

Evaluating perennial crop options for inclusion in agroforestry systems

Abstract: The challenges and opportunities, including financial returns, were studied for six different perennial crops that can be used in agroforestry practices. Crops investigated were aronia berry, black walnut, chestnut, Christmas trees, elderberry and hazelnut.

Investigator:

Jeff Jensen
Trees Forever
Lone Rock, Iowa

This project showed that several of these identified crops can generate per acre returns greater than row crops over a projected 20-year time frame, although risk is generally higher. Barriers to wider adoption and marketing channels also were addressed in this study.



ECOLOGY

What was done and why?

Perennial crops such as trees and shrubs provide a wide range of environmental services and can be incorporated into various agroforestry systems. However, despite all the benefits they provide, they are not widely grown in Iowa. For this project, Trees Forever investigated six different perennial crops: aronia berry, black walnuts, chestnuts, Christmas trees, elderberries and hazelnuts. The premise of this study was that with the high price of commodity crops putting pressure on conservation acres and perennial cover, the financial benefits that these alternative crops can provide may persuade growers to convert a portion of their crop ground to production practices that have greater environmental benefit to the larger community. The study addressed the benefits and risks of growing these crops, as well as the potential financial value of production.

An enterprise worksheet for each crop was developed based on feedback from growers. Estimated yields, pricing data, establishment, maintenance and harvest costs were calculated. Information from the worksheet, along with data from other sources, was used to construct a simple 20-year financial model for each type of crop. The model takes into account the large up-front establishment costs, as well as the time it takes before the crop generates income.

What did we learn?

This project already has yielded positive impacts as potential growers have received the case study profiles at workshops coordinated by Trees Forever. Growers interested in diversifying their farms with an alternative to row crops frequently request financial information as well as basic production data. The PI hopes that seeing the results of this work will motivate landowners or farmers to do additional research on the opportunities available for their farms—perhaps they will seek out an existing grower to learn more—and eventually establish one of these crops.

Wider adoption of agroforestry practices and perennial crops will help improve water quality and ecological services by putting more roots in the ground. This work furthers that goal by helping inform landowners and farmers on the best strategies for adding trees or shrubs to their farm operations.