Farmer founded, onsite, automated livestock feed technology
Our Mission
Empowering on farm agriculture.

Our mission is to create indoor farming technologies to help farmers feed a changing world. To accomplish this, we must help farmers to keep growing. It’s our responsibility not to simply understand the global food security crisis we’re facing but to take significant action. With our automated indoor modular agriculture technologies, we empower farmers to localize livestock feed production at commercial scale while also protecting our people, resources, and economy.

Our patented modular on farm animal feed production technologies produce predictable and consistent commercial scale nutritious livestock feed year-round.

HydroGreen is the new Superfeed, 90% digestible and rich in enzymes, sugars and loaded with proteins, vitamins, and antioxidants. Fed with such high-quality feed, animals are expected to be more efficient, gain weight faster, increase digestibility, compared to other ingredients.

We are creating technology to help farmers feed a changing world, sustainably.

Fresh Feed Localized Daily in a Responsible, Sustainable and Affordable Way.

With our commercial scale, automated, indoor growing technologies and support services, we help our Farmer Partners to truly make an impact in the world. To save our resources and ourselves, food and feed must be localized, grown indoors hydroponically and use a minimum of resources in a responsible, sustainable, and affordable manner. Our Local Chain Ag-Tech solutions directly empower farmers, protect our natural resources, and contribute to a zero-hunger future.
From Seed to SuperFeed in Six Days

01. Imbibition
- The uptake of water is a critical initial step to support germination
- Dynamic physical and structural changes lead to large alterations in total seed volume and moisture content
- Total seed volume roughly doubles, and seed moisture content increases approximately five-fold
- Rate of hydration influenced by temperature, humidity, seed structural properties, seed composition, and osmotic potential
- Stage concludes with the initiation of seed metabolism

02. Metabolic Activation
- Proper seed hydration leads to the initiation of seed metabolism and the release from dormancy
- Metabolic activity signals the release of hydrolytic enzymes from cell layers surrounding the starch rich endosperm
- Storage molecule hydrolysis results in simple, highly bioavailable, and easily transported molecules required for cellular respiration
- Storage molecules are transported to seed embryo for cellular respiration
- Stage concludes with the emergence of the embryonic root (radicle)

03. Germination
- Embryonic root (radicle) ruptures the seed coat followed shortly by the emergence of the coleoptile and lateral roots
- Seed metabolism and storage molecule hydrolysis rapidly increases in positive feedback loop
- Quickly increasing available energy supports increasing rates of biosynthesis reactions
- Stage concludes when coleoptile reaches approximately 1.0” (25 mm)

04. Seedling Development
- Seed metabolism and storage molecule hydrolytic continues to rapidly increase in positive feed back loop. Hydrolytic enzyme activity peaks during stage four
- Increased molecule hydrolysis supports biosynthesis reactions throughout juvenile plant
- Stem and root rapidly elongates approximately doubling length and dry weight during phase four
- Emergence of true leaf signals increase the expression of photosynthetic pigments and overall efficiency of photosynthesis
- Stage concludes with full leaf emergence and onset of efficiency photosynthesis

Nutritional Benefits for Your Animals

Digestible Protein and Energy
- High quality protein in the form of amino acids and simple peptides
- High quality energy in the form of simple sugars and starches
- High quality free fatty acids with higher levels of:
  - Unsaturated fatty acids
  - Omega 3’s
  - CLA’s
- All these nutrients are critical for health, growth, production & re-production

Highly Available Nutrients, Minerals, and Vitamins
- Large increases in the bioavailability of nutrients during developmental process
  - More available
  - Less complex
  - More abundant
- Antioxidant concentration greatly increased during developmental process to support juvenile plant

Overall Physical Diet Quality
- High moisture contributes to Ration conditioning
  - Texture and Palatability
  - Higher moisture contributes to the mix stability
  - Less separation of the ingredients in the bunk
  - Less sorting of ingredients by animals
  - Higher moisture contributes to less feed dust
  - Lower incidence of upper respiratory issues due to dust inhalation by animals

Enzymatic Activity
- Enzymatic activity approximately 20-fold that of starting seed and at plant life cycle peak
- Enzymatic properties of HydroGreen enable positive changes to other feedstuffs in the total mixed ration
  - Improved nutrient digestion
  - Improved feed efficiency
  - Improved palatability
A Scalable System

Introducing HydroGreen Vertical Pastures™

HydroGreen Vertical Pastures™ is the combination of several Grow Modules (6, 12 or more GLS 808 modules) into a commercial scale indoor climate-controlled environment where consistent and high-quality crops of fresh HydroGreen feed can be grown automatically year-round.

A HydroGreen Vertical Pastures™ replaces 500 acres of farmland (380 football fields) and uses 1/10th of the water used in traditional livestock feed grown in irrigated fields. With up to 25 million pounds of fresh nutritious feed grown per year, it can supercharge the feed ration of around 2,000 dairy cows.

HydroGreen DGS 66
- The DGS 66 module is 6 levels high and designed to be harvested one level each day.
- This module addresses the needs of medium sized dairy farms and ranches with approximately 100-300 heads of cattle.
- One to several modules can be installed within an indoor controlled environment.
- For example, two DGS 66 modules can produce about 1,300 dry matter pounds of superfeed per day.

HydroGreen GLS 808
- The GLS 808 is a larger module with eight levels that are designed to be fully harvested each day.
- The GLS 808 supports the feeding needs of large commercial scale dairy farms and ranches (1,000+ cows).
- These modules are planned in multiples of 6 (12, 24, or more) installed within an indoor controlled environment.
- For example, six GLS 808 modules can produce about 8,000 dry matter pounds of superfeed per day.
The SuperFeed With Significant Environmental Benefits

With a HydroGreen Grow System, you can grow from seed to superfeed in just 6 days using 1/10th of the water.

For example, a HydroGreen Vertical Pastures™ (12 Grow Modules) can save up to 500 million gallons of water every year compared to irrigated crops. That's enough water to give one glass to every person on the planet.

Consistently grow nutritious livestock feed with significant environmental benefits to the farm without the typical investments in fertilizer, chemicals, fuel, field equipment and transportation miles.

1/10th
water used

HydroGreen Grow Systems use 1/10th of the water used in traditional livestock feed grown in irrigated fields.

Zero waste

The HydroGreen Grow System has zero waste. In traditional farming, it is common to lose 15% of the corn during harvest (chaffage) before it is fed to the cows.
Superior & Consistent Livestock Feed At Commercial Scale

Up to 365 Harvests of Fresh Livestock Feed per Year.

The SuperFeed created through the HydroGreen System ensures your animals receive exceptional nutritional benefits from daily food. The increased moisture content not only improves palatability, but also aids in ration conditioning and reduces potential health issues associated with other forms of feed.

Hydrolytic enzymes occurring naturally in the infant plant dramatically improve the digestibility and absorption of nutrients like proteins, fatty acids, vitamins and minerals. This allows for: enhanced growth, overall better health, improved reproduction, greater fertility, strong immune systems and more. Specifically, when it comes to nutrition, HydroGreen superfeed leverages properties of germination and early plant growth to capture the greatest nutrient profile and best digestibility of any feed available.

For example:

- Protein levels are as much as 25% higher than in the parent grain
- High digestibility means dietary energy is not wasted on digestion in the animal, resulting in greater energy efficiency
- Phytic acid levels are very low in young plants, making phosphorus more bioavailable
- Starch in the parent grain is largely converted to sugars supporting better forage digestibility and a more stable pH

Wet chemistry – Dry weight

Report of Analysis

Average of Sample Assays September 2021

### Dry Matter

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<thead>
<tr>
<th></th>
<th>Barley</th>
<th>Wheat</th>
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<tbody>
<tr>
<td>Day 6</td>
<td>19%</td>
<td>23%</td>
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### Moisture

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<th></th>
<th>Barley</th>
<th>Wheat</th>
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<tr>
<td>Day 6</td>
<td>81%</td>
<td>77%</td>
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### Protein & Fiber

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<th></th>
<th>Barley</th>
<th>Wheat</th>
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<tbody>
<tr>
<td>Day 6</td>
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### Minerals

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<tr>
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### Energy

<table>
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Meet Our Farmer Partners

Mike Rigby
HYDROGREEN FARMER PARTNER

“The severe drought had us worried we wouldn’t be able to feed our herd. The HydroGreen technology allows us to grow our own on farm, fresh livestock feed. Our family’s been in the cattle industry for generations, and we were considering getting out of the business entirely if we couldn’t get high quality, nutritious feed for our cattle. Having a consistent, predictable feed supply, no matter the weather, is essential for our family farm success.”

Paula Haiwick
HYDROGREEN FARMER PARTNER

“We chose to partner with the agriculture innovator, CubicFarms to create a resilient food system that is economically and environmentally sound and socially just for generations to come.”

Nick Ferens
HYDROGREEN FARMER PARTNER

“The fodder’s nutritive value is exceptional for our herd and the system is time efficient. I run one piece of machinery for 35 mins a day, when in the past, it would have taken me a few hours a day and three machines using traditional equipment.”