Introduction!
Pumpkins that grew in our greenhouse in the past 4 years

<table>
<thead>
<tr>
<th>Weight</th>
<th>Year</th>
</tr>
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<tbody>
<tr>
<td>2185 lbs</td>
<td>2015</td>
</tr>
<tr>
<td>2136 lbs</td>
<td>2018</td>
</tr>
<tr>
<td>2095 lbs</td>
<td>2017</td>
</tr>
<tr>
<td>2077 lbs</td>
<td>2018</td>
</tr>
<tr>
<td>1965 lbs</td>
<td>2018</td>
</tr>
<tr>
<td>1773 lbs</td>
<td>2017</td>
</tr>
<tr>
<td>1768 lbs</td>
<td>2018</td>
</tr>
<tr>
<td>1743 lbs</td>
<td>2017</td>
</tr>
</tbody>
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Advantages
Warmer early and late season nights
In the early spring I'm able to get a big head start, now a day's fruit are capable of growing 110 or more days, my target date for pollinations in 2012 was June 20-30th now its June 5th-15th.
Squash vine bores and Cucumber beatles will become an afterthought inside a greenhouse.
Animals will be kept at bay, before I grew indoors I had a big problem with deer munching on my grow tips.
You'll notice far less root diseases
I'm able to work on my plants during bad weather and during the night.
The biggest advantage of growing indoors in my opinion is the protection you get from big storms, that's how I'm able to grow big fruit year after year. An outdoor grower can grow monster fruit but at anytime throughout the year their plants can be destroyed by high winds and hail, the peace of mind knowing your hard work won't be taken away by bad weather is worth it,
Strong winds knocked the canopy down on this otherwise healthy plant.
This young plant was demolished by hail in 2014
Question?

Comments?
Disadvantages!
If not properly ventilated, your greenhouse can reach temperatures that'll kill your plants, without an evaporator cooling system. Even the best ventilated greenhouse will be above the ambient temperature.
If you get a hot spell your plants will be scorched, last year was the hottest summer we've had in recent years.
On extremely hot days I'd have misters go off every 10 minutes for 15-20 seconds to cool the canopy.
Greenhouse film blocks some of the sun depending on the brand and thickness.
The double inflated film I use blocks 30% of the sun. You don't need 100% of the sun to achieve full photosynthesis, in most plants 30%–35% is all you need.
If you use a single layer of film you'll get condensate on the inner walls of the greenhouse this could block up to 60% of the sunlight. On a cloudy day your plants won't be able to reach full photosynthesis.
Depending your location you might have to take the plastic down for the winter, heavy snow loads could collapse your greenhouse, expect to spend a good week every spring and fall just on maintenance.
If you lose power to the greenhouse on a sunny day you have just a few hours to fix the problem or you'll lose your plants, in 2015 my dad turned the power off in the morning to do work inside that breaker box and never turn the greenhouse power back on.
It's more difficult to harvest the pumpkins inside a greenhouse.
The ends get opened up allowing us to back our trailer inside.
We set up our lifting arch over the fruit, and we add pallets so we're able to lift the fruit high enough.
It's important I set the fruit in the center of my greenhouse otherwise we'd have to take all the plastic off in order to lift the pumpkins.
Question?
Comments?
controlling environment
Three 30 inch exhaust fans, help cool and bring in fresh air to the greenhouse.

They turn on automatically at 9am and shut off at 7pm.
We heat during cooler nights especially if the fruit is at peak growth.
I have misters set up on timers to add humidity to the greenhouse, I believe fruit are like sponges if you grow in a low humidity climate the fruit holds less water and will be more likely to go under chart, my target humidity is 70% but it goes up to 95% quite often and rarely goes under 70%
Artificial lighting
LED grow lights would turn on automatically at 5pm and shut off at 10pm, I targeted 200 umol's at the leaf's canopy.

On overcast days the lights would be turned on by hand at 5am and shut off at 10pm.
200 \times 60 = 12000
12000 \times 60 = 720000
720000 \times 5 = 3600000
3600000 \div 1000000 = 3.6 \text{ Mol'}s

In 5 hours I would get the equivalent of 1 hour full natural sunlight
I have 30 inverted wobblers set up to do the majority of my watering, inverted overhead wobblers from senninger provide an even coverage of water mimicking natural rain fall.
20 osculating tower fans ran 16 hours a day to get good air flow under the canopy and 8 high velocity fans for the tops of the canopy's, it's important to have good air flow around the canopy to prevent the air from becoming stagnant, stagnant air inhibits photosynthesis.
Shade cloth is set up on the sides of the greenhouse to block the sun which tends to be strong on the downward slope, almost acting like a magnifying glass.
Question?

Comments?
Cost to build and run
Expect to spend $600-$1000 on lumber.

Dimensions of my greenhouse are 100ft x 60ft total cost of lumber was $1100
Exhaust fans cost $700
Osculating and velocity fans cost $800
Aluminum backing for the plastic plus wiggle wire was $950
Plastic bought from farmtek was $1450 for the 2 separate 110ft x 65ft sheets.
$350 to run electricity to the greenhouse. This includes the outlets.
I have the capability to run 100 amps of equipment inside the greenhouse, there's an outlet within 10 feet of me at anytime, my average electric bill is around 300 dollars a month.
A nice door plus insect screen will cost $400
My total build cost me $6250.
As the years go on you can add things to the greenhouse, irrigation, evaporation cooling, heating etc.
Keep track of what you spend, save receipts and be professional, have buyers lined up to buy your fruit and write your greenhouse off on your taxes as a profitable hobby or small business.