




# Transformation

 MERCY FOR ANIMALS

## **Material and Labor Quotes for Greenhouse Coverings, Optional Equipment, and Crop Production Systems for Conversion of a Chicken House to Crop Production**

Prepared by Gary Sullivan and Joanne Howard  
in collaboration with Transformation

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## Contents

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General Information on Quotes and Descriptions .....	3
Standard Conversion Items for 50' x 300' Structures .....	3
Eight-Millimeter Twin-Wall Polycarbonate Covering, 50' x 300' .....	3
Corrugated Polycarbonate Covering, 50' x 300' .....	4
Six-Mil Double-Layer Greenhouse Film Covering, 50' x 300' .....	4
Six-Mil Single-Layer Greenhouse Film Covering, 50' x 300' .....	5
Crop Production Notes .....	5
Raised-Bed Crop Production Cost Estimate.....	5
Container Production Cost Estimate .....	6
Hydroponic Float System Cost Estimate .....	6
Hydroponic NFT System Cost Estimate .....	6
Dutch Bucket Crop Production Cost Estimate .....	6

## I. General Information on Quotes and Descriptions

- All covering conversions are at standard pricing at the time of this guide's creation.
- Pricing is subject to change.
- The estimate for covering the structure assumes that no additional work on the structure is needed to comply with the guidelines for fastening the covering materials.
- Labor estimates do not include cleaning, disinfecting, or coating any existing structure as explained in the conversion plan provided by Virginia Tech University.
- Labor estimates do not include travel or expenses. These items will be determined on a per-job basis and added to labor costs.
- No electrical or plumbing costs are included in the labor estimates. These costs would be separate.

## II. Standard Conversion Items for 50' x 300' Structures

Regardless of covering or crop production choice, these items are required when converting a structure:

Item	Qty	Cost
20" HAF Fan	6	\$1,950
Ground Cover	9,000 sq. ft.	\$1,265
Ventilation Control	1	\$3,600
Aux. Relay/Junction Box	1	\$1,500
Shade Cloth, 55% Black	1	\$7,500
<b>Standard Items Material Cost</b>		<b>\$15,815</b>

Labor to Install Standard Items: **\$5,500.00**

Total Standard Items Cost: **\$21,315.00**

## III. Eight-Millimeter Twin-Wall Polycarbonate Covering, 50' x 300'

Eight-millimeter twin-wall polycarbonate covering installed with girts 32" apart has a wind/snow load rating of 20 psf. Vertical wall panels should have girt spacing no greater than 4' on center. All fasteners should be appropriate for the thickness of the panel applied. All fasteners should have a corrosion-resistant covering and a bonded seal washer. ThermaGlas spacer washers should be installed under the panel at each screw location.

Materials needed to cover the top and sides of the structure are as follows:

Item	Qty	Cost
PCSS 8mm - 6' x 26'-6"	100	\$39,800.00
PCSS 8mm - 6' x 8'	100	\$12,000.00
PCSS Splice and Profiles	Lot	\$11,125.00
PCSS Fasteners	Lot	\$3,900.00
Ridge Flashing 10'	30	\$3,600.00
<b>8mm Top and Side Material Cost</b>		<b>\$74,925.00</b>

Materials needed to cover the ends of the structure are as follows (doors not included):

Item	Qty	Cost
PCSS 8mm - 6' x 16'	6	\$1,584.00
PCSS 8mm - 6' x 14'	4	\$840.00
PCSS 8mm - 6' x 12'	4	\$760.00
PCSS 8mm - 6' x 10'	4	\$600.00
PCSS Splice and Profiles	Lot	\$920.00
PCSS Fasteners	Lot	\$936.00
MEW Flashing	34	\$1,030.00
<b>8mm PCSS End Covering Material Cost</b>		<b>\$6,670.00</b>

Labor to Install the 8mm PCSS Covering: **\$14,500.00**

Total Cost for 8mm PCSS Conversion: **\$98,845.00**

#### IV. Corrugated Polycarbonate Covering, 50' x 300'

Corrugated polycarbonate sheets, or DynaGlas, offer all the benefits of polycarbonate glazing, such as high impact resistance and ease of installation. DynaGlas Plus features built-in condensation control, allows 92 percent light transmission, and blocks out UV and far infrared radiation. DynaGlas Plus carries a 10-year warranty against yellowing and loss of condensation control.

Materials needed to cover the top and sides of the structure are as follows:

Item	Qty	Cost
DynaGlas Plus - 4' x 26'-6"	150	\$36,750.00
DynaGlas Plus - 4' x 8'	150	\$10,350.00
Closure Strips	1,200	\$2,400.00
Fasteners	Lot	\$1,400.00
Ridge and Eave Flashing	Lot	\$11,700
<b>DynaGlas Plus Top and Side Material Cost</b>		<b>\$62,600.00</b>

Materials needed to cover the ends of the structure are as follows:

Item	Qty	Cost
DynaGlas Plus - 4' x 16'	6	\$840.00
DynaGlas Plus - 4' x 14'	8	\$928.00
DynaGlas Plus - 4' x 12'	8	\$848.00
DynaGlas Plus - 4' x 10'	4	\$344.00
Closure Strips	26	\$52.00
Fasteners	Lot	\$364.00
MEW Flashing	Lot	\$1,020.00
<b>DynaGlas Plus End Covering Material Cost</b>		<b>\$4,396.00</b>

Labor to Install the Corrugated Polycarbonate Covering:  
**\$12,250.00**

Total Cost for Corrugated Polycarbonate Conversion:  
**\$79,246.00**

#### V. Six-Mil Double-Layer Greenhouse Film Covering, 50' x 300'

Ginegar Suncover film is a five-layer, six-mil greenhouse cover film. It offers UVA inhibitors, an anti-dust barrier, and other features. Light transmission of clear Suncover greenhouse film is 90 percent. The film comes with a four-year UV protection guarantee. A double layer of film is secured to the greenhouse with Carolina lock bases and springs. A small inflation fan forces air between the layers to inflate the greenhouse cover, which helps shed rain and snow and provides some insulation value. The sides and ends of the structure are covered with DynaGlas corrugated polycarbonate sheeting.

Materials needed to cover the top of the structure are as follows:

Item	Qty	Cost
54' x 340' x .006 Suncover Film	2	\$7,600.00
Carolina Lock Base & Spring	Lot	\$2,605.00
Fasteners	Lot	\$140.00
Inflation Fan & Mounting Brkt.	2	\$254.00
<b>Double-Layer Greenhouse Film Material Cost</b>		<b>\$10,599.00</b>

Materials needed to cover the sides and ends of the structure are as follows:

Item	Qty	Cost
DynaGlas Plus - 4' x 16'	6	\$840.00
DynaGlas Plus - 4' x 14'	8	\$928.00
DynaGlas Plus - 4' x 12'	8	\$848.00
DynaGlas Plus - 4' x 10'	4	\$344.00
DynaGlas Plus - 4' x 8'	150	\$10,350.00
Closure Strips	176	\$352.00
Fasteners	Lot	\$1,024.00
MEW Flashing	Lot	\$5,520.00
<b>DynaGlas Plus Sides &amp; End Covering Material Cost</b>		<b>\$20,386.00</b>

Labor to Install the Double-Layer Covering and DynaGlas Sides and Ends: **\$11,150.00**

Total Cost for Double-Layer Film Conversion: **\$42,135.00**

## VI. Six-Mil Single-Layer Greenhouse Film Covering, 50' x 300'

Ginegar Suncover film is a five-layer, six-mil greenhouse cover film. It offers UVA inhibitors, an anti-dust barrier, and other features. Light transmission of clear Suncover greenhouse film is 90 percent. The film comes with a four-year UV protection guarantee. A single layer of film is secured to the greenhouse with Carolina lock bases and springs. The sides and ends of the structure are covered with DynaGlas corrugated polycarbonate sheeting.

Materials needed to cover the top of the structure are as follows:

Item	Qty	Cost
54' x 340' x .006 Suncover Film	1	\$3,800.00
Carolina Lock Base & Spring	Lot	\$2,605.00
Fasteners	Lot	\$1,400.00
<b>Single-Layer Greenhouse Film Material Cost</b>		<b>\$6,545.00</b>

Materials needed to cover the sides and ends of the structure are as follows:

Item	Qty	Cost
DynaGlas Plus - 4' x 16'	6	\$840.00
DynaGlas Plus - 4' x 14'	8	\$928.00
DynaGlas Plus - 4' x 12'	8	\$848.00
DynaGlas Plus - 4' x 10'	4	\$344.00
DynaGlas Plus - 4' x 8'	150	\$10,350.00
Closure Strips	176	\$352.00
Fasteners	Lot	\$1,024.00
MEW Flashing	Lot	\$5,520.00
<b>DynaGlas Plus Sides &amp; End Covering Material Cost</b>		<b>\$20,386.00</b>

Labor to Install the Single-Layer Covering and DynaGlas Sides and Ends: **\$10,150.00**

Total Cost for Single-Layer Film Conversion: **\$37,081.00**

## VII. Crop Production Notes

- Estimates for crop production systems are based on greenhouse lengths under 100' (except the estimate for a hydroponic NFT system).
- Irrigation systems, when required, use drip irrigation.
- Reservoirs are not included in estimates unless noted in the description.
- Where possible, commercially available packages for crop production are used.
- Growing media is not included.
- All estimates for crop production systems assume the structure has been prepared per suggestions from Virginia Tech University.

## VIII. Raised-Bed Crop Production Cost Estimate

The following table lists materials for constructing nine raised beds 24 feet long, two feet wide, and 18 inches tall, lined with black, woven ground cover, as well as drip stakes for irrigation. Each bed will hold about 27 cubic feet of media.

Item	Qty	Cost
2" x 10" x 12' Treated Lumber	81	\$2,713.50
Woven Ground Cover 6' x 300'	1	\$150.00
Fasteners	Lot	\$50.00
White Poly Pipe, 3/4" x 500'	1	\$140.00
Dripper Stake Assy. - 24" lg (.5gph)	300	\$339.00
Fitting, Punch, Valves	Lot	\$253.50
High-Volume, Low-Pressure Pump	1	\$600.00
<b>Material Cost for Raised Beds</b>		<b>\$4,246.00</b>

Labor to Construct Raised Beds and Irrigation System: **\$6,300.00**

Total Cost for Raised-Bed Production System: **\$10,546.00**



## IX. Container Production Cost Estimate

Materials needed for 300-container crop production are as follows:

Item	Qty	Cost
7-Gallon Nursery Pots	300	\$150.00
Fasteners	Lot	\$50.00
White Poly Pipe, 3/4" x 500'	1	\$140.00
Dripper Stake Assy. - 24" lg (.5gph)	300	\$339.00
Fitting, Punch, Valves	Lot	\$253.50
High-Volume, Low-Pressure Pump	1	\$600.00
<b>Material Cost for Container Production</b>		<b>\$1,532.50</b>

Labor to Set Up Containers and Irrigation: **\$1,500.00**

Total Cost for Container Crop Production System: **\$3,032.50**

## X. Hydroponic Float System Cost Estimate

The following estimate is for a commercial hydroponic float crop production system with 3,360 plant sites, including two 8' x 60' troughs with metal frames, bulkhead connections, a reinforced liner, a plumbing kit, and a weighted aeration ring system.

Item	Qty	Cost
Basic System - 3,360 plants	1	\$19,525.00
Backing Boards, Pipe, Fittings	Lot	\$750.00
<b>Material Cost for Hydroponic Float Crop Production</b>		<b>\$20,275.00</b>

Labor to Construct Hydroponic Float System: **\$6,500.00**

Total Cost for Hydroponic Float System: **\$26,775.00**

## XI. Hydroponic NFT System Cost Estimate

The following estimate is for a commercial hydroponic NFT production system with 15,354 plant sites (nursery and finish), with an estimated yield of 3,825 plants per week. This system uses two NFT tables (one 12' x 120' and one 12' x 130') and includes channels, table frames, manifolds, and collectors. The system also includes feed and return plumbing, pumps, a 1,725-gallon reservoir, and pH and CF monitoring.

The propagation system to feed the growing channels has 15 propagation trays along with a seeding machine and lighting.

- Cost of Hydroponic NFT System Described Above: **\$126,000.00**
- Labor to Construct Hydroponic NFT System: **\$9,500.00**
- Total Cost for Hydroponic NFT System: **\$135,500.00**

## XII. Dutch Bucket Crop Production Cost Estimate

The following estimate is for a commercial Dutch bucket drain-to-waste system for 630 plants with two plants per bucket. The system includes buckets, drippers, tubing, fittings, and a feed-pump station.

Materials needed for a Dutch bucket system are as follows:

Item	Qty	Cost
Dutch Bucket Sys. - 630 Plants	1	\$10,875.00
PVC Pipe and Fittings	Lot	\$300.00
<b>Material Cost for Dutch Bucket System</b>		<b>\$11,175.00</b>

Labor to Construct Dutch Bucket System: **\$6,500.00**

Total Cost for Dutch Bucket Crop Production System: **\$17,675.00**