CERES
GREENHOUSE SOLUTIONS®

GREENHOUSE CATALOG

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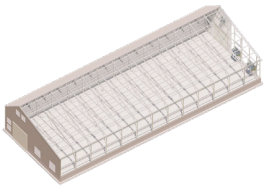
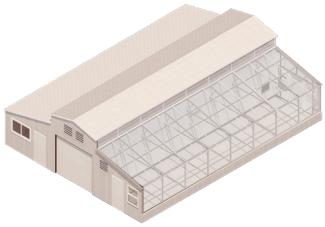
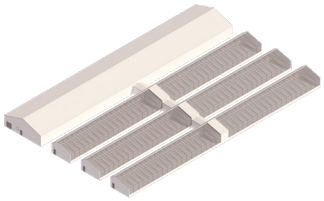
PART I:
STANDARD GREENHOUSES



HighYield™ Kits **p. 3**

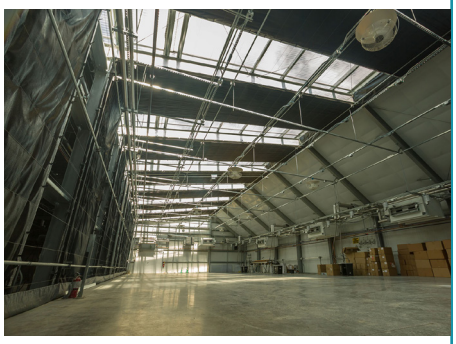


Attached Headhouses **p. 4**



Commercial Facility Layouts **p. 7**

PART II:
SYSTEMS & ADD-ONS

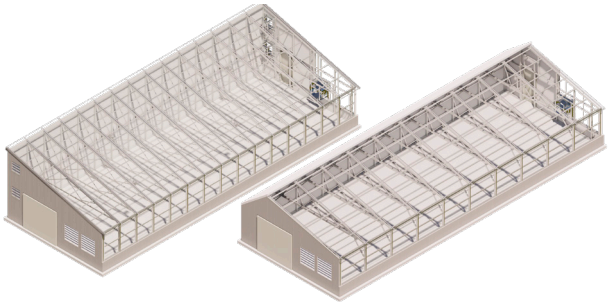


Vented & Sealed Systems **p. 9**

List of Systems and Upgrades **p. 10**

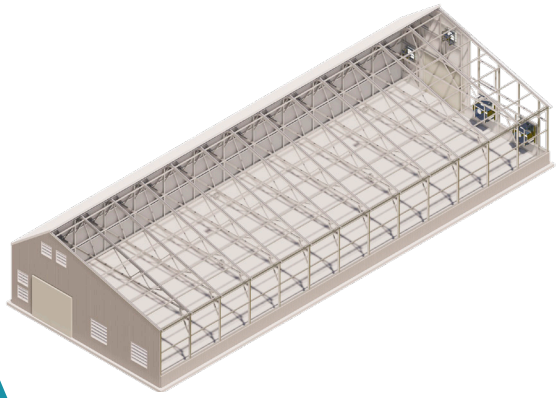
HIGHYIELD™ KITS

Our best selling commercial greenhouses (though not limited to commercial uses). HighYield™ Kits can be arranged in various layouts, connected with corridors and headhouse(s). For more information about headhouses and modular layouts see page 5.



6,4x

Width: 6,40m
Length: Starting at 8m
Peak height: 6m
South Wall height: 4m



9,6x

Width: 9,6m
Length: Starting at 12m
Peak height: 6m
South Wall height: 4m

**Wind, snow, and equipment loads will determine the truss spacing and final length of the HighYield™ Kit.*
***Please consult with a Ceres representative for exact frame to frame dimensions*

CASE STUDY

Greenshaus, Inc. is a commercial hydroponic lettuce growing operation in Ontario using Ceres' HighYield™ Kit and a GAHT® system for heating. Supplemental LED lighting and climate conditions are controlled by the SunSense™ automated controller.

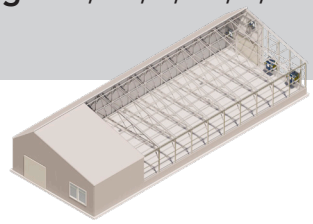
ATTACHED HEADHOUSES

Each one of these facility layouts includes a greenhouse attached directly to a headhouse, allowing for convenient access to storage and processing areas

SOL

Dimensions:

Width: 9,6m
Length: Any
Eave height: 3,2m, 3,6m, 4,0m
Peak height: 5,2m, 5,6m, 6,0m



VENUS

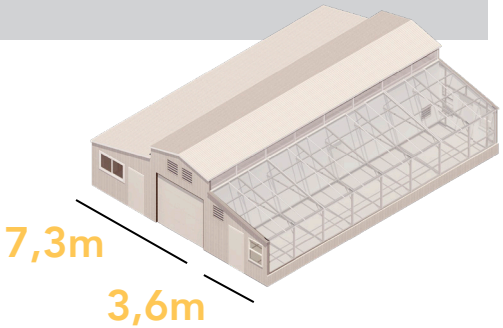
Dimensions:

Width: 6,4m, 9,6m
Length: Any
Eave height: 3,2m, 3,6m, 4,0m
Peak height: Depends on width

HIGHYIELD BARN™ KIT

Dimensions:

Width: 11m
Lengths: 11m, 14,6m, 18,3m, 22m
Peak height: 4,4m
Low eave height: 2,4m
High eave height: 4m
GH partition wall height: 3,4m



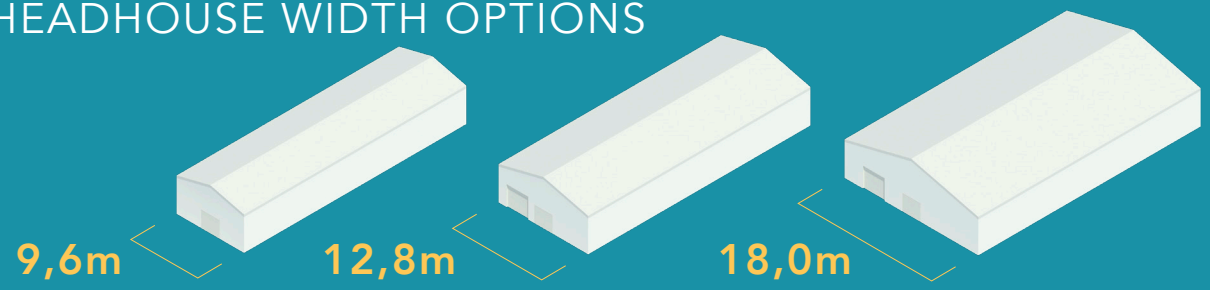
**Wind, snow, and equipment loads will determine the truss spacing and final length of the Attached Headhouse HighYield™ Kits*
***Please consult with a Ceres representative for actual frame to frame dimensions*

HEADHOUSES & MODULARITY

STANDALONE HEADHOUSES

Headhouses are non-glazed attached structures used for purposes such as processing, storage, cleaning, etc. Custom sizing is available.

HEADHOUSE WIDTH OPTIONS



MODULAR DESIGN

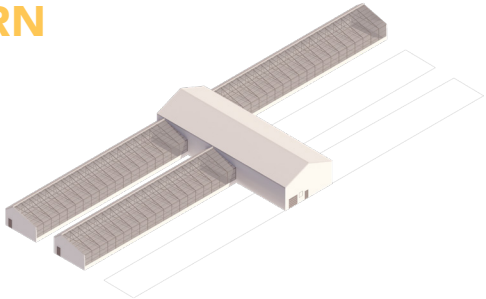
Modularity implies that greenhouses can continuously be built over time and in phases. The facility layout is tailored to client needs and site conditions.

Benefits include:

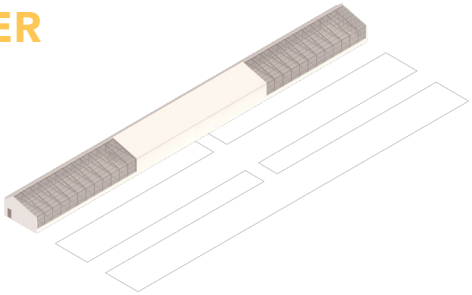
- Biosecurity
- Ability to stagger harvest schedule
- Precision control of individual grow environments
- Ease of expansion

**Facilities can expand in a variety of ways. See below for common approaches to phasing the build.*

SATURN



JUPITER



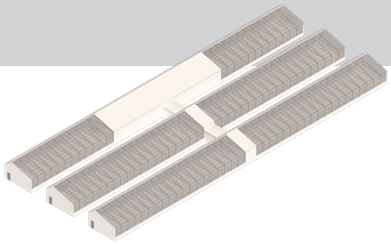
FACILITY LAYOUT

COMMERCIAL

INLINE COMMERCIAL: NEPTUNE

Headhouse Dimensions:

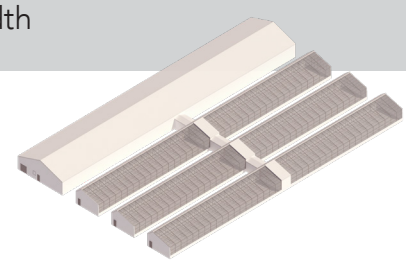
Width: 9,6m
Length: Any
Eave height: 3,2m, 3,6m, 4,0m
Peak height: 5,2m, 5,6m, 6,0m



CORRIDOR CONNECTED: JUPITER

Headhouse Dimensions:

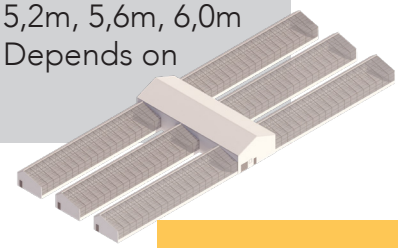
Width: 9,6m, 12,8m, 18,0m
Length: Any
Eave height: 3,2m, 3,6m, 4,0m
Peak height: Depends on width



HEADHOUSE CONNECTED: SATURN

Headhouse Dimensions:

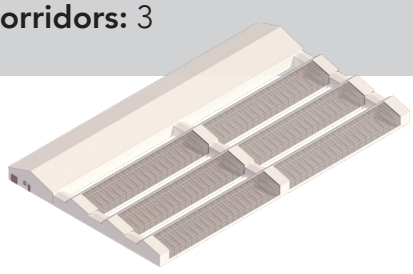
Width: 9,6m, 12,8m, 18,0m
Length: Any
Eave height: 5,2m, 5,6m, 6,0m
Peak height: Depends on width



PROCESS FLOW: APOLLO

Headhouse Dimensions:

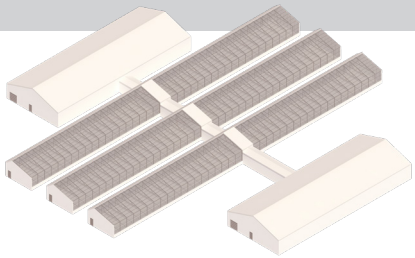
Width: 9,6m, 12,8m, 18,0m
Length: Any
Eave height: 3,2m, 3,6m, 4,0m
Peak height: Depends on width
Corridors: 3



PROCESS FLOW: ZEUS

Headhouses (2) Dimensions:

Width: 9,6m, 12,8m, 18,0m
Length: Any
Eave height: 3,2m, 3,6m, 4,0m
Peak height: Depends on width
Corridors: 1



CASE STUDY:

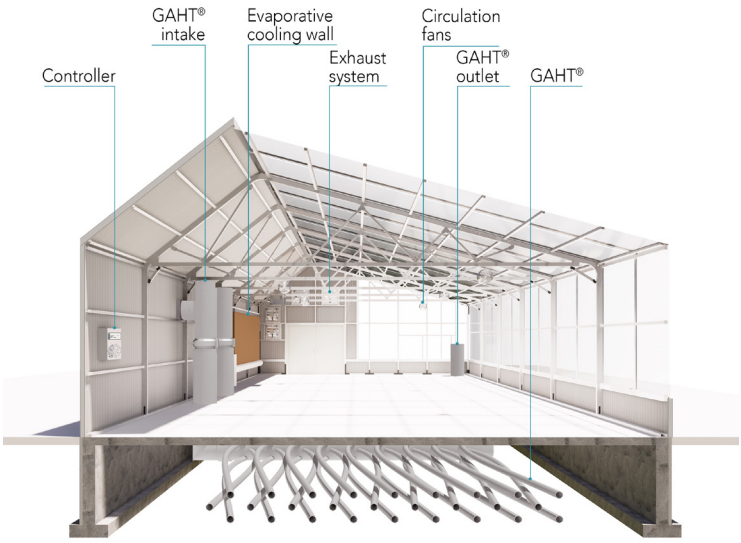
Green Lynx farm is comprised of 1,125 m² of greenhouse, with a central 250 m² insulated head house. The first three hybrid grow houses were constructed in the Spring of 2018 and are each 9m x 23m. The final hybrid grow house was finished in 2019, and is the biggest structure at 9m x 46m. This greenhouse complex is used as a clone production facility in the early Spring to provide clones for outdoor hemp farms. It is also used as a breeding facility, where the individual greenhouse environments allow the growers to test out different growing climates and production methods. Green Lynx is a vented facility and uses wet walls for evaporative cooling to keep temperatures down in the summer.

ALL GREENHOUSES INCLUDE:

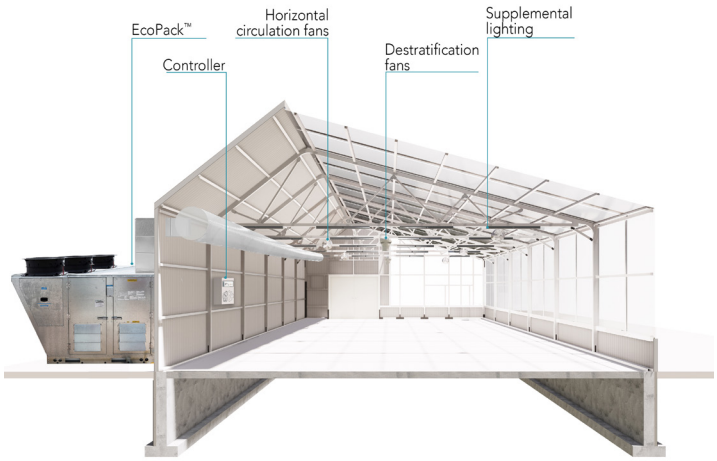
- Steel Framing
- Glazing
- Insulated Panels
- Trim
- Exhaust System (optional)
- Doors
- Windows (optional)
- Stamped MEP plans (optional)
- Construction Support

VENTED SYSTEM

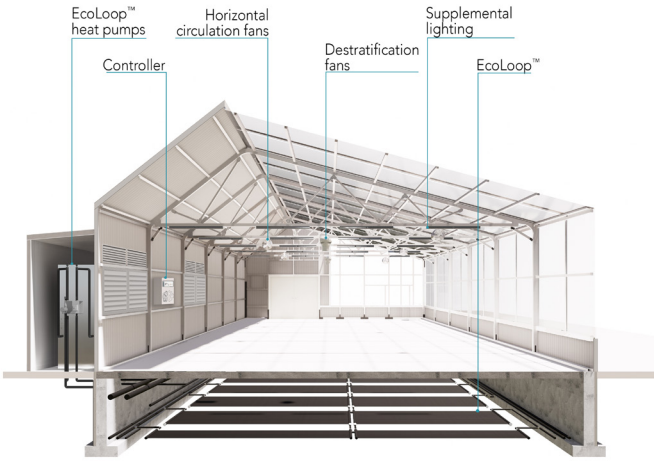
A vented greenhouse is a good option when precision control over temperature and humidity is not necessary.



SUNCHAMBER™ SYSTEM



ECOPACK™

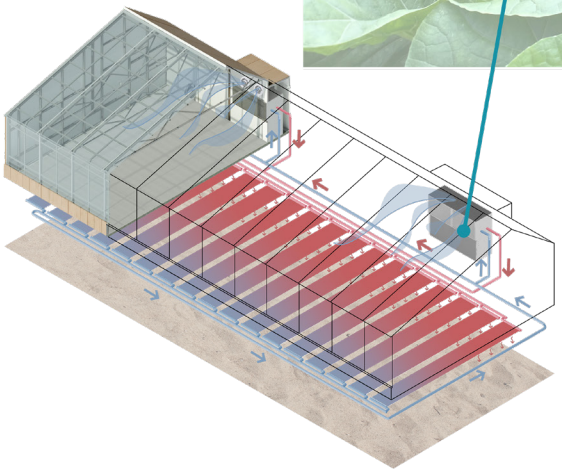


ECOLOOP™

A sealed greenhouse offers precise and independent climate control of both temperature and humidity. Optimize, increase and predict yields, as well as increased biosecurity.

COMPREHENSIVE LIST OF SYSTEMS & UPGRADES

- SunSense™ controller
- Shade/energy curtain
- Light deprivation systems
- Heating & cooling systems
  - EcoLoop™/EcoPack™
  - GAHT®
  - Evaporative cooling
- Dehumidification
- High pressure fogging
- Supplemental lighting
- Water treatment
- Fertigation
- Grow systems
- Biosecurity
- Benches
- Air circulation
- Odor control



COLOR AVAILABILITY CHART

Sandstone
Natural Green Trim

Surrey Beige
Surrey Beige Trim

Royal Blue
Regal White Trim

Natural Green
Natural Green Trim

Regal White
Regal White Trim

Pearl Gray
Natural Green Trim

QUALITY BY DESIGN

WHAT IS QbD?

A systematic approach to product and process development in order to deliver safe, consistent products while emphasizing manufacturing efficiency.

Ceres applies QbD principles to building materials, workflow, data analysis and systems selection and integration.

DESIGN CONSIDERATIONS:

- Biosecurity
- Employee workflow
- Environmental consistency
- Measurability
- Manufacturing efficiency

ADVANTAGES:

- Product consistency
- Risk management / minimal crop failure
- Effective control of change
- Return on investment / cost savings
- Supports GMP principles

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