**Counting** **the Cost: The Economics of High Tunnel Production**

Before committing to a high tunnel, it is important to consider the financial resources it requires to build and maintain it. You should also consider how much money you can potentially earn from your high tunnel. This will help you decide if a high tunnel is a good for your operation. Begin by asking yourself:

* Why are you building a high tunnel? (i.e. season extension, product quality).
* Do you have a market for your products?
	+ What are the prices you can expect in this market?
	+ How much product can you sell in that market and when?
* How much will it cost to grow the products for those markets?

Just like growing in the field, high tunnels have both advantages and costs. You may be able to produce crops earlier and later in the season or with a higher quality compared to growing them in the field.

 In addition to the upfront cost of the high tunnel structure, note the ‘hidden’ cost of other expenses associated with high tunnel production. These may include:

* Replacing the plastic and other periodic structural maintenance
* Addressing salt build up in the soil due to lack of rainfall
* Additional labor and materials for managing the climate in a high tunnel
* Potential storm damage – materials and repairs
* Potential requirements for additional crop management and pest control methods compared to open field production
* Potential need for specialized tools and equipment to address unique high tunnel production challenges (e.g. smaller soil preparation or cultivation equipment that can be used inside the tunnel – some full-size tractors and/or implements may not fit)
* Additional post-harvest storage/handling and food safety considerations depending on crops grown and infrastructure already present

If possible, review prior years’ business records to determine if growing in a high tunnel will be a good fit for your business. If you do not have business records, there are many resources that can help you think through the costs and benefits of high tunnel production. Regardless of whether you are a beginning farmer or have an established farm business, recognizing and calculating potential revenue (money made) and costs ahead of time allows you to make an informed business decision.

The following resources and tools can help you with this process:

1. **Financial considerations before constructing a high tunnel**
	1. *High Tunnel Economics (Resource ###)*
		* This 4-page publication from the University of Kentucky Center for Crop Diversification gives an overview of different variables like crop yield, price, market type, construction cost estimates, production costs, and others that those considering high tunnels should consider.
		* <https://www.uky.edu/ccd/sites/www.uky.edu.ccd/files/HT_Econ.pdf>
	2. *High Tunnels: Using Low-Cost Technology to Increase Yields, Improve Quality and Extend the Season (Resource ###)*
		* This 77-page publication from Cornell University includes case studies of several farms with enterprise budgets for tomatoes, greens, sweet cherries and cockscomb grown in tunnels. It also discusses other high tunnel (and low tunnel) cost considerations throughout the publication.
		* <https://www.sare.org/resources/high-tunnels/>
	3. *High Tunnel Multiple Product Vegetable Farm Budget Example (Resource ###)*
		* This interactive spreadsheet from Iowa state extension provides estimated costs and returns for a multi-product High Tunnel production system. You should replace the values in the sheet with your own values for the most accurate results. The sheet points out some of the often “hidden” costs of high tunnel production including irrigation costs, water testing and production labor.
		* <https://www.extension.iastate.edu/agdm/crops/html/a1-23.html>
	4. *Horticulture BizQuiz (Resource ###)*
		* This interactive online tool from the University of Kentucky Center for Crop Diversification prompts you to think about how much land, labor, and capital you have to contribute to an operation. While it is not high-tunnel specific, it will help you think about how many resources you have to contribute to your potential operation.
		* <https://uky.az1.qualtrics.com/jfe/form/SV_0OgKXJHVHkPPdxH>
2. **Identify your market**
	1. *What to Think About Before You Plant (Resource ###)*
		* This 11-page publication from the University of Kentucky Center for Crop Diversification is not high tunnel specific, but provides exercises, tables, and suggestions for identifying what kind of market you want to pursue. The publication encourages the reader to start with the customer and work backward to building a production system.
		* <https://www.uky.edu/ccd/sites/www.uky.edu.ccd/files/Before_You_Plant.pdf>
3. **Useful tools**
	1. *High Tunnel Leafy Greens & Herbs (Resource ###)*
		* This 5-page publication from the University of Kentucky Center for Crop Diversification discusses both Marketing and Production of leafy greens and herbs in high tunnels. It discusses some of the economic considerations for growing in high tunnels like labor and structure costs and some specific things to consider when growing leafy greens and herbs like markets and yields.
		* <https://www.uky.edu/ccd/sites/www.uky.edu.ccd/files/hightunnelgreens.pdf>
	2. *Sample* ***Pepper*** *High Tunnel Budget using Plasticulture (Resource ###)*
		* This three-page publication from Penn State Extension provides a provides a table with suggested typical costs and returns for producing peppers on plasticulture in a high tunnel. You can also enter your own values in the document to accurately track your own costs if they are different from the suggestions.
		* <https://extension.psu.edu/downloadable/download/sample/sample_id/77008/>
	3. *Sample* ***Cucumber*** *High Tunnel Budget Growing in Pots (Resource ###)*
		* This three-page publication from Penn State Extension provides a provides a table with suggested typical costs and returns for producing cucumbers in pots in a high tunnel. You can also enter your own values in the document to accurately track your own costs if they are different from the suggestions.
		* <https://extension.psu.edu/downloadable/download/sample/sample_id/77002/>
	4. *Sample* ***Tomato*** *High Tunnel Budget using Plasticulture (Resource ###)*
		* This three-page publication from Penn State Extension provides a provides a table with suggested typical costs and returns for producing tomatoes on plasticulture in a high tunnel. You can also enter your own values in the document to accurately track your own costs if they are different from the suggestions.
		* <https://extension.psu.edu/downloadable/download/sample/sample_id/77014/>