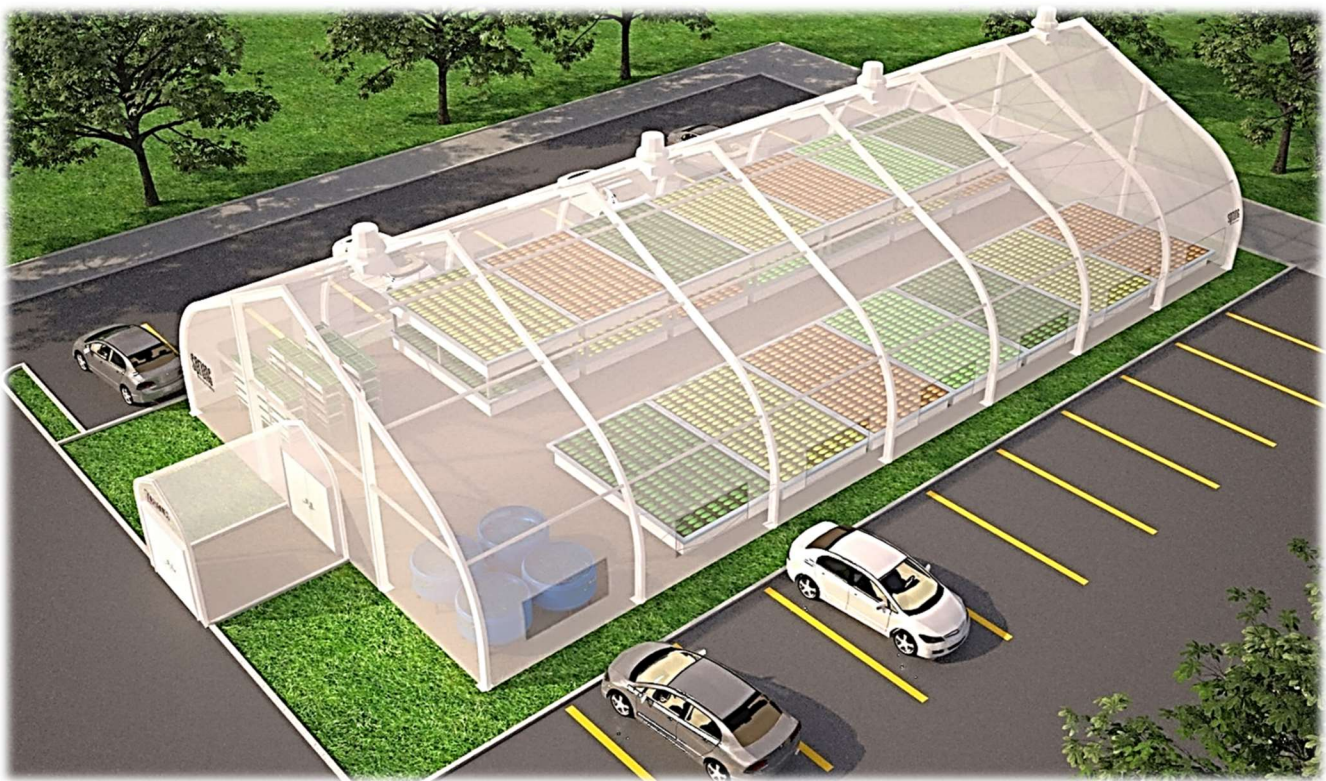
Packaging	Box	3,718	\$11.70	\$43,500.60
Insurance				\$2,526.38
Professional Services				\$11,154.00
Internet, Phone, etc.				\$11,154.00
Banking				\$1,561.56
Misc.				\$5,577.00
Subtotal Other:				\$233,419.76
Total Expenses:				\$520,584.28
EBITDA				\$256,251.96

5,250 Square Foot CEA Satellite Microfarms Center Analysis & ROI

Jobenomics CEA Satellite Microfarms Summary

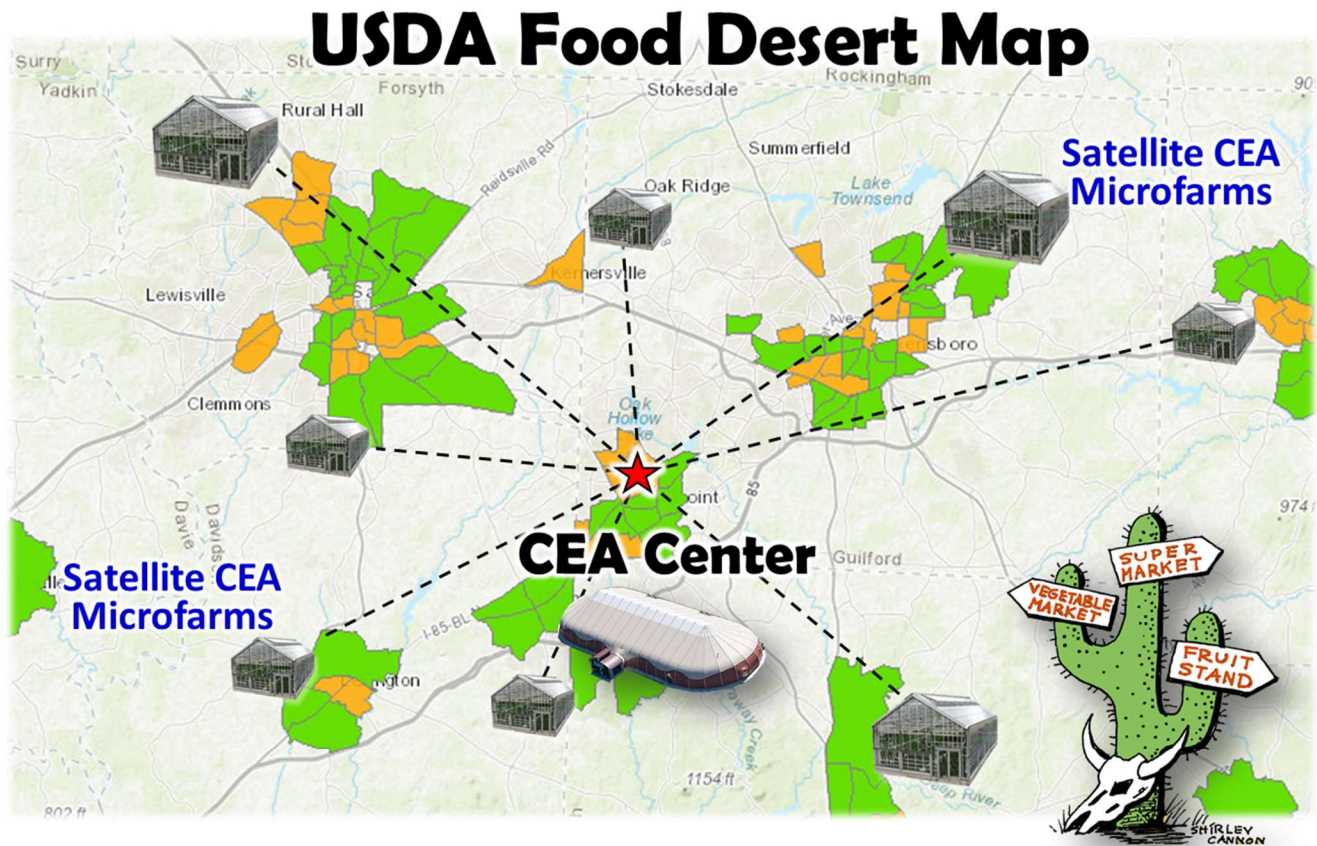
The Jobenomics Satellite Microfarms will be designed and implemented by Sprung Structures, one of the world's leading controlled agriculture companies, with dozens of operational CEA microfarms that can fit on as little as 1/10-acre in size. Upon contract award, the Jobenomics CEA Satellite Microfarms, a 5,250 square foot facility equipped with a soil-based growth system and fishpond, will be operational within six months at the cost of \$518,278. The expected annual revenue project is \$135,810 with an EBIDTA of \$44,799. The expected payback period is 3.4 years.

5,250 Square Foot CEA Satellite Microfarm



The Jobenomics Sprung team currently plans to deploy six microfarms (total cost \$3,109,669) across the region or metropolitan area. The CEA Center will initially own these six microfarms that veterans will operate. Once the veteran operator demonstrates operational viability, the CEA Center will offer leasing or franchise opportunities so that the veteran can establish a veteran-owned business. Additionally, these microfarms are expandable in size and fitted with aquaculture systems (fish farming) to meet local market demand. The CEA Center will buy any excess production as required.

Food Deserts & CEA Microfarm Overview



Low-income census tracts where citizens are more than
 1 mile or 1/2 mile from the nearest wholesome food source

According to the USDA, just over 6% of the U.S. population lives in "low-income and low access tracts and more than one mile or 10 miles from a supermarket." Additionally, the USDA notes that 9.2% of individuals living in the United States do not have a personal vehicle. If you meet these criteria, you live in a **food desert**.

According to the Centers for Disease Control and Prevention (CDC), food deserts are "areas that lack access to affordable fruits, vegetables, whole grains, low-fat milk, and other foods that make up the full range of a healthy diet." The keyword is "access," or lack of access due to income, location, time, and travel ability.

Food deserts not only feature hunger but poor nutrition or malnutrition. Individuals who lack healthy foods use unhealthy alternatives (fast-food and convenience stores) for sustenance. The CDC notes that poor nutrition puts individuals at a higher risk of becoming overweight, obese, or morbidly obese (high-risk obesity occurs at a Body Mass Index greater than 40, generally being 100 pounds overweight). In addition, malnourished individuals are at risk of other severe health conditions, such as heart disease and cancer.

The COVID-19 Grim Reaper claims as many as five times the number of African Americans than other demographics due to low immune systems and underlying medical conditions primarily caused by prolonged periods (years and decades) of poor nutrition.

Preliminary CEA Satellite Microfarm Construction Cost Analysis

BUILDING INFORMATION				
Size (ft ²):	5,250			
Dimensions (ft):	50 x 105			
Calculated Growth Space Area (ft ²):	1,600		Produce only. External fish tank extra.	
Material:	Translucent, Non-Insulated			
Intended Use:	Leafy Green Production			
Grow Medium & Support Infrastructure:	Single Tier, Hydroponic troughs, Supplemental Lighting & Processing Area			
Delivery Schedule:	3 -4 Weeks			
Structure Installation Schedule:	2 Weeks		Assume a six-person installation crew	
Equipment Installation Schedule:	3 Weeks			
PRICING - EQUIPMENT AND MATERIALS	Quantity	Unit Cost	Sub Total	Notes
Structure				
Base Building:	1	\$170,000	\$170,000	
Delivery:	1	\$6,000	\$6,000	
Mechanical				
Forced Air heater	0	\$2,363	\$0	Assume not needed
Dehumidification Units:	0	?	\$0	It is not clear at this time if needed
Velcro screens 8' X 4'	18	\$488	\$8,775	
Wind turbine with electric actuator	2	\$3,150	\$6,300	
HVAC - Circulation Fans (36"):	7	\$713	\$4,988	
HVAC - Controls/Monitoring System:	1	\$1,000	\$1,000	
Air Purification Systems:	0	\$0	\$0	Assume not needed for Greenhouse model
CO2 Injection:	0	\$0	\$0	Not considered at this time
Fire Suppression:	0	\$0	\$0	Assume not needed for municipal building codes
Water Distribution/Plumbing				Assume clean water supply
Filtration & Aeration:	0	\$12,600	\$0	Not used at this time.
Fertilization/Nutrient Equipment:	1	\$2,500	\$2,500	No water treatments of utility water
Pumps:	12	\$1,125	\$13,500	

ABS Plumbing:	4	\$450	\$1,800	
Water cooling:	1	\$5,000	\$5,000	
COGEN (Optional):	0	\$0	\$0	Not considered at this time
Electrical				
Electrical Distribution:	1	\$4,000	\$4,000	Does not include any electrical utility tie in and associated equipment required at the site
Lighting:	54	\$900	\$50,100	For Greenhouses, lighting is designed as supplemental lighting, assume one fixture per 10 feet of grow-bench length. Assume six bench rows.
Climate battery:	0	\$11,250	\$0	Not clear if needed.
Automation:	1	\$250	\$250	Included Automation is for lighting control only - photocell control on greenhouses
Security:	0	\$0	\$0	No electrical security currently
Telecom:	1	\$375	\$375	For monitoring and alarm
Production Equipment				
Grow Bed Framing (2x6x10):	300	\$9	\$2,700	Base framing - does not include movable racking systems, assume trough based hydroponic model
Grow Bed Liner (ft ²):	2200	\$8	\$16,500	
Styrofoam grow rafts:	350	\$8	\$2,859	
Germination Chamber	2	\$113	\$225	
Fish Tanks:	0	\$2,250	\$0	Not considered at this time
Processing Equipment:	0	\$0	\$0	This is dependent on client-manual or machine-based, separate facility? Refrigeration truck? The time between processing and shipment?
Waste Disposal:	0	\$0	\$0	Weekly disposal of waste is not included in the budget
Refrigeration:	0	\$0	\$0	On-site or separate? Is this needed (dependent on time before shipment)?
Civil Works				
Facility Fencing (70' x 130', 8' Chain Link, swing gate):	0	\$12,800	\$0	Not included at this time
PRICING - SERVICES				
Project Design				
Business Plan Development:	1	\$3,500	\$3,500	Optional - Provided BP for a larger facility is also commissioned.
Project Management (including for installation efforts):	1	\$10,000	\$10,000	
Engineering:	1	\$35,000	\$35,000	Does not include site assessment/visits or travel costs associated with any site visits.

Installation				
Civil Works - Site Survey:	1	\$5,000	\$5,000	*** Budgetary *** - Subject to site conditions and local rates
Civil Works - Grading/foundation:	1	\$52,500	\$52,500	*** Budgetary *** - Subject to site conditions and local rates
Civil Works - Utility Tie-ins	0	\$0	\$0	Not Included in Estimate - Subject to site conditions
Installation Supervision (Structure):	1	\$5,000	\$5,000	Travel and living and rate for 11 days on-site
Structure Installation:	1	\$20,200	\$20,200	Assume a six-man crew on site for ten days to erect the structure - Includes a \$1,000 budget for rental of a small crane/forklift for 8 hours of use.
Mechanical Installation:	1	\$8,000	\$8,000	Assuming local supplied personnel *** Budgetary *** subject to local rates
Electrical Installation:	1	\$13,000	\$13,000	Assuming local supplied personnel *** Budgetary *** subject to local rates
Production Equipment Installation:	1	\$13,000	\$13,000	Assuming local supplied personnel *** Budgetary *** subject to local rates
Cogen installation (Optional):		\$0	\$0	Not included at this time
Training				
Grow Consulting Services:	1	\$10,000	\$10,000	Optional and subject to amount of consulting requested - Budgetary amount is for one week and includes travel costs.
CONTINGENCY				
	1	\$46,207	\$46,207	10%
TOTAL BUDGET EACH			\$518,278	
TOTAL BUDGET FOR SIX MICROFARMS			\$3,109,669	

Preliminary ROI Analysis

Revenue Example - 5,250 sq ft CEA Satellite Facility:

Product	Units/lbs. per year	Number of Plants	Price per lb. (\$US)	Total (\$US)
Kale:	4,140	460	\$6.24	\$25,833.60
Dino Kale:	4663	466	\$6.24	\$29,094.00
Chard:	3863	258	\$6.24	\$24,102.00
Lettuce:	298.251748	42	\$1.76	\$523.43
Trout:	Lb.	7,213	\$7.80	\$56,257.50
Total Revenue:				\$135,810.53

Comparison Data Source:

**Alberta Government Survey (2010 & 2017) Commercial Greenhouse
Revenue:**

\$81,220.52

Operating Expenses Example - 5,250 sq ft Building:

Operating Cost	Unit	Quantity	Price (\$US)	Total (\$US per Year)
Labor	Hours	2,700	\$11.70	\$31,590.00
Utilities				
Electricity				
Air Pump	kWh	2,629	\$0.11	\$287.06
Water Pump	kWh	9,308	\$0.11	\$1,016.38
Lights (1000W)	kWh	82,125	\$0.11	\$8,968.05
Fans	kWh	2,625	\$0.11	\$286.65
Natural Gas				
Heating/Cooling	Gas	596	\$4.68	\$2,790.45
Water	Liters	47,318	\$0.11	\$5,265.00
Sub Total Utilities:				\$18,613.59
Other				
Seeds	Pack	75,000	\$0.01	\$585.00
Fish Feed	Bag (40 Lb.)	126	\$62.40	\$7,878.00
Fingerlings	Cohort	7,934	\$2.34	\$18,564.98
Fertilizer				\$585.00
Packaging	Box	650	\$11.70	\$7,605.00
Insurance				\$441.68
Professional Services				\$1,950.00
Internet, Phone, etc.				\$1,950.00
Banking				\$273.00
Misc.				\$975.00
Subtotal Other:				\$40,807.65
Total Expenses:				\$91,011.24
EBITDA				\$44,799.29

Jobenomics Contact Information

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Chuck Vollmer is the Founder and President of the Jobenomics National Grassroots movement. Chuck is an economic, community, business, and workforce development expert recognized by government officials, community leaders, and national media (CNN, Fox, CBN, etc.). A former Fortune 50 corporate executive and highly decorated combat fighter pilot, corporate executive, and serial business developer who started hundreds of businesses, he now specializes in mass-producing startup businesses and jobs in underserved communities.

About Jobenomics

Jobenomics deals with the process of creating and mass-producing small businesses and sustainable careers. Jobenomics' principal focus is on citizens in underserved and under-resourced communities, emphasizing minorities, women, youth, veterans, and other hopefuls who want to develop a skill, career, and start a business. Over that last decade, the Jobenomics National Grassroots Movement reached an estimated 30 million people via media, website, blog, and lectures. In 2018, Jobenomics America TV began airing multiple public access channels across the United States. Today, Jobenomics has garnered widespread recognition for its economic, urban renewal, small business, and workforce development efforts. For more information, see Jobenomics.com.

Jobenomics Chapters

