

Year-Round Crop Planning For Low-Cost Hoop Houses



2010 Midwest Vegetable Conference
Part 1: Low-Cost Hoop Houses

Low-Cost Hoop Houses



100' long





17' wide, 8' high

Low-Cost Hoop Houses

Hoop houses cumulate several benefits which add up to more produce for families, and more income for commercial growers:

- increased production/income thru season-extension: hhs can add a full 5 months (Dec.-Apr.) to a production schedule in Northern Arkansas.
- increased production/income thru higher yields and quality. Foundation Farm has tripled its tomato income by moving plants inside hhs.

Low-Cost Hoop Houses



Hoop houses will outperform outside production consistently because:

- it creates a micro-climate which shifts the weather by up to 4 weeks in winter and protect from deep-freeze kill.
- it reduces blight on rain-sensitive plants, in particular tomatoes.
- it accelerates growth rates for slow-growing, heat loving summer plants like peppers and eggplants.
- it reduces the impact of some predators like crows and deer.
- it can also help reduce excessive heat and scalding in summer by using shading cloth (60% shading) over the hhs. Some farms use hhs to grow mesclun/lettuce in hot summers.

Low-Cost Hoop Houses

Hoop houses cumulate several benefits which add up to more produce for families, and more income for commercial growers:

- increased production/income thru season-extension: hhs can add a full 5 months (Dec.-Apr.) to a production schedule in Northern Arkansas.
- increased production/income thru higher yields and quality. Foundation Farm has tripled its tomato income by moving plants inside hhs.

Low-Cost Hoop Houses

Hoop House Construction/Costs:

Hoop house construction and cost will vary, based on your approach:

- size (width, length, height)
- diy versus buy a kit
- quality of components

Foundation Farm Hoop Houses are very cost efficient while preserving a high construction quality. Our hhs are built for 1\$/Squ. Foot.

Low-Cost Hoop Houses

Hoop houses cumulate several benefits which add up to more produce for families, and more income for commercial growers:



- increased production/income thru season-extension: hhs can add a full 5 months (Dec.-Apr.) to a production schedule in Northern Arkansas.
- increased production/income thru higher yields and quality. Foundation Farm has tripled its tomato income by moving plants inside hhs.



Low-Cost Hoop Houses



Size: our HHs are 17' wide, 8' tall (highest) and 100' long. This allows good access for the farmer, a low profile against winds, no internal support or cross-beams, and good cross ventilation. It also allows the use of 24' long arches which are a standard industrial length and can be transported on a 18' trailer. The width makes good use of the 4' bed/3' path system in use at the farm. The length is very flexible (20' to 200').



Diy versus kit: our HHs are entirely built from individual components gathered from cost-competitive sources. This makes our HHs about half the price of a similar size kit.

Low-Cost Hoop Houses



Components: our HHs are built with very high quality materials and designed to sustain high winds (70mph?):

1. Arches: 1" square-tubing, micro-galvanized steel
2. Plastic cover: Tufftite IV, 6mil, UV-treated
3. Structure anchoring: see pics
4. Plastic Attachment: U-channels and Wiggle Wire
5. All hardware rust-proof (SS, galvanized, zinc-plated)

Low-Cost Hoop Houses



Detail: making arches



Low-Cost Hoop Houses



Detail: 2' auger-anchors opened with 1" metal tubing, slid thru and bracket-strapped to each arch.



Low-Cost Hoop Houses



Detail: wiggle-wire over plastic, over u-channel, metal-screwed onto 1" board, bolted onto arch.



Low-Cost Hoop Houses

Design: our HHs are built using design techniques which have been proven to work on other farms. Yet, there is always room to innovate.

Ex: roll-up vs roped sides

Low-Cost Hoop Houses

Design: wind side is entirely wiggle-wired, off-side is entirely opened!!!!!!

Low-Cost Hoop Houses

Cost (100')
1,700 Sq. f

HOOP-HOUSE PARTS & SUPPLIES (As of Nov. 2009)					
qty	description	price	supplier	phone/website	total
1	100'x33' Turflite IV Plastic, Clear +S&H	175.50	Insopac Business& Supply, Inc	www.insopac.com 1-800-442-4147	175.50
20	100'X10' Turflite IV Plastic, Clear	70.20	Insopac Business& Supply, Inc	www.insopac.com 1-800-442-4147	1404.00
18	1" squareX 16 galvanized X 24'	21.90	US Wholesale Pipe & Tube	Dave Phillips 800-708-8823	394.20
3	5/8" rebar	10.00	C&R Block	870-823-2463	30.00
8	Elec Bolts 1/4X1.5 8"	1.00	Hardware Store		8.00
100	1/2" self-drilling metal screws	.12	Hardware Store		12.00
21	1/2" Sch. 40 10' PVC pipe	2.10	Hardware Store		44.00
20	1/2" coupler PVC	.20	Hardware Store		4.00
2	1/2" elbows	.30	Hardware Store		.60
200'	1" x 3" cedar planks	.20	Wood Mill	John Gardner	20.00
36	Galv. 3/4 x 2 1/2" corrugated bolts/nuts	1.00	Hardware Store		36.00
31	Aluminum Poly Latch Single Channel	7.84	Farmtek p/n 102197	www.farmtek.com 800-327-6835	243.04
33	NS Spring Wiggle Wire	1.85	Farmtek p/n 102198	www.farmtek.com 800-327-6835	61.05
24	Auger Style Earth Anchor	4.89	Farmtek p/n CS2620	www.farmtek.com 800-327-6835	117.36
18	1" EMT conduit	6.00	Hardware Store		108.00
16	1" EMT conduit coupler	1.60	Hardware Store		25.60
32	1" rigid 2-hole metal straps	.70	Hardware Store		22.40
TOTAL					\$1,508

Year-Round Crop Planning For Low-Cost Hoop Houses

2010 Midwest Vegetable Conference
Part 2: Year-Round Crop Planning/Production

Hoop Houses for Year-Round Planning/Production

Gardening Inside the HH:

- **no-till gardening:** voids the use of tiller/tractor.
- **irrigation:** drip-irrigation.
- **fertility:** organic matter (rabbit manure, mulch, fish meal), trace minerals (azomite, granite dust), fish meal/emulsion, plants residues.
- **extra cold protection:** row covers in winter (Agrofabric 36)
- **heat protection/ventilation:** roll up sides, opened end (east), shading cloth.
- **plant positioning:** plants above 5' ,like indeterminate tomatoes, on center bed only. Determinate tomatoes, eggplants and peppers can fit on side-beds with 5' cages.

Hoop Houses for Year-Round Planning/Production

Gardening Inside the HH:

- **access, ease of use:** all 3 beds are easy to work with on 3 foot paths, access from the outside and 6' foot clearance on inside paths.

I thank you and please support us by:



1- Shopping at your local farmer's markets and/or thru a CSA (farm subscription program).

2- Cooking at home with fresh food for your family and friends.

