



What is hydroponic and aeroponic green feed?

Hydroponics is the science of growing plants in water. This practice has proven to be financially, as well as environmentally, profitable and advantageous for the farmer.

A hydroponically produced crop is a crop that is grown in a medium other than natural soil. In essence, hydroponic fodder (hydroponically grown cereal plants) is produced by the germination and sprouting of grain seeds (e.g. malt barley or oats) into superior quality, highly nutritious and disease free fodder. First and foremost, a controlled environment is required. The higher the degree of control, the more successful the production will be. In this growing unit, water is used to produce the green fodder. The crude protein and metabolisable energy content of the green fodder is highly digestible.

GreenFeed® Growing System uses **aeroponics** in the process of growing Barley. Aeroponics is the process of growing plants in an air or mist environment without the use of soil or an aggregate medium. Aeroponic culture differs from both conventional hydroponics and in-vitro (plant tissue culture) growing. Unlike hydroponics, which uses water as a growing medium and essential minerals to sustain plant growth, aeroponics is conducted without a growing medium. Because water is sometimes used in aeroponics to transmit nutrients, it is sometimes considered a type of hydroponics.



To get the best results with hydroponic fodder, it needs to be fed in conjunction with roughage, or else scouring may occur.

History

By no stretch of the imagination is hydroponic crop production something new. Even as far back as 80 years ago, Great Britain’s agriculturalists practiced the ‘crop-a-day’ culture. The highly nutritious, vitamin and mineral rich sprouted forage was fed to various livestock and birds. (Harris: 1992)

What is a GreenFeed® Growing System?

All grow room units supplied by **GreenFeed® Growing Systems** are weatherproof and include product characteristics such as hygienic finishes, strength and durability and quick assembly.

GreenFeed® Growing Systems

are available as a standard model or can be an individually designed aeroponic green feedbarkey/oat growing rooms in various sizes.

GreenFeed™ Growing Systems product range

MODEL

SIZE

Number of Beef/Diary Cattle fed per day

Factor: 14 Kg per head per day: 2.2Kg per head per day

y

A □ □ □

MICRO UNIT

250 kg – 1 ton

production volume per day 7 (new building)

45

B

SEMI-AUTOMATED UNIT 4-14

metric tons production vo

1

C

FULLY AUTOMATED UNIT 4-200

metric tons production vo

1

In our **MICRO and MANUAL TURNKEY UNITS** a selection of grain seeds is spread onto the growing trays and are watered at predetermined intervals with overhead sprays. In our manual

turnkey system you simply remove the feed from the trays after eight days, rinse the tray and reseed. All operational aspects including watering, cleaning, hygiene, lighting, reseed, removing of produce, air flow, humidity and air temperature are controlled manually.

In our **SEMI-AUTOMATED UNITS** all you need to do is to wash the trays and remove the feed manually

All other aspects of growing barley/oats green feed are addressed in this semi-automated computer-controlled environment, including water filtration, purification, sterilisation and recycling; seed misting; grow-room hygiene; grow-light control; air-flow control; air purification; humidity and temperature control; and seed storage, cleaning and sterilisation controls.

In our **FULLY AUTOMATED UNITS** all aspects of growing barley/oats green feed are addressed. The following processes are fully automated: water filtration, purification, sterilisation and recycling; seed misting; grow-room hygiene; grow-light control; reseed and produce removal; grow-tray washing and sterilisation; air-flow control; air purification; humidity and temperature control; CO₂ injection control; and seed storage, cleaning and sterilisation controls.

| THE APPLICATION OF GREENFEED GROWING SYSTEMS ON YOUR FARM | |
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| • GreenFeed Growing Systems possible usages include: | |
|  | GreenFeed Growing Systems is used to supply daily Barley Fodder to Dairy- an Feedlot units, the Race Horse, Hetermity, the Sheep, Pork- and Chicken industry, Zoo's and Game farms, with the benefit of Organic Farming/Dairy/Meat/Feed Certification. |
|  | GreenFeed Growing Systems is used to quickly Germinate flower, vegetable and most other seed types for general farming purposes. |
|  | GreenFeed Growing Systems is used to supply local fresh produce markets with freshly grown Edible Sprouts like <i>Pisces</i> (pea family); alfalfa, fenugreek, mung bean, lentil, pea, chickpea, soybeans. Cereals: oats, wheat, maize (corn), rice, barley, rye, kamut and then quinoa, amaranth and buckwheat. <i>Oilseeds</i> : sesame, sunflower, almond, hazelnut and linseed for human consumption. With the benefit of Organic Food Certification |
|  | GreenFeed Growing Systems is used to manufacture Barley Powder Concentrate for human consumption. Barley Powder Concentrate is derived from young barley plants, which have a strong resistance to disease and fungus. Barley greens are also a superior source of chlorophyll, the nutrient-rich factory where photosynthesis occurs. Chlorophyll is also the reason that plants are green and it is chemically similar to human blood. Barley greens provide 20 times more vitamin B1 and calcium than milk, seven times more vitamin C than oranges, and nearly five times the iron of spinach. Barley Powder is also rich in magnesium, potassium and bioflavonoid. With the benefit of Organic Food Certification. |