





Winter Grazing

- Hydroponic barley = fresh grass for livestock through the winter months
- Seed to feed in 4-7 days

What happens when grain is sprouted?

- Starches transformed to sugars
- Mineral & vitamin levels increased
- Digestibility improved

- # What happens when grain is sprouted?
- Starches transformed to sugars
 - Mineral & vitamin levels increased
 - Digestibility improved

[illegible]

Benefits of Year-Round Grazing

- 
- Animal Health & Nutrition
 - Environmental
 - Economics



Animal Health & Nutrition

Beef Cattle
Dairy Cows
Pigs
Poultry

Beef Cattle Health

- Improved weight
- Improved fat & marbling
- General well-being in the herd
- Improved coat condition
- Improved fertility



Dairy Cow Health

- Improved milk production
- Higher butterfat & milk protein
- Lower involuntary cull rate
- Virtually eliminate acidosis & laminitis (vs grain diet)
- General well-being in the herd
- Improved coat condition
- Improved fertility



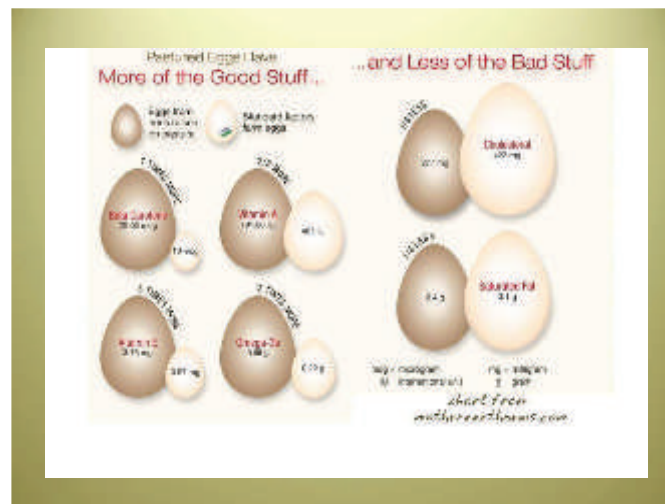
Pig Health

- Faster weight gain
- Lower feed costs
- Reduced back fat, increased marbling
- Increased fertility
- Heavier, longer lactations
- Improved health and reduced vet bills

Poultry Health & Nutrition

- Improves diversity of winter diet







Environmental Impact

Less water usage
Lower methane production
Less land use
Decreased storage space required
Integrates naturally into organic production



Barley Sprout Production Costs

Inputs	Cost/Unit	Cost/Ton
Seeds/Lb	\$0.37	\$111.00
Nutrients/Day	\$13.62	\$5.21
Energy/Day	\$35.00	\$11.67
Labour/Hr	\$16.00	\$62.00
	TOTAL	\$159.87

Beef Feeding Results

- 100 pasture-based friesian bulls over a 12 week period
- Sprout-fed group showed:
 - 41% Faster daily weight gain
 - 27% Lower feed cost per lb of gain
 - 23% Less dry matter consumed
 - 0% annualized cull rate vs. 17%

Indoor vs Outdoor growing costs

- 600lb sprouts/sq ft/yr
- 1 ton/day =150–300ac of good pasture
- Reduced tractor & implement needs

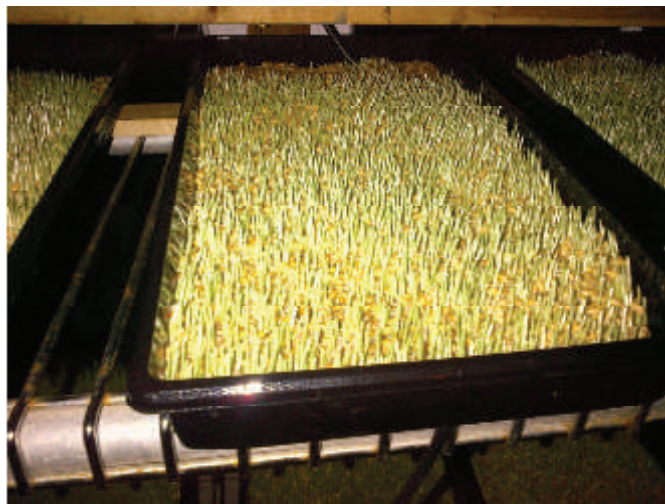
Timing of Beef Sales

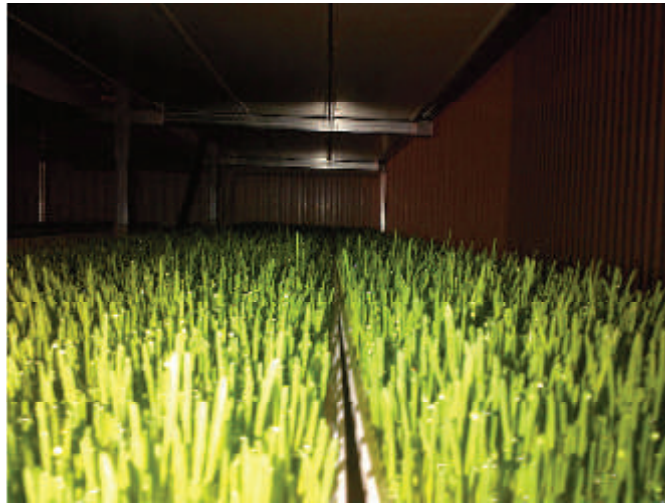
- Sell beef younger
- Fresh, local grass-fed beef in winter months



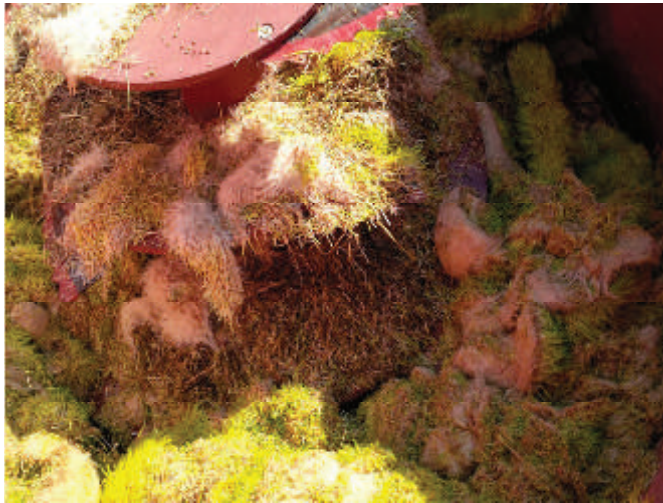
Growing Sprouts











Start-Up Equipment





Growing Sprouts - Challenges

- Temperature & humidity control
- Water regulation & dispersal
- Disease management
- Labour needs



