



Fodder Field Passau, Germany

Agriculture in a Box

A Controlled Environment for Greater Food Production

Golden State Energy

**Reduce Amount of Land Required to
Grow Agricultural Non-GMO
Pesticide-Free Food**

Food in a Box
Farm in a Box
Power in a Box
Climate in a Box

**Agriculture
Box**



Golden State Energy



THE STATS

- ✓ 200-300 lbs/week yield
- ✓ 3-5 gallons/day
- ✓ 190 kWh. energy/day
- ✓ 15-20 hours of labor/week
- ✓ Automated watering, lighting

GSE is bringing exclusively to Africa & MENA a proprietary Climate Controlled containerized modular farm to simultaneously grow nearly 8,000 plants like leafy green vegetables, herbs, peppers, gourmet mushrooms, microgreens, tree saplings and ground crops. Containerized farming in a controlled environment is emerging as an efficient and productive alternative to growing fruits and vegetables in traditional farm settings with weather variables, climate and pests can have a detrimental impact on crops and farm livelihood. These containers are shipped worldwide and have applications in a variety of vertical markets, including healthcare, restaurants, hospitality, agriculture, education, grocery/food box home delivery, disaster relief and create additional revenue through export.

Vertical Hydroponic Farm

- ✓ Average of 1,368 plants harvested every two weeks (no plant loss included)
- ✓ Average leafy green weight is 5.5 oz.
- ✓ Average total weight of harvested leafy greens 450-470 lbs (bi-weekly)
- ✓ Total available space for plants 7,992
- ✓ Grow walls accommodate 4,104 plants
- ✓ Multiple plant varieties can be grown at the same time

- ✓ The average total energy usage per day is 190 kWh with peaks around 11 kWh. The bulk of this energy usage is for the grow lights which run at night. There is also a significant amount of usage for climate control.
- ✓ Water usage is 3-5 gallons per day for plants. Additional water is needed for cleaning. Also, the farm's water tanks have to be refilled after flushing your nutrients (this occurs about every 8 weeks). The total volume of the tanks is 130 gallons.

CUTTING-EDGE TECHNOLOGY

Equipped with Agrowtek hardware, software, and sensors, all climate parameters are controlled. This includes watering schedules, air exchange, humidity, pH levels, temperature, and more.



**Reduce Amount of Land Required
One Box Feeds 100 Goats/Sheep Per Day**

**Growth in a Box
Fodder in a Box
Power in a Box
Climate in a Box**

Fodder Box



Electrical Hook-Up & Water Usage

All farms require a 100A, 220VAC, single phase hookup. Main breaker disconnect is provided on each unit which allows for overhead or underground termination

THE STATS

- ✓ 850+ lbs/day yield
- ✓ 60-70 gallons/day
- ✓ 28 hrs labor/week
- ✓ 7-day growth cycle
- ✓ Improves hydration
- ✓ Feeds cows, pigs, horses, goats, chickens, & sheep

- ✓ The estimated total energy usage per day is 50 kWh. The lights and the climate control are the significant uses of electricity.
- ✓ Depending upon the type of seeds used, the average weekly water usage is 550 gallons. This is still a 99% savings over traditional fodder production.

GSE is bringing exclusively to Africa & MENA a proprietary Climate Controlled containerized modular Hydroponic Farm. It provides you with complete control of your fodder supply, growing the equivalent of 30-35 acres (12.14 to 15 Hectares) of land in a 320-square foot (29.729 sq meter) upcycled shipping container. Provide your animals with year-round access to spring-fresh greens, reduce your feed & water costs, and improve the overall health of your animals.

FIRST OF ITS KIND



GSE in Collaboration with FarmBox Foods are the first company on the market to create a hydroponic fodder farm in an upcycled shipping container for the African and MENA market. We merged cutting edge technology with the science and wisdom of traditional farming.

Providing Leadership in Application of Science and Technology

Hydroponic Fodder Farm

- ✓ 850 pounds harvested daily average
- ✓ Fodder growth cycle: 7 days
- ✓ Horses fed per day: 30-35
- ✓ Beef cattle fed per day: 35-40
- ✓ Provides animals with a year-round access to fresh greens
- ✓ Fodder farm grows the equivalent of 30 acres (2.14ha) of land annually
- ✓ Improves hydration
- ✓ Produces better quality milk in dairy animals
- ✓ Reduces methane output

Reduce Amount of Land Required to Grow Gourmet Mushrooms

Growth in a Box
Mushrooms in a Box
Power in a Box
Climate in a Box

Mushroom Box



Growing Gourmet Mushroom in a Farm allows you to complete the entire mushroom cultivation process in a 320-square foot controlled-climate, upcycled shipping container. You can cultivate mushrooms year-round to sell to restaurants, hotels or even hospitals for dietary enhancement, or sell directly in a retail setting.

- ✓ Up to 18 different varieties of Gourmet mushrooms can be grown simultaneously
- ✓ Average weight of weekly harvest is 400+ pounds
- ✓ Complete system; substrate block creation to fruiting

THE STATS

- ✓ 400+ lbs/week yield
- ✓ 25 gallons/day, approx.
- ✓ 18+ varieties grown
- ✓ 35-40 hrs labor/week
- ✓ Entire cultivation process in 320 square feet
- ✓ Pre-inoculated substrate blocks and compost

✓ The average total energy usage is 80kWh with peaks around 12 kWh. The bulk of this energy usage is for the sterilizer which runs 3 times weekly. Climate control is the other significant user of electricity.

✓ Depending on how many substrate bags you produce weekly, the farm's total water usage can be around 175-200 gallons per week.



FarmBox Foods is the first company on the market to create a gourmet mushroom farm that incorporates the entire cultivation process from start to finish. Cutting-edge technology meets centuries-old wisdom.

From placement of order to delivery—10 to 13 weeks, FOB Denver
50% downpayment, local leasing available. Cost - USD\$265,560.00

Options Available: PV Power with Energy Storage



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Cost of Operation & ROI

Vertical Hydroponic Farm (VHF)
Estimated Annual Operating Cost \$11,000
ROI 36-42 Months

Gourmet Mushroom Farm (GMF)
Estimated Annual Operating Cost \$23,000

Hydroponic Fodder Farm (HFF)
Estimated Annual Operating Cost \$20,000
ROI depends on usage & livestock

<https://youtu.be/TCK6LeLZF0M>