Design and Construction

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Greenhouse Components-Ground Posts
Greenhouse Components - Rafters or Bows
Greenhouse Components - Purlins and Ridge Cap
Greenhouse Components-Cross-Bracing
Greenhouse Components-Wind-Bracing
Greenhouse Components - Baseboards and hipboards
Greenhouse Components-Endwalls
Greenhouse Components-Plastic and Additives
Roll-Up Sides
Design Options

Figure 3. Greenhouses can have a variety of different structural frames.
Stone Barns Center, NY
If you’re not the Rockefellers
3-Season
Hightunnel
Passive Solar Greenhouse
Site
Figure 1. Select location carefully. Note where the shade line occurs in both the winter and summer.
Shading and Spacing
Drainage
Water and Electric
Moveable vs. Stationary

- West
  - Warm Season Crops
  - Cool Season Crops
  - Overlap at Center
  - Water Supply Utilities

- East
  - Room for tractors or winches
  - Rotation switches over years
Orientation
Determining Size
Width
Determining Size
Length
Altering Height
Soil Preparation-
Cover Crops
Soil Preparation-Compost
Interior Considerations - Bed Layout
Percent Space Usage - 60% - 85% Range

- 30’ x 96’ = 2880 sq ft
- 8 beds x 2.5’ wide x 90’ long = 1800 sq ft
- 1800 / 2880 = 63% space use
- 8 x 2.5’ = 20’ for beds and 9, 1’ aisles

or

- 5 beds x 5’ wide x 95’ long = 2375 sq ft
- 2375 / 2880 = 85%
- 5 x 5’ = 25’ for beds and 5, 1’ aisles
Interior Considerations-Inside Tent
Putting it Together
Tools

- Stakes
- Tape Measure
- Post Pounder or Sledge
- Level/Post level
- Transit, Laser or String level
- Electric Drill
- Wrenches and Sockets
- Saw
- Ladders
- Rope
- Tennis Balls
- Pipe Wrench
- Post Hole Digger
- Metal File
- Framing Saw
- Battery Drill
14 Steps to a Better Greenhouse

SALSA
On~2 "Razz M' Tazz-Style"

The number represents the beat of the music. The gray foot print represents the foot where your weight should be on the corresponding beat of the music. "Break" means stepping forward quickly and rocking back; Breaking your momentum. Remember to Dance light on your toes and have FUN!.!

1. Hold the Beat
2. Break forward with Left Foot
3. Rock back onto Right Foot
4. Step back with Left Foot
5. Hold the beat
6. Break back with Right Foot
7. Rock forward onto Left Foot
8. Step forward with Right Foot

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1) Check Elevation and Drainage
2) Square the Foundation

30’ wide
96’ long

\[a^2 + b^2 = c^2\]
A Place to Start
3) Space and Pound Ground Posts
Leveling Ground Posts
Possible Sidetracks
Possible Sidetracks
Possible Sidetracks
4) Assemble Rafters
5) Place Rafters
6) Add Cross-Bracing (if needed)
7) Attach Purlins
8) Plumb the Structure and Ends
9) Attach Baseboards
10) Attach Hipboards
11) Build Endwalls, Doors, and Vents
Attaching Endwalls
Door Options
Vents
12) Install Wirelock or Lathe for Plastic
13) Cover with Plastic and Install Fan
Pulling Plastic
Attaching Plastic
14) Install Roll-up Sides
Review

• Be sure to know your:
  – greenhouse parts
  – production techniques
  – site selection and preparation requirements
  – Pythagorean theorem
  – 14 steps
  – physical and mental limits
Thank You!

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