

VALUE-ADDED Food Production

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K-STATE
Research and Extension

- Value added agriculture overview
- Regulations for selling value-added
- Labeling requirements
- Kansas Value Added Foods Lab services

- Increase value of raw commodities by adding ingredients or processing
- Make them more attractive to buyer/ more readily usable by the consumer
 - Expands customer base
- Creates new jobs, more \$\$ stays in community
- Profit margin of a value-added product is generally higher than a raw commodity
- Greater total product value goes to producer

- A change in physical state or form of the product (such as making peaches into jam).
- Production of a product in a manner that enhances its value (i.e. organic products).
- Physical segregation of commodity to enhance its value (i.e. identity preserved marketing)

****Providing value to consumer**



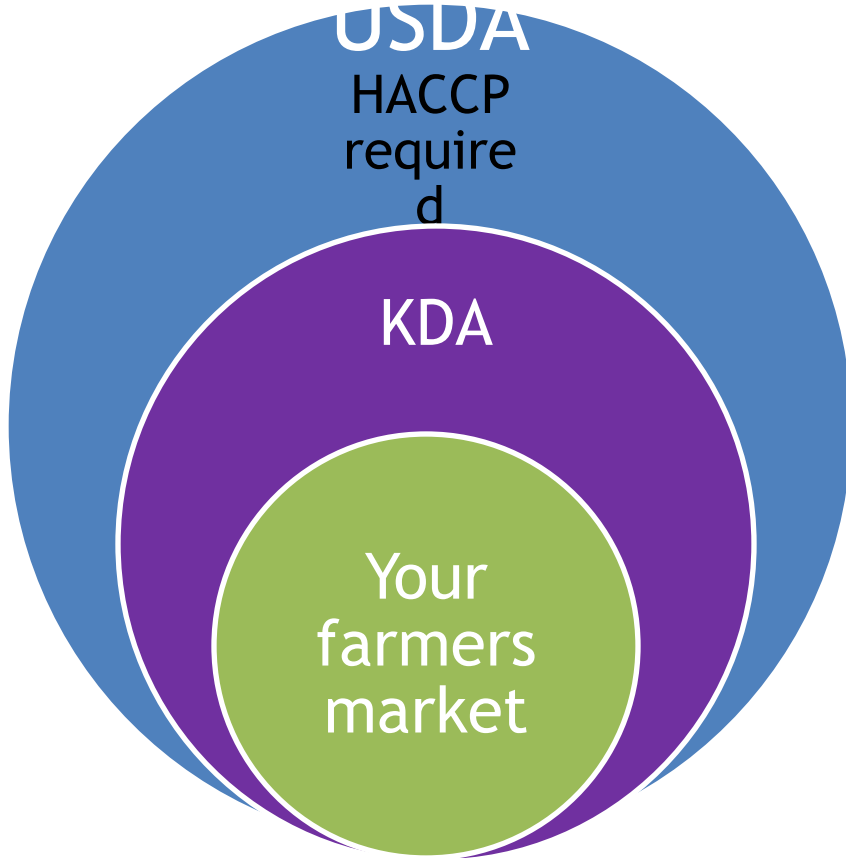
Why do value-added foods?

- Studies show that growth in produce is in value-added
- Growing consumer emphasis on eating healthier foods and convenience
- Provide local food in a form that people may be more accustomed to



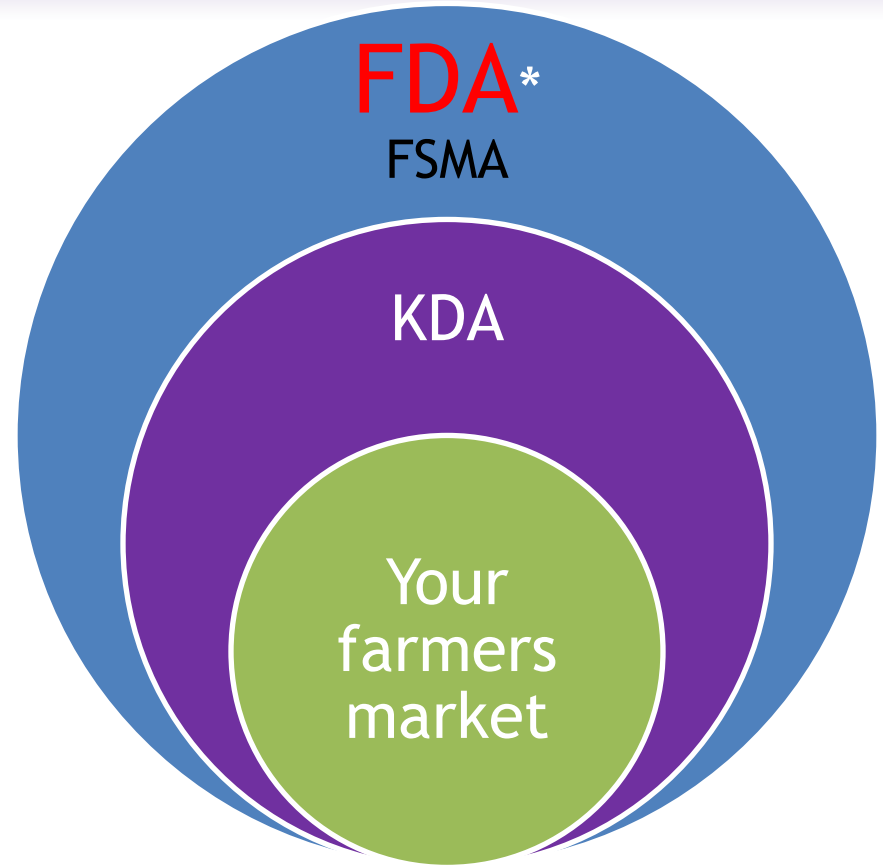
- Value-added may be a longer-term solution
- More capital may be required
- New skills may be required
- Value-added products may require a license
- Need a good product, AND hard work, patience, planning, etc.

Selling meat and poultry?



Note- includes products where *raw* meat or poultry comprises >3% total product weight or 2% meat by *cooked* weight.

Selling any other food?



*HACCP currently required for juice, seafood

Product	License required
Fruit jams and jellies	None
LOW SUGAR fruit jams and jellies	<i>testing required</i>
Pepper jams and jellies, salsa	<i>testing required</i>
Formulated acid foods- mainly acidic ingredients	<i>Testing required- no license</i>
Naturally fermented foods (sauerkraut)	KDA license
Canned applesauce, fruits	none
<i>Shelf stable</i> canned pickles, meats, vegetables	KDA license- scheduled process
<i>Refrigerated</i> canned salsa, sauces, etc.	KDA license
Other value-added foods	See FM publication

- No such thing as a “certified kitchen”
- Every processor/producer must have own license
 - Inspector will look at YOUR process in a facility
 - Can use a facility that has already been licensed
 - Need to meet KDA facility requirements
- Can check with local restaurants, schools, fairgrounds, etc.

Food labeling requirements

1. Identity of product
 2. Quantity
 3. Declaration of responsibility
 4. IF 2 or more ingredients, ingredient list (by weight; include sub-ingredients)
- Applies to all products
 - Additional information required for meat products



- In ingredients statement, allergens must be listed either adjacent to (Example A) or in (Example B)

*Undeclared allergens could lead to a recall

Nutrition Facts

Ingredients: Enriched flour (flour, malted barley, niacin, reduced iron, thiamin mononitrate, riboflavin, folic acid), sugar, partially hydrogenated cottonseed oil, high fructose corn syrup, whey, eggs, vanilla, natural and artificial flavoring, salt, leavening (sodium acid pyrophosphate, monocalcium phosphate), lecithin, mono- and diglycerides.

▶ **Contains:** Wheat, Milk, Egg, and Soy.

Any Cookie Company
College Park, MD 20740

Nutrition Facts

Ingredients: Enriched flour (wheat flour, malted barley, niacin, reduced iron, thiamin mononitrate, riboflavin, folic acid), sugar, partially hydrogenated cottonseed oil, high fructose corn syrup, whey (milk), eggs, vanilla, natural and artificial flavoring, salt, leavening (sodium acid pyrophosphate, monocalcium phosphate), lecithin (soy), mono- and diglycerides.

Any Cookie Company
College Park, MD 20740

Nutrition Facts- required if:

- Selling > \$50,000 food/year OR >\$500,000 direct to consumer
- Making nutritional or health claim on label
- Fortified food
- Baby food
- Buyer requirement
- Consumer preference



General Mills
with **Whole Grain Guaranteed**
Nutrition Highlight
honey clusters
FIBER ONE
Lightly Sweetened Whole Grain Flakes with Honey Clusters
51% Daily Value of FIBER
13 Grams of Fiber
bestlife
NET WT 14.25 OZ (403g)

Nutrition Facts			
Serving Size 1 cup (52g)			
Servings Per Container about 8			
Amount Per Serving	Fiber One Honey Clusters	with 1/2 cup skim milk	
Calories	160	200	
Calories from Fat	15	15	
% Daily Value**			
Total Fat 1.5g*	2%	2%	
Saturated Fat 0g	0%	0%	
Trans Fat 0g			
Polyunsaturated Fat 0.5g			
Monounsaturated Fat 0g			
Cholesterol 0mg	0%	1%	
Sodium 280mg	12%	15%	
Potassium 320mg	9%	15%	
Total Carbohydrate 42g	14%	16%	
Dietary Fiber 13g	51%	51%	
Soluble Fiber 3g			
Sugars 6g			
Other Carbohydrate 23g			
Protein 5g			
Vitamin A	0%	4%	

Nutrition Facts requirements

- Must be accurate
- Check serving size
- If making health claim(s)
 - Must be an allowed claim
 - Must be accurate
 - Must have nutrition facts

General Mills **Whole Grain Guaranteed** **Nutrition Highlight**

honey clusters

FIBER ONE *Lightly Sweetened Whole Grain Flakes with Honey Clusters*

51% Daily Value of **FIBER**
13 Grams of Fiber

bestlife

NET WT 14.25 OZ (403g)

Amount Per Serving	Fiber One Honey Clusters	with 1/2 cup skim milk
Calories	160	200
Calories from Fat	15	15
% Daily Value**		
Total Fat 1.5g*	2%	2%
Saturated Fat 0g	0%	0%
Trans Fat 0g		
Polyunsaturated Fat 0.5g		
Monounsaturated Fat 0g		
Cholesterol 0mg	0%	1%
Sodium 280mg	12%	15%
Potassium 320mg	9%	15%
Total Carbohydrate 42g	14%	16%
Dietary Fiber 13g	51%	51%
Soluble Fiber 3g		
Sugars 6g		
Other Carbohydrate 23g		
Protein 5g		
Vitamin A	0%	4%

- “Bar code”
- Not regulatory, buyer may require
- Provides info on product ID, size, price, etc.



- About 75-100 requests monthly
- e-mail, telephone, letters, extension agents
- Funded by grants from KDA



- 2 components of the program
- Educational:
 - Seminars, workshops, training
- Service
 - Analyses, labels, ingredients, technical support



educational workshops

- Provide technical assistance to food companies
 - Analytical Services
 - Physical and chemical
 - pH (4.6), water activity (0.85), sodium, brix
 - Microbiological
 - Coliforms (contamination), yeast & mold (spoilage), total aerobic count (contamination/spoilage)
 - Sensory
 - Certifications
 - Gluten Free



- Formulations
 - Macro-ingredients
 - Flour (% protein, etc), sugar, main components
 - Micro-ingredients
 - Flavor, color, additives
 - Dough conditioners, anti-staling
 - Consumer friendly
 - Clean-label



- Raw material handling (throughout process)
 - Storage temperatures, allergen/cross-contamination control, cool/dry/clean
- Equipment
 - Clean, efficient, affordable (pay for what you need)
- Regulations
 - GRAS ingredients
 - Labeling (allergens)
 - Food safety
- Process certification
 - Time/temp, water activity, preservatives



- **Equipment**
 - Clean/efficient
 - Avoid cross-contamination/cross-contact
- **Systems**
 - Automatic, semi-automatic, extent of automation
- **Material**
 - Glass, metal, pouches
 - Need to consider how to avoid physical contamination
- **Suppliers**
 - Affordable for small-scale



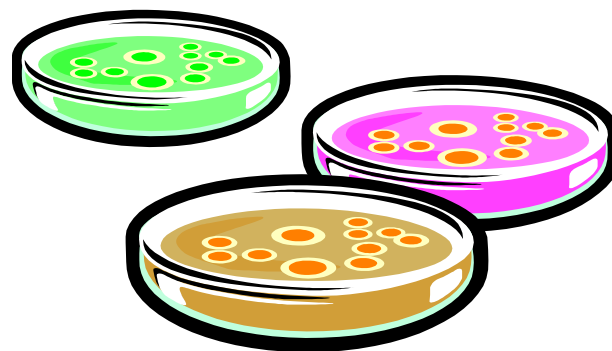
- HACCP
- GMPs
- Organic certification
- Quality assurance/control programs
- Recall programs
- Audits
- Specifications



- Accelerated (ASLT)
- Modes of Failure
 - Oxidation, staling, off-flavors, browning, microbial spoilage
- Certification- best by, use by



- Trouble shooting
 - ID the problem
- Microbial profiling
 - Coliforms vs. aerobic vs. yeast and mold - safety
- Air sampling
 - Bacteria in the air = cross-contamination
- Process review
 - Safe time/temp for product



- A lot of research in the value-added area across colleges and departments
- Food: Dairy drinks, meats, sorghum based products, baked goods, extruded products...
- Non-Food: Feed, fiber, bio-fuels, adhesives
- Other: food safety



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