



Tunnels to tables: High tunnel production and distribution model for produce

Abstract: High tunnel facilities offer a production alternative for specialty crop farmers, but also require a new set of management skills and tactics.

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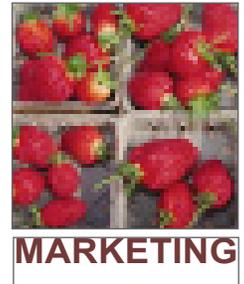
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Budget:

\$22,500 for year one
\$24,425 for year two

Q Can high tunnels increase yields, quality and early production for a high-value crop so that it is profitable in spite of the additional cost of the facility?

A Yes, with proper management and marketing, the earlier yields and high-quality produce can increase net income potential on a small farm.



MARKETING

Background

Iowans have shown a keen interest in the possibilities for high-tunnel crop production because it offers options for growing high-value crops and lengthening the growing seasons for selling these products. Questions existed about the yield potential, profitability and market distribution channels that would work for new or traditional farming operations. This project sought to test how the high tunnels would work for fruit and vegetable crops, and how the produce might be distributed and marketed.

Approach and methods

The high-tunnel production component of the project utilized high-tunnel facilities at the ISU Armstrong Research Demonstration Farm and the ISU Horticulture Research Farm. Production models and budgets were developed for specific high-value fruit and vegetable crops such as tomatoes, peppers, pole beans and Greek oregano. A complex consisting of several high tunnels was determined to be more efficient and economical to operate on a per unit basis than a single tunnel.

The business modeling component of the project looked at the challenges and opportunities present under three different scenarios designed to handle the accumulation, light processing and distribution of produce grown in the high tunnels. Producer workshops were held to discuss high tunnel production and distribute production and business feasibility findings and to discuss marketing strategies.

Results and discussion

Detailed production data, including financial projection budgets, have been developed for the crops in the study. Not all proved to be profitable and/or practical to grow under the high tunnels. The most successful strategy that emerged was to have a highly integrated cropping plan that involves growing multiple crops per year. The other major finding was that high-tunnel production requires intensive management and careful control of the environmental conditions inside the structures. In most cases, crop diseases were less prevalent, but insect pressures increased. Production scale and marketing strategies also affect ultimate profitability.



*Armstrong high tunnel,
south end.*

High-tunnel production may allow produce to reach the market earlier and extends the growing season for some crops, such as tomatoes, peppers, green beans, cucumbers, strawberries, raspberries, and blackberries.

Conclusions

There is tremendous potential to develop a variety of profitable business models using high-tunnel production. However, the production method and supporting business infrastructure require a high degree of attention to detail and diligent management.

Profitability also hinges on carefully scheduled production calendars and making maximum use of the facility by producing multiple crops.

Matching production scope to processing and marketing capacity is critical to success.

Impact of results

Awareness of the high-tunnel production process was increased by the four field days and workshops held at the ISU Armstrong Research Farm (fall 2005 and 2006) and the ISU Horticulture Research Farm (spring 2005 and summer 2007). Materials generated by the project are available on several web sites, cited below.

Based on the project findings, producers can increase their seasonal production of locally grown, high-quality produce to nine months and enhance their net income by adding high tunnels on their farms. Investigators are pursuing continued programming opportunities, resources and educational venues related to high-tunnel technology.

Models have been developed that will be useful for producers developing business plans, or seeking funding for a high-tunnel operation and/or the light processing and packing infrastructure that will allow them to expand their market reach.

Education and outreach

Four workshops attended by more than 100 people were held during the two-year project. Findings have been shared through the ISU horticulture program (<http://www.public.iastate.edu/~taber/Extension/Progress%20Rpts.htm>), Extension Value Added Agriculture (www.iavaap.org) and on the agricultural marketing web site (www.AgMRC.com).

Presentations on the project results were made at conferences for the Iowa Fruit and Vegetable Growers and the Great Plains Fruit and Vegetable Growers, as well as at a National Agricultural Plastics Congress.

Leveraged funds

Bernie Havlovic, Armstrong Research and Demonstration Farm superintendent, and Nick Howell, Horticulture Research Farm superintendent, and their staffs provided assistance, labor, and expertise to the project. High-tunnel facilities at Armstrong were made available through funding from the Wallace Foundation and support from



Raspberries in high tunnel

FarmTek. Practical Farmers of Iowa provided help with the field day and demonstrations at the Armstrong farm.

Additional research projects resulting from interest generated by the project included a private industry field trial and a floriculture project.

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