GREENFIELD HYDROPONICS GLOBAL

Turnkey System for creating Fodder Farms






Fodder Systems

Why hydroponic fodder?
METABOLIZABLE ENERGY… THE KEY

In FVH, energy in the form of Net Maintenance Energy (NEM), Net Grain Energy (NEG), Net Lactation Energy (NEL) and Total Digestible Nutrients (TDN) tend to remain the same or show slightly decreased levels. in the original seed.

It makes sense that some energy must be consumed to fuel the germination process and early growth of the plant.

However, we must note that the energy values reported by analytical laboratories are "calculated" and generally do NOT fully consider the actual digestibility or availability of the listed energy value.

The energy digestibility measured in FVH is much higher, making the net energy yield to the animal higher for the forage than the original grain.

The fact that the energy sources in FVH are highly digestible and available means that there is little metabolic energy (energy for digestion) expended within the animal to make that energy available to contribute to metabolic activity.

So, the energy from FVH is much more energy efficient inside the animal than the energy from the original grain, which is a big problem!…for those who sell grain of course.

Value Proposition

To produced one ton of open field fodder, 71,500 gallons of water are needed.

To produce one ton of fresh hydroponic fodder, 160 gallons of water are needed.

There is a 95% reduction in water than growing it in soil

It is more sustainable. Hydroponic Fodder does not require the use of fish or chemical fertilizers.

It is more productive. Hydroponic Forage can be harvested several times a year.

Farmers are paying more for animal feed, reducing profit margins.

The shortage of animal feed affects consumers facing rising prices for meat, eggs and milk.

What makes us different

Water Saving

Hydroponic crops use 98% less water, an increasingly scarce resource that is being divided into fractions in some parts of the world.

Kilometer Zero

Food travels, on average, more than 3,000 km to reach our homes; our Km0 system has no carbon footprint.

Living Nutrients

After harvesting, food takes an average of 30/45 days to be consumed, which means that it has lost 80% of its nutrients.

Ecological and Organic

Organic farming is a system of cultivation of an autonomous agricultural holding based on the optimal use of natural resources, without chemicals to combat pests.

Advanced Technology

Greenfield Hydroponics' cultivation technology is based on IoT controls and sensors, manufactured entirely in our laboratory.

R&D

Our R&D laboratory is permanently dedicated to research in the field of crops and controllers for their optimization.

HYDROPONIC GREEN FODDER

HEALTHY EATING 365 DAYS A YEAR

270

THOUSANDS OF LITERS SAVED

To produce a ton of hydroponic fodder, only 600 liters of water are needed.

10

ONE THOUSAND CUBIC METERS OF METHANE LESS

Ruminant cattle release 106 grams less carbon dioxide into the atmosphere, which after one year represents 1 cubic meter less methane.

98

BOXING CLASSES

To produce one ton of hydroponic fodder per day, 120 square meters are needed, which represents a 98% saving in cultivated land.

REPORT OF ANALYSIS

Wet Chemistry - Dry Weight

Dairyland Laboratories 1/19/17

				BARLEY			WHEAT		
				SEED	3 DAYS	6 DAYS	SEED	3 DAYS	6 DAYS
		DRY MATTER		86%	40%	18%	87%	44%	29%
		MOISTURE		14%	60%	82%	13%	56%	71%
PROTEIN & FIBER	CP	Protein (crude)	%DM	3.44%	14.88%	17.13%	16.63%	16.48%	15.94%
	ADF	Fiber (acid detergent)	%DM	4.95%	5.88%	11.02%	3.17%	4.15%	6.41%
	aNDF	Neutral Detergent Fiber	%DM	13.74%	14.46%	22.20%	11.69%	10.53%	17.76%
	aNDFom	Neutral Detergent Fiber	%DM	3.66%	14.00%	21.84%	10.10%	10.23%	15.93%
	Fat (EE)	Crude Fat	%DM	2.23%	3.69%	2.88%	3.34%	2.25%	2%
	NFC	NonFibrous Carbohydrate	%DM	0.19%	64.90%	55.33%	70.84%	69.16%	64.12%
MINERALS		Ash	%DM	2.63%	2.53%	2.82%	1.75%	1.88%	2.01%
		Calcium	%DM	0.09%	0.12%	0.13%	0.09%	0.14%	0.11%
		Phosphorus	%DM	0.40%	0.40%	0.39%	0.41%	0.43%	0.38%
		Magnesium	%DM	0.14%	0.14%	0.18%	0.15%	0.16%	0.17%
		Potassium	%DM	0.39%	0.30%	0.42%	0.34%	0.33%	0.39%
		Sulfur	%DM	0.14%	0.15%	0.20%	0.15%	0.16%	0.18%
		Sodium	%DM	0.03%	0.03%	0.11%	0.01%	0.03%	0.04%
		Manganese	PPM	22	32	34	48	49	48
		Zinc	PPM	30	90	89	38	46	42
		Copper	PPM	1	29	17	1	7	1
		Iron	PPM	62	73	84	57	56	61
		Molybdenum	PPM	1.10	0.75	1.37	1.07	0.88	0.84
ENERGY	TDN 1x	Total Digestible Nutrients	%DM	4.57%	79.92%	75.58%	85.84%	80.30%	77.54%
	Nel 3x	Net Energy Lactation	Mcal/cwt	88.72	83.55	78.71	90.14	83.97	80.9
	Neg	Net Energy Gain	Mcal/cwt	60.81	59.20	54.98	63.01	60.06	56.76
	Nem	Net Energy Maintenance	Mcal/cwt	90.40	88.53	83.65	92.98	89.54	85.71

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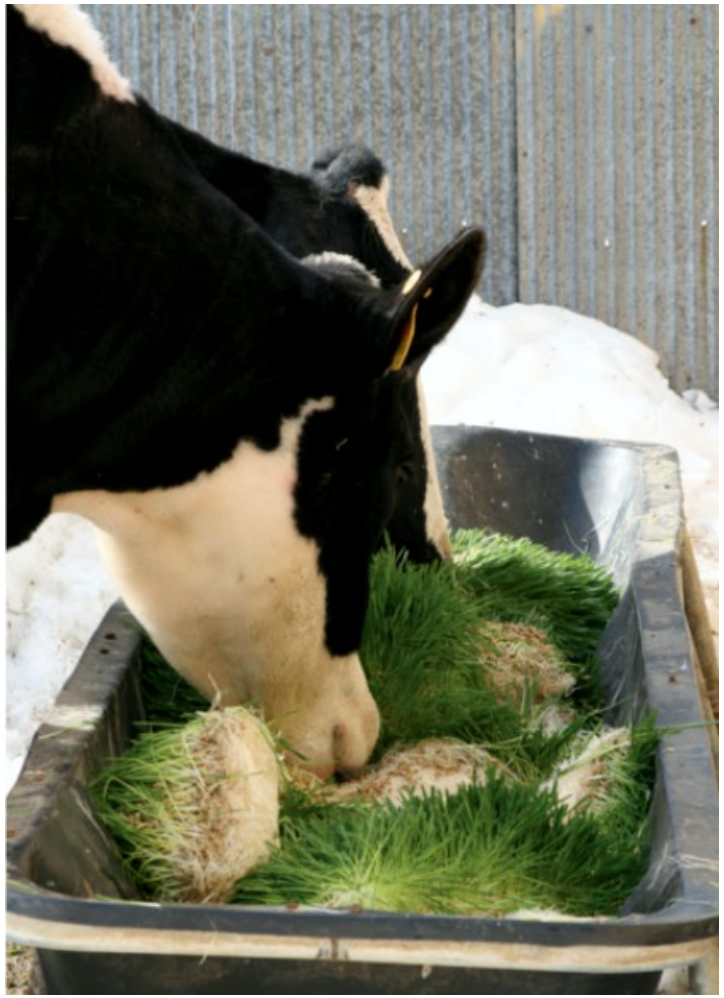
Comparative Cost Table: Hydroponic Fodder vs. Traditional Feed (United States)

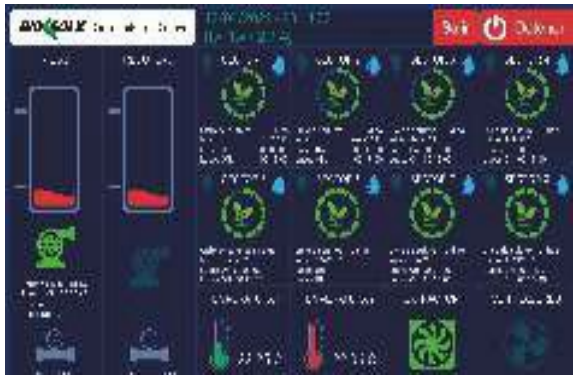
Concept	Hydroponic Fodder (Barley)	Traditional Feed (USA)
Cost per kilogram of input (Barley/Corn)	0.20 USD/kg	0.30 USD/kg
Fresh fodder production	1 kg of barley produces 5.5 kg of hydroponic fodder	Not applicable (dry feed)
Production cost per kg of fresh fodder	0.036 USD/kg (0.20 USD/kg ÷ 5.5 kg)	0.30 USD/kg
Maximum daily ration per animal	15 kg of fresh hydroponic fodder	10-12 kg of traditional dry feed
Daily cost per animal (approx.)	0.54 USD (15 kg × 0.036 USD/kg)	3.00-3.60 USD (10-12 kg × 0.30 USD/kg)
Nutrients provided by daily ration	20-22% nutrients in 15 kg (3-3.3 kg of nutrients)	12% nutrients in 10-12 kg (1.2-1.44 kg of nutrients)
Feed digestibility	95%	60%
Effectively digested nutrients	2.85-3.14 kg (95% of nutrients)	0.72-0.864 kg (60% of nutrients)
Additional water required	No additional water required (fresh fodder)	Additional water required for digestion of dry feed
Production cycle duration	7-10 days (from seed to harvest)	Not applicable
Space and maintenance requirements	Less space (vertical cultivation racks)	More space for storage and transportation
Additional benefits	90% water savings; no fertilizers or agrochemicals needed	Higher water usage for corn and soy feed production

200 Pounds daily production



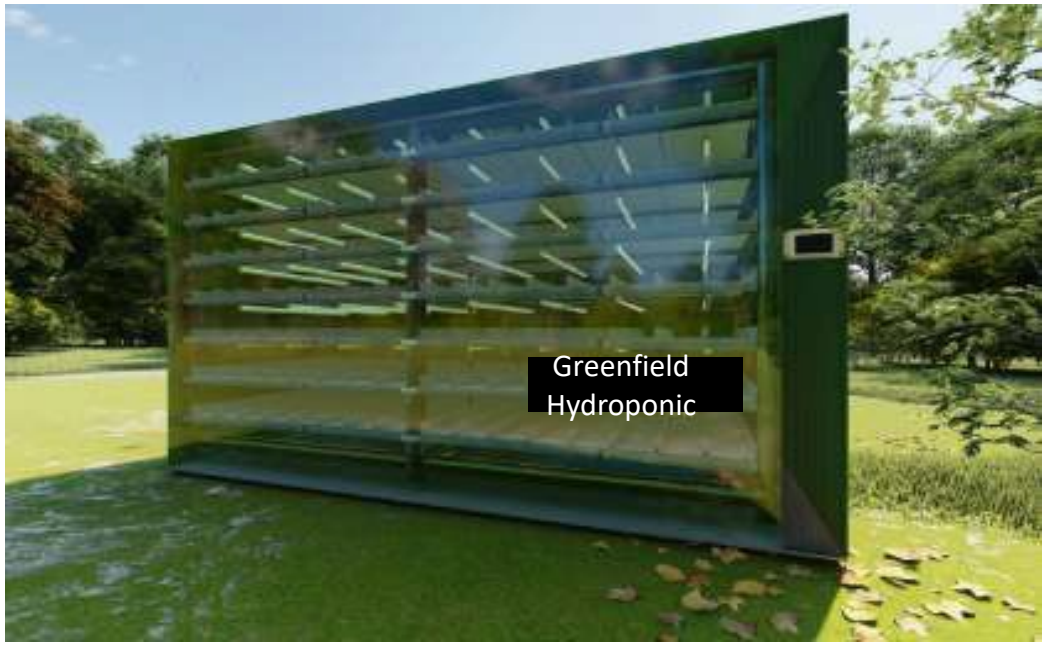
Feed: 12 horses, 8 cows, 20 swine

PLC CONTROL SYSTEM



Full Turnkey Container Kit

450 Pounds daily production

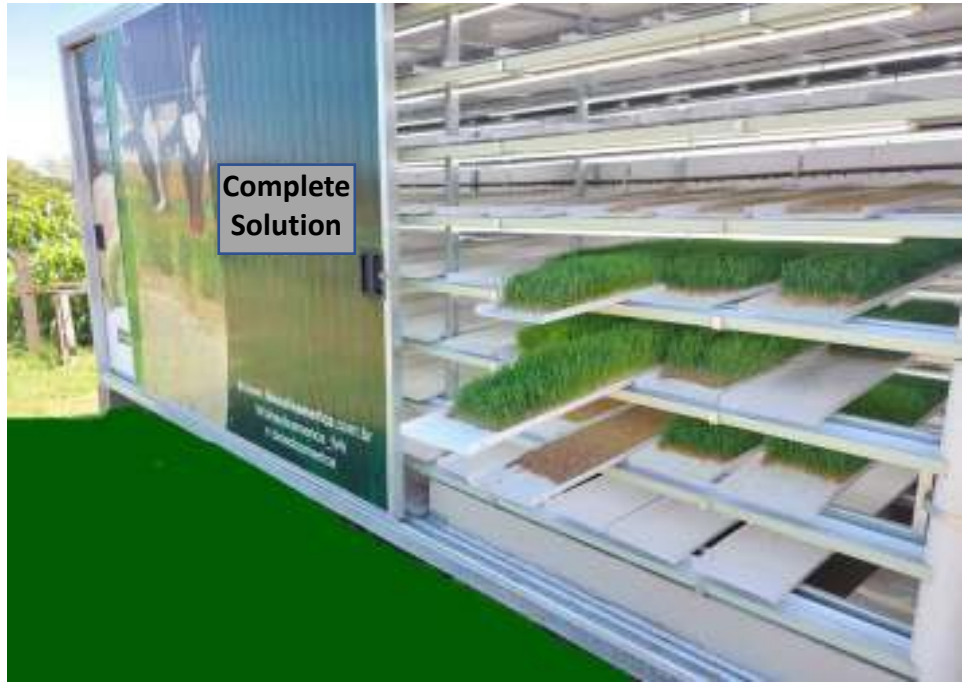


PLC CONTROL SYSTEM

Feed: 25 horses, 18 cows, 40 swine

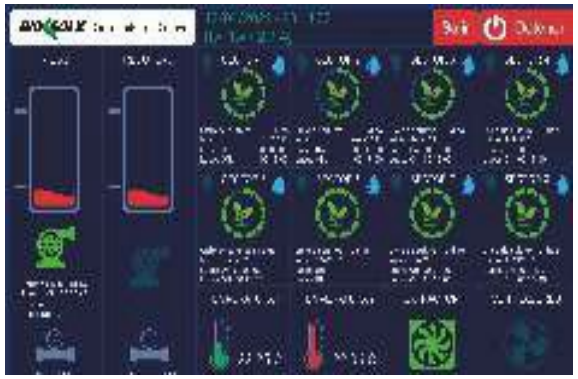
Full Turnkey Container Kit

1,000 Pounds daily production



PLC CONTROL SYSTEM

Feed: 50 horses, 36 cows, 40 swine



Full Turnkey Container Kit

Fodder Rack ready to harvest

Greenfield Hydroponics Global

Point of Use Decentralized Delivery Atmospheric Water Generators
100% Independent of existing water resources

Custom-Designed & Engineered

Solar Power

Turbofans

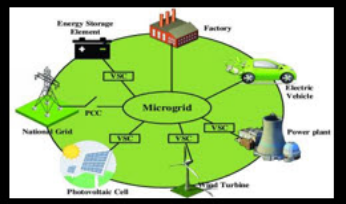
Primary/Standby Generators

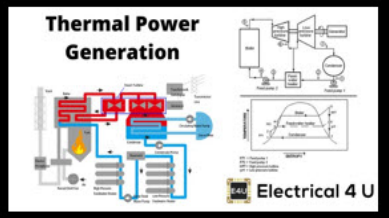
Provisioned to ensure clean, constant and steady electrical power for

Hydroponic Systems and Atmospheric Water Generators

MICROGRID PRODUCT PORTFOLIO

- Our proprietary technologies contribute to higher efficiencies with cleaner emissions.
- . Our technologies have been endorsed as "Green Energy Sources" by the US Patent Office
- Shipping (Small Footprint): : 6 m up to 30MW shipped in 2-20' Containers





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