



Adding Value to Plant Production

An Overview

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Introduction

“Value-added agriculture” is a broad term encompassing many practices that increase the value of farm products. Value-added agriculture has come to describe practices as varied as agritourism activities that provide consumers value from visiting a farm to enjoy farm experiences to large-scale processing endeavors that create mass-market retail food products from commodity crops.

This fact sheet provides an overview of value-added agriculture and describes key terms and considerations for crop producers in Kentucky interested in adding value to their crops. A list of resources is included at the end of this profile.

Defining Value-Added

An attendee at one large value-added agriculture event noted that “value-added” might mean something slightly different to nearly every person in attendance. Cattle producers may think of their herd health program as adding value to the calves they sell. Dairy producers may consider bottling their milk as value-added food manufacturing. Peach growers may define value-added as offering customers the opportunity to pick-their-own fruit straight from the tree.

Understanding a general definition of value-added products can help more clearly describe opportunities for value-added crop production more specifically. The breadth of crop production — from grains and oilseeds to fruits and vegetables, from nursery and landscape crops to herbs



and wildcrafting — presents many varied opportunities for “value-added crop production.” Starting with the United States Department of Agriculture (USDA) definition, then noting how the concept of a “value-chain” operates within a farm’s business can help us arrive at a sound understanding of value-added crop production.

USDA Definition of Value-Added Products

According to the USDA, value-added agricultural products are characterized by one or more of the following criteria:

- A change in the physical state or form of the product
- The production of a product in a manner that enhances its value, as demonstrated through a business plan



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- The physical segregation of a commodity or product in a manner that results in the enhancement of the value of that commodity or product

The first definition, A CHANGE IN THE PHYSICAL STATE OR FORM OF THE PRODUCT, may be the most common understanding of value-added agriculture. Making salsa from fresh vegetables, grinding corn into cornmeal, processing grapes into wine, and drying and packaging fresh herbs into a meat rub are just a few examples of how crop producers can change the physical state of their product. The goal of this transformation is to receive a price that results in greater returns to the producer’s capital, land, and labor than returns from selling a fresh/raw or commodity crop.

The second aspect of this definition is the production of a product in a manner that enhances its value, as demonstrated through A BUSINESS PLAN.

Production methods may be used to add value to crops in various ways (organic, certified naturally grown, etc.). Specialty grains and oilseeds grown using specified production practices, varieties, or products preferred by a contractor or consumer illustrate how a production method could add value. “Green” or “sustainable” production practices that minimize pesticide use and/or focus on marketing native or non-hybrid (“heirloom”) plants is another example of how crop producers might leverage distinct production methods to add value to plant production. Organic production is often cited as an example of this aspect of value-added production. By raising crops according to an organic production system, growers may be able to enhance the value of their crops.

Finally, value-added crops may be those that have been PHYSICALLY SEGREGATED in a manner that results in enhanced value. Identity-preserved grains and oilseeds are good examples of this aspect of value-added production. Produce that has been graded according to

quality and condition, and produce that has been field- or farm-packed following certified organic standards are additional examples. In these cases, the producer creates value for crops with the way crops are handled.

Examples of business plans demonstrating added value include niche marketing, direct marketing, offering customers on-farm experiences, developing relationships with customers, community supported agriculture (CSA), etc. Production and marketing can be connected to concepts of value to consumers, including authenticity, reducing food waste, environmental protection, and supporting local farms and businesses.



Understanding the Value Chain

A value chain is a way of thinking about how a crop begins a value transformation after it leaves its place of production. There are four major ways that value is added to crops along the value chain:

- Product transformation
- Distribution
- Storage
- Added service

“Value-chain” is another way of thinking about the concept of value-added crop production. Consider examples of each of the four ways that value can be added to crops according to this definition.

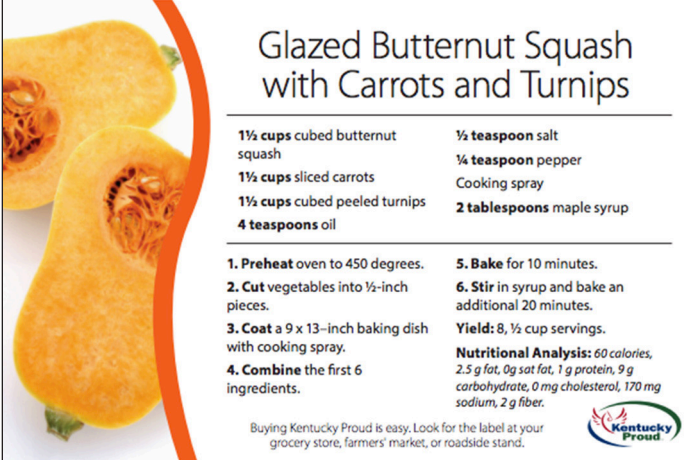
PRODUCT TRANSFORMATION describes the process of taking a crop from its raw or commodity state and transforming it into a different form. This could be as simple as tying together three ears of ornamental corn for sale at a farmers market or on-farm retail market. It may also be as complex as harvesting a specific variety of wheat that is ground into flour, used to make fresh pasta, and packaged for delivery to retail stores. Packaging and/or combining a crop with other ingredients to produce a final product are common stops along this part of the value chain.

DISTRIBUTION within the value chain involves any transportation of crops to a more convenient buying location, or to a location that offers the buyer an opportunity to build a relationship with a producer, or that offers an on-farm experience. The sale of nursery plants via the internet is one example of adding value to crop production via distribution. Transporting identity-preserved or organic grain using specific standards to a certain delivery point is another example of how distribution can add value to a crop. Producer delivery of fresh herbs to a local restaurant is yet another example. Farmers markets, on-farm markets, CSAs, and pick-your-own are examples of adding value by building relationships and offering experiences. Adding value by specialized delivery methods may be one way for producers to offset, and even surpass, the cost of transporting crops to market.



STORAGE has long been utilized by grain and oilseed growers to warehouse crops in anticipation of future price increases or while awaiting contract delivery dates. Storage is also a common “next step” for producers of fruit and vegetable crops wanting to add value to crop production. A potato or sweet potato grower with access to storage facilities of the proper temperature and humidity could capture markets later than harvest date, including potentially lucrative holiday markets. A berry or tree fruit grower could utilize available labor to harvest fruit, and then use cold storage to keep the fruit fresh until marketing. Storage can be an essential means for adding value to many different kinds of crops. Freezing could be an option as well, either to sell as a frozen product or to use later to manufacture a product.

ADDED SERVICE refers to providing information or



Glazed Butternut Squash with Carrots and Turnips


<p>1½ cups cubed butternut squash</p> <p>1½ cups sliced carrots</p> <p>1½ cups cubed peeled turnips</p> <p>4 teaspoons oil</p>	<p>½ teaspoon salt</p> <p>¼ teaspoon pepper</p> <p>Cooking spray</p> <p>2 tablespoons maple syrup</p>
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- 1. Preheat** oven to 450 degrees.
- 2. Cut** vegetables into ½-inch pieces.
- 3. Coat** a 9 x 13–inch baking dish with cooking spray.
- 4. Combine** the first 6 ingredients.
- 5. Bake** for 10 minutes.
- 6. Stir** in syrup and bake an additional 20 minutes.

Yield: 8, ½ cup servings.

Nutritional Analysis: 60 calories, 2.5 g fat, 0g sat fat, 1 g protein, 9 g carbohydrate, 0 mg cholesterol, 170 mg sodium, 2 g fiber.

Buying Kentucky Proud is easy. Look for the label at your grocery store, farmers' market, or roadside stand.



services that increase a crop product’s value. Farmers market vendors or CSA producers might provide customers with recipes utilizing new and unfamiliar vegetables. Nutritional information about crops might be provided for direct market consumers. Many farm producers find that providing a service — especially information — about their products can be an important means of adding value to crops. This includes teaching classes such as cooking, canning, baking, floral design, etc.

¹USDA Value-added Ag Definition (AgMRC)
<https://www.agmrc.org/business-development/valueadded-agriculture/articles/usda-value-added-ag-definition>

Selected Resources

The following websites and publications have been selected to help producers explore value-added crop production opportunities.

Websites

- Food Systems Innovation Center (University of Kentucky) <http://www.uky.edu/fsic/>
Provides technical and business development services to facilitate the profitable production, processing, and marketing of locally produced and processed food by Kentucky-based enterprises and entrepreneurs.
- Agricultural Marketing Resource Center <http://www.agmrc.org>
 A national electronic resource for producers interested in value-added agriculture. Includes information on commodities, products and industry trends. Also includes business development information, case studies and links to hundreds of other helpful publications.
- ATTRA/National Sustainable Agriculture Information Service <http://www.attra.org>
 A comprehensive website on sustainable agriculture

production practices and marketing.

- Center for Profitable Agriculture (Tennessee)

<https://cpa.tennessee.edu/>

A source of numerous publications for value-added marketers.

Online publications

- Selected Resources for Developing Value-added Products in Kentucky (University of Kentucky, 2020) <https://www.uky.edu/ccd/content/selected-resources-developing-value-added-products-ky>
- Adding Value to Farm Products: An Overview (ATTRA, 2006) <https://attra.ncat.org/product/adding-value-to-farm-products-an-overview/>
- Grain Processing: Adding Value To Farm Products (ATTRA, 2002) 1.1 MB file <https://attra.ncat.org/product/grain-processing-adding-value-to-farm-products/>
- Keys to Success in Value-Added Agriculture (ATTRA, 2001) <https://attra.ncat.org/product/keys-to-success-in-value-added-agriculture/>

- Marketing for the Value-Added Agricultural Enterprise (University of Tennessee, 2007)

<https://extension.tennessee.edu/publications/Documents/PB1699.pdf>

- Value-Added (ATTRA resource web page)

<https://attra.ncat.org/value/>

- What is Value-Added Agriculture? (Agricultural Marketing Resource Center, 2022)

<https://www.agmrc.org/business-development/value-added-agriculture/what-is-value-added-agriculture>

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*Photos courtesy of [Pixabay.com](https://www.pixabay.com) (Page 1), [Pexels.com](https://www.pexels.com) (Page 2); Steve Patton, UK Agricultural Communications Services (CSA distribution, Page 3), and UK Family and Consumer Sciences Extension website, *Plate it Up Kentucky Proud Recipes* (recipe card, Page 3).*

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