Abstract

Value-added processing is a strategy used by some grain growers to keep their farming operations viable. This publication introduces ideas that have worked for some farmers, provides sources for equipment, and lists sources of further information.

Table of Contents

- Introduction
- First, Learn about Regulations
- Whole-grain Flour
- Additional Products
- Animal Feed
- Cooperatives
- Educational and Training Resources
- Summary
- Further Resources
- References
- Appendix

Introduction

Farmers who grow oats, wheat, rye, barley, corn, and other grains are looking for ways to command better prices. But while many farmers dream of getting a share of the value that is added to their crop after it leaves the farm, only a few actually
succeed. Those who do increase their profits through on-farm processing generally don't get there quickly or easily. (Kessler, 1989) Adding value requires doing more work, investing in additional supplies and equipment, possibly hiring more help, and definitely dealing with additional rules and regulations.

Related ATTRA Publications

- Evaluating a Rural Enterprise
- Adding Value to Farm Products: An Overview
- Direct Marketing
- Keys to Success in Value-Added Agriculture
- Organic Marketing Resources
- "Green" Markets for Farm Products
- Marketing Organic Grains
- Moving Beyond Conventional Cash Cropping
- Organic Livestock Feed Suppliers
- Alternative Agronomic Crops
- Eco-Labeled Foods: Profit or Problems?

The following examples of grain farmers who have gone into a variety of processing enterprises are just that: examples. They are presented not to suggest a specific blueprint but to give ideas about what can be done.

First, Learn about Regulations

Hilgendorf's Whole Grain Milling Company, just outside Welcome, Minnesota, is an example of a successful on-farm milling operation. Lyn and Doug Hilgendorf have been farming organically for about 15 years. Their crops include corn, soybeans, oats, wheat, rye, and buckwheat. About ten years ago, Doug and his brother Ralph began to discuss processing and marketing their own grains. "The price of grain was below the cost of production," says Ralph. Grains are now milled, mixed, and bagged on the farm and sold to individuals, retail outlets, and bakers. Ralph notes that since the products are for human consumption, it is important to keep everything clean—free of dust, cobwebs, and rodents. In regard to information sources, Ralph said that some could be found in the public library and others through the local Extension Service. However, he strongly advises anyone considering processing to talk with state Department of Agriculture officials first to learn about regulations. (Hilgendorf, 1999)

Whole-grain Flour

Larry Nordhus, a Kansas wheat, corn, and soybean grower, has been grinding whole-wheat flour for 10 or 15 years. He grinds the whole berry, including bran and germ. He says he started out doing a little bit for relatives for their home baking. "I started with a hand-crank mill," he says, with a chuckle. "I motorized it right away. Then I answered an ad for a mill that would 'make cake flour with your own grain.' I got one of them and it speeded up the process." Then someone referred him to a bakery that used whole-wheat flour.

He is now using a mill that runs off a tractor, bought used and rebuilt to serve the purpose. The flour is packaged in 50-pound food-grade paper bags, which he says can be found in any large city. In regard to wheat varieties, Larry says he is using an old standby variety. He advises would-be flour makers to experiment to find the right variety for their own markets. "Grind a gallon of each [of several varieties] and go to the baker [with the flour] to find what works well for them. Stay with that variety so that the flour will be consistent for the baker from batch to batch." (Nordhus, 1999)

Another Kansas couple who started home-scale grain grinding that grew into a business are Gerry and Larry Yost. In an interview a number of years ago for The Furrow (Kessler, 1989), Gerry told about the many details that needed attention:
interview a number of years ago for The Furrow (Kessler, 1989), Gerry told about the many details that needed attention: “I didn’t have any trouble coming up with a name and a logo, but after that, I really didn’t know where to begin. Fortunately, I’ve been able to find a number of people with answers who have been willing to help me. But even with that, there are so many decisions to make and details to work out that it’s almost overwhelming.” The task list included:

- Remodeling a room, making changes to comply with health department regulations.
- Modifying two kitchen food mills to handle a larger volume of grain.
- Locating weighing and packaging equipment.
- Finding someone to design a logo.
- Getting labels printed.
- Lining up a packaging supplier.

Gerry advises starting out with a top-quality product, preferably one that has some feature that sets it apart from the competition. The Granary, as she calls her enterprise, sells only wheat, farm-grown without insecticides. All of the grain is thoroughly cleaned at a nearby elevator, then tested at a private laboratory to make sure its protein content and baking quality meet Gerry’s standards.

Her primary product is whole-wheat flour packaged in 2- and 5-pound plastic bags. Whole-kernel wheat, a cracked-wheat cereal, and a combination pancake-and-waffle mix Yost developed herself complete her product line. Each item is also packaged in smaller plastic bags and decorated glass jars for sale as gifts. Recipes and tips for storing whole-wheat products are included with each item. They are sold in stores and gift shops in north-central Kansas.

David Vetter returned to his family’s 280-acre farm in 1975 intending to grow grains organically. (Vetter, 1999; Cramer, 1993) Dave soon realized that to really succeed as an organic grain farmer, learning to grow organically was only half the battle. He’d also have to help develop the processing and marketing infrastructure to deliver those grains to consumers. In 1980, Dave and his father, Don, invested $170,000 to build a small grain-cleaning plant. The operation has grown into Grain Place Foods, Inc., employing 13 people full time to grow, clean, process, package, and market grains and beans for its own line of products as well as for other food companies.

The facility includes grain storage with forced-air drying capability; a state-of-the-art gas-fired infrared processing toaster (to stabilize the oils in the grains); bagging, packaging, and labeling equipment; and a refrigerated warehouse. Grain Place Foods products include:

- Ready-for-retail and bulk flaked cereals and mixes, including rolled oats, wheat, barley, rye, rice, triticale, spelt, kamut, and soybeans
- Microwave and regular popcorn
- Organic livestock-feed ingredients, including full-fat soymeal, cracked corn, and crimped oats and barley
- Organic birdfeeds

Although the business was initially conceived as a way to add value to grains grown on their own farm, Dave says they now grow only 3 to 5% of the grains processed. Additional grain is purchased from organic farmers from as far away as Canada and Nicaragua.

In regard to the difference between the price that farmers receive for their grain and the retail price of the final product, Dave says, “Sometimes they think they are being gouged. But that’s because few of them are aware of the costs and work that go into cleaning, processing, packaging, and marketing.” He cites some examples:
that go into cleaning, processing, packaging, and marketing. He cites some examples:

- The labeling machine that prints lot numbers and expiration dates on packages costs about the same as a used, mid-sized tractor in good condition.
- Nutrient analyses to comply with FDA nutritional labeling requirements cost from $500 to $6,000 per product. The costs of organic certification, licensing, permitting, and plant and scale inspections all add up. To satisfy buyers’ requirements, the farm and processing plant have been certified by as many as five different groups.
- Economies of scale determine the cost of distribution. “It costs 15 to 30 cents a pound to ship a pallet. But I can send a semi-load for less than six cents a pound.”

Dave emphasizes that high quality is important. "Post-harvest handling and storage present a big opportunity for farmers to improve quality, and they'll be rewarded in the marketplace,” he says. "Most of the premium is for the extra care and service you provide that high-quality product."

Dave strongly encourages anyone considering starting a value-added business to take the University of Nebraska’s "From Product-to-Profit" course offered through the Food Processing Center Business Development Office. He says it is the best entrepreneur-training program in the U.S. Of those who complete the course and then start their own business, 80% are successful, compared to a national average of only 8%. He also notes that of those who take the introductory course, 80% decide not to go into a value-added business.

Back to top

Animal Feed

Animal feed production is another niche for grain growers. The Vermont Organic Grain Company was founded as a result of Gerry Coleman’s search for organic feed grain. (Kittredge, 1995) To put the story in a nutshell: Gerry and others were looking for a bulk storage facility and found an abandoned grain mill instead. "We weren't looking for a facility like this. But we turned this up and said, 'Bingo!' There’s a need for organic feed. More people than us would want it. Maybe this is what we should do. It has taken much longer than we ever anticipated. I learned a lot more about business than I ever wanted to know; we’re not business people. We’re farmers who are trying to get this thing started because we think there’s a need for it."

The mill has its own siding platform where a railroad car or truck can dump feed into a chute. There an auger picks it up and carries it to a bucket elevator that can take the grain anywhere inside. Counting the outside bins, the mill can store about 20 traincar loads in a number of different storage hoppers. This gives the facility a lot of flexibility in creating custom mixes. The mill has a full range of internal equipment: grinders, mixers, baggers, and equipment to steam, cool, and pelletize feed. It has chutes above the truck loading area and a scale to weigh vehicles. A platform next to the bagging station also facilitates truck loading.

Freshness is a primary concern—once a grain is ground, it starts to oxidize. Another difficulty is state regulations. "You have to register feed in each state where you sell it," Gerry explains. "You have to tell the department of agriculture there exactly what's in it: protein, fat, fiber, etc. So there has to be enough volume for a mix in a state to pay the registration fee there."

A similar operation is that of Mel Gelsinger in Robesonia, Pennsylvania. (Cicero, 1995) When Mel switched from conventional to organic production, he had trouble finding outlets for much of his organic corn, soybeans, and small grains. Then he met some farmers who wanted to raise their livestock organically but couldn't find organic feed. For six years, he sold whole corn and soybeans, and the farmers did their own milling. Then he was convinced to put up a mill. His fully computerized mill and storage bins cost $320,000. The mill became operational in 1982, with his own crops accounting for only three percent of his milling volume. It supplies feed for broiler operations, dairy and beef cows, horses, and exotic livestock.
More than 1,000 North Dakota, Minnesota, and Montana wheat farmers joined forces to form a cooperative to turn their top-quality hard amber durum wheat into pasta. The Dakota Growers Pasta Company in Carrington, North Dakota, produces and markets spaghetti, linguine, fettuccine, macaroni elbows, and egg noodles. The company shipped its first product in December 1993; it is now the third-largest pasta company in the U.S. The farmer-owners' initial investment of $12-million dollars (based on bushels delivered, minimum 1,500 bushels) was used to raise the $42-million capital investment that built the mill and pasta plant. A nine-member board of directors, all active farmers, oversees all aspects of the business. In May 2002, the members of the cooperative voted to change to a common stock corporation. For additional information see the Dakota Growers Pasta Company Web site.

Liz Reinhiller, who works with the Dakota Growers Pasta Company, says that the cooperative concept is a good one. If farmers who have a crop that is special to their area can get together and can find a market, they can put together a business plan and build a solid business team. She notes that some ventures have failed because they didn't have a good marketing or business plan, and may not have had a good management team with the best interests of the growers in mind. (Reinhiller, 1999)

The Mountain View Harvest wheat growers' cooperative in Colorado has gotten into the wholesale bakery trade with "par-baked" (partially baked) breads. (Campbell, 1997) This is a growing segment of the baking industry, in which breads and rolls are baked to within ten percent of completion, then flash-frozen and shipped to restaurants. Critical to the birth of Mountain View Harvest was a grant from USDA Rural Business and Cooperative Development Service for a business feasibility study. Members had some ideas for products, but they knew they needed a thorough marketing study to find out what was truly promising. Grower-members raised $5-million of the $6-million needed to purchase a bakery and grain elevator, thus minimizing the amount of borrowed money needed.

For producers exploring the possibility of forming a marketing cooperative, the best source of information is USDA’s Rural Business and Cooperative Development Service (RBCDS). The RBCDS helps farmers and rural residents form cooperative businesses and improve the operations of existing cooperatives. They provide technical assistance, conduct cooperative-related research, and provide informational products to promote public understanding of cooperatives. For additional information contact:

USDA/RBCDS Cooperative Services
AG Box 3255
Washington, DC 20250-3255
202-720-7558
coopinfo@rurdev.usda.gov

USDA/RBS Publications Available from ATTRA
(call 1-800-346-9140 to receive a copy)

- Cooperative Services: What We Do, How We Work
- How to Start a Cooperative
- Small Fresh Fruit & Vegetable Cooperative Operations
- Understanding Cooperatives: Ag Marketing Cooperatives
- Cooperative Feasibility Study Guide
- Cooperative Farm Bargaining & Price Negotiations
- Cooperative Marketing Agencies-in-Common

Back to top
A 2001 award from the USDA created the Agricultural Marketing Resource Center (AgMRC). The AgMRC brings together experts from four of the nation’s leading agricultural universities—Iowa State University, Kansas State University, the University of California, and Oklahoma State University—into an electronically based center to collect and interpret information about value-added agriculture. The AgMRC will create an electronic hub that connects producers and businesses to knowledge, research, organizations, business resources, and ongoing activities in the agricultural sector. The Center has an online directory listing value-added state resources. (See Further Resources: Web sites)

Many state land-grant university departments of food science and state departments of agriculture are good places to begin gathering information. Some states have specific agricultural development centers to assist their producers in developing new agricultural products and markets for adding value to their farm products. (see Further Resources: Some State Sources of Value-Added and Development Information)

The Nebraska Food Processing Center Business Development Office has an Entrepreneur Assistance Program that offers the “Recipe to Reality” seminar, “Product to Profit” individualized consultation, and additional assistance to help existing businesses expand into new markets. For information about these and other services, contact Arlis Burney at:

**Nebraska Food Processing Business Development Office**
University of Nebraska-Lincoln
60 Filley Hall
Lincoln, NE 68583-0928
402-472-8930
402-472-8831 FAX

The Northern Crops Institute is a collaborative effort among North Dakota, Minnesota, Montana, and South Dakota for promotion and market development of crops grown in the four-state region. The Institute provides educational courses, customized training, and technical assistance in many value-added, processing, and marketing areas for northern crops.

**Northern Crops Institute**
Bolley Drive
Fargo, ND 58105-5183
701-231-7736

The American Institute of Baking is a nonprofit center for education and research that offers correspondence courses, seminars, and customized training, as well as books and technical bulletins on all aspects of baking.

**American Institute of Baking**
1213 Bakers Way
P.O. Box 3999
Manhattan, KS 66505-3999
785-537-4750
800-633-5137 (toll-free)
785-537-1493 FAX

Kansas State University is the only university in the world offering a four-year degree program in milling and a separate program in baking. Dr. Dale Eustace, head of the Department of Milling, Kansas State University, offers this advice to farmers considering on-farm grain milling:

- Stay with whole-grain flour. A stone mill for small- to medium-scale whole grain flour production can be purchased for $15,000 to $20,000. A stone mill will work well for most people. You can adjust the stones to get the appropriate grind, experimenting to see what suits your market. A tabletop grinder can be used, but the capacity of these is low.
Experimenting to see what suits your market. A tabletop grinder can be used, but the capacity of these is low.

- To process wheat into white flour, a business would need to invest a million dollars or more for the mill alone. Additional capital would be needed for other components of the facility.

- Call your state capital to find out who handles regulations. In some states it is the department of agriculture. In other states it will be another agency.

Dr. Eustace is willing to talk with people who call, and he can provide help specific to your situation. He can be contacted at:

Dr. Dale Eustace  
Department of Milling  
Kansas State University  
Manhattan, KS 66506  
785-532-4063  
dde@wheat.ksu.edu

Summary

Resources for specific information on grain processing are fairly scarce and hard to find. Most of the farmers interviewed developed their products through their own trials and errors. Value can be added to grains in many different ways, resulting in the development of new products or the improvement of existing ones. Anyone interested in starting a food processing business has to spend a great deal of time looking for information on such topics as federal and state regulations, labeling, ingredients, packaging, financing, and marketing.

Further Resources

Web sites

Agricultural Marketing Resource Center
The Agriculture Marketing Resource Center collects and interprets information about value-added agriculture. The Center is creating an electronic hub that connects producers and businesses to knowledge, research, organizations, business guidance, and ongoing activities in the agricultural sector. The Center has an online directory listing value-added state resources.

Mary Holz-Clause  
101B EES Building/Haber Road  
Ames, IA 50011  
515-294-0648  
515-294-0884 FAX  
mclause@iastate.edu  
or  
Don Hofstrand  
2023 S. Federal Ave.  
Mason City, IA 50401  
641-423-0844  
641-423-2642 FAX  
dhof@iastate.edu

USDA Farmer Direct Marketing
USDA Farmer Direct Marketing Web site is an excellent source of publications, resources, and links to direct marketing.
materials. It also has a Farmers Market Directory and a Direct Marketing Resources by State listing.

**University of Georgia Extension** [PDF/527K]
Online publication Getting Started in the Food Specialty Business.

**Illinois Institute for Rural Affairs** [PDF/100K]
Online publication Starting a Value-Added Agribusiness: The Legal Perspective.

**Minnesota Department of Agriculture** [PDF/1.2M]
Fifty-six page online publication Starting a Food Business in Minnesota.

**North Dakota State University Extension**
Online publication Developing a New Co-Owned Agricultural Business: How Do We Start a Value-Added Firm?

**Wisconsin New Farm Options**
A Web-resource from University of Wisconsin Extension that provides information about new niche markets and business start-up issues, and about others like you who are pioneering new farm-food ventures.

**Books**

**Educational Concerns for Hunger Organization (ECHO) online bookstore**

17391 Durrance Road
North Fort Myers, FL 33917
239-543-3246
239-543-5317 FAX

**Traditional Foods: Processing for Profit.**
Deals in part one with basic concepts of hygiene, processing methods, and quality assurance. Part two covers all kinds of processed foods. Emphasis is placed on quality-control aspects of raw-material selection, processing, and packaging.

**Small-Scale Milling.**
Essential reading for anyone involved in the milling of cereals in developing countries; target reader is the extension agent promoting improved small-scale milling. It covers technical, economic, social, and nutritional/health aspects of milling.

**Starting a Small Food Processing Enterprise.**
Brings together important aspects of both the technological and business skills needed to start and operate a small food-processing business successfully. The emphasis is on thorough planning before the enterprise is established and then on careful control of production to minimize costs and maintain the desired product quality.

**Baking for Profit.**
Intended to help people establish a successful bakery business or improve an existing small bakery. Takes the reader, step by step, through the stages of market research to establish evidence of a need for a bakery business in a particular location, and methods for determining the likelihood of success.

**Volunteers in Technical Assistance (VITA)**

**PACT Publications**

1200 18th Street, NW
Washington, DC 20036
Small Scale Maize Milling.
VITA Publication. 143 p. $16.50.
Describes various milling techniques for production of whole meal, bolted meal, and super-sifted meal. Covers all processing stages.

Grain Mill for Home Use.
By Walter B. Booker. VITA Publication. 9 p. $5.25.
Easy-to-build wooden grinder for corn, wheat, and other grains.

Home Flour Mill.
By Walter B. Booker. VITA Publication. 14 p. $5.25.
This mill is made almost entirely of wood. Powered by a 1/4-hp electric motor, by wind power, or by hand.

Other Books
The following books are available from bookstores and online booksellers. If a book is listed as out-of-print, you may be able to obtain it through Interlibrary Loan; check with your local librarian. You may also be able to buy a copy through an online used-book search site, such as Bookfinder.

Small-Scale Grain Raising.
Covers production aspects of a large number of grains, including corn, wheat, sorghum, oats, and soybeans. Also provides information on harvesting, storage, grinding, and cooking. Three basic kinds of grinders are described: 1) burr mills with either stone or steel burrs; 2) the roller mill; and 3) the hammer mill. Of the three, Logsdon favors the burr or gristmill for grinding flour. He says that none of the whole grain is lost in a burr mill, and generally speaking, it grinds finer, although you may have to run your meal through it twice to get the finest flour.

Adding Value for Sustainability: A Guidebook for Cooperative Extension Agents and Other Agricultural Professionals.
Discusses the concept of value-added processing and how it contributes to sustainable agriculture, introduces four enterprise owners who share their experiences in small-scale processing, and presents a description of issues involved in the start-up of a business.

The Bread Builders: Hearth Loaves and Masonry Ovens.
Provides information about making old-fashioned naturally fermented hearth or artisan loaves of bread, and how to plan, build, and operate masonry ovens.

Some State Sources of Value-Added and Development Information

California Small Farm Center
University of California
One Shields Avenue
Davis, CA 95616-8699
530-752-8136
530-752-7716 FAX

Iowa Center for Crops Utilization Research
Dr. Lawrence Johnson
Dr. Lawrence Johnson
1041 Food Science Building
Iowa State University
Ames, IA 50011
515-294-0160
515-294-6261 FAX

Illinois Value-Added Rural Development Center
Illinois Institute for Rural Affairs
Stipes Hall 504
1 University Circle
Macomb, IL 61455
309-298-2674 or
800-526-9943

Kansas Technology Enterprise Center
214 SW 6th, First Floor
Topeka, KS 66047
785-296-5272
785-296-1160 FAX

Minnesota Agricultural Utilization Research Institute
Michael Sparby
P.O. Box 599
Crookston, MN 56716-0599
800-279-5010 (toll-free)

Missouri Value Added Development Center
143 Mumford Hall
Department of Ag Economics
University of Missouri
Columbia, MO 65211-6200
877-824-8233
573-884-6572 FAX

Nebraska Cooperative Development Center
Jo Lowe
The Atrium Bldg.
1200 "N" St., Suite 610
Lincoln, NE 68508-2022
402-471-2698
402-471-8690 FAX
877-814-4707 (toll-free) or
877-496-5235 (toll-free) for NE only

North Dakota Marketplace of Ideas Headquarters
Marilyn K. Kipp, Executive Director
411 Main Street West
Mandan, ND 58554-3164
888-384-8410 or
References


Hilgendorf, Ralph. 1999. Personal communication. Welcome, MN.


Reinhiller, Liz. Dakota Growers Pasta Company, One Pasta Ave., P.O. Box 21, Carrington, ND 58421-0021, 701-652-2855.

Vetter, David. 1999. Personal communication. Marquette, NE.

Appendix

Resources for Finding Cleaning and Processing Equipment

Processfood.com
200 Daingerfield Road
Alexandria, VA 22314
703-684-1080
703-548-6563 FAX

An online search of bakery equipment, suppliers, and services provided by the Food Processing Machinery and Supplies Association (FPM&SA), a non-profit trade association founded in 1885 to provide a business link between food & beverage processors and suppliers.

GrainNet
3065 N. Pershing Court
Decatur, IL 62526
800-728-7511
An online Milling Equipment Buyer’s Guide that allows searches by company or by products and services.

**Seed World**
380 E. Northwest Hwy.
Des Plaines, IL 60016-2282
847-298-6622
847-390-0408 FAX
Seed World is published monthly with an extra issue in April. The U.S. subscription rate is $30/year. The Annual Buyer’s Guide includes contact information for suppliers of bag-closing equipment, bag-filling machines, bags, bins, blowers, cleaners, etc.

**Implement & Tractor™**
2302 West 1st Street
Cedar Falls, IA 50623-1879
800-959-3276
319-277-3783 FAX
Implement & Tractor™ is published bimonthly with an extra issue in December. Subscription rate is $30/year. Their Ag Equipment Buyer’s Desk Reference includes listing and contact information for many various types of mills, cleaners, etc.

**Feedstuffs**
Circulation Department
191 S. Gary Ave.
Carol Stream, IL 60188
800-441-1410 or
630-462-2224
Feedstuffs Annual Reference Issue contains directories for companies supplying goods and services to the feed and feeding industries, association and grain inspection agencies, and a listing of products and services. Reference Issues are available for $40.

**Cleaning and Processing Equipment Manufacturers and Suppliers**

**Meadows Mills, Inc.**
1352 W. D Street
P.O. Box 1288
North Wilkesboro, NC 28659
800-626-2282 or
336-838-2282
336-667-6501 FAX
Manufactures stone burr mills, or gristmills, ranging from 50 to 1250 lbs. per hour capacity, along with other related bakery equipment.

**The CS Bell Co.**
170 West Davis Street
P.O. Box 291
Tiffin, OH 44883
419-448-0791
419-448-1203 FAX
Products include hammer mills and burr or gristmills, and corn shellers. The hammer mills are recommended for livestock
and poultry feed preparation, grinding yard waste for compost, or fruit, vegetable, and grain processing for table use.

**Schmidt Flour, Inc.**
P.O. Box 99
Maple Creek, Saskatchewan S0N 1N0
306–666–4800
306–666–4838 FAX
Flour mills ranging in scale from 200 to 4000 lbs. per hour, and a debranner.

**Forsbergs, Inc.**
P.O. Box 510
1210 Pennington Avenue
Thief River Falls, MN 56701
800–654–1927 or
218–681–1927
218–681–2037 FAX
Gravity and screen separators, destoners, and hullers/scarifiers.

**Seedburo Equipment Company**
1022 W. Jackson Blvd.
Chicago, IL 60607
800–284–5779 or
312–738–3700
312–738–5329 FAX
Machinery and equipment for small-scale planting, harvesting, cleaning, and grinding of grains; some equipment specially designed for research and quality control. Catalog available on request.

**Kansas Wind Power**
13569 214th Road
Holton, KS 66436
785–364–4407
Source of various styles of grain mills.

**The Country Baker**
8751 N. 850 E
Syracuse, IN 46567
866–THE–BAKER or
219–834–2134
219–834–3993 FAX
Small-scale professional baking equipment and grain mills.

**C.F. Resources**
P.O. Box 405
Kit Carson, CO 89825
719–962–3228
Small-scale professional baking equipment and grain mills.

**Lehman’s**
Dept. 2–KNK
P.O. Box 41
Look under Kitchen Implements for the mills and other equipment. Catalog is $3.

**Country Living**
14727C 56th Avenue NW
Stanwood, WA 98292
360-652-0671
Manual and electric table grain mills.

**K-Tec Kitchen**
1206 South 1680 West
Orem, UT 84058
800-748-5400 or
801-222-0888
Offers an electric-powered table mill to grind corn, wheat, rice, soybeans, anything not wet or sticky, at rate of over 1 pound per minute.

**R & R Mill Company, Inc.**
45 West First North
Smithfield, UT 84335-0187
801-563-3333
Hand cranked and motorized mills, primarily for home use.

**GrainMaker**
Bitterroot Tool & Machine LLC
Randy Jones
4071 East Side Hwy.
Stevensville, MT 59870
406-777-7096
Hand cranked mills for home use.

**Heartland Ag-Business Group**
1003 Central Avenue
Fort Dodge, IA 50501
800-247-2000
Provides a free-of-charge locating service for all types of used farm equipment and machinery.
Marketing bill is the market value added to farm commodities that are embodied in a food dollar expenditure, measured as $1 minus the farm share. The size of the national aggregate marketing bill is affected by changes in the amount and type of products consumers buy. For example, restaurant meals have more marketing costs associated with them, and are therefore more expensive than foods at grocery stores.
Products Along the Marketing Chain. 100%. 80%. • Marketing bill is the market value added to farm commodities that are embodied in a food dollar expenditure, measured as $1 minus the farm share. The size of the national aggregate marketing bill is affected by changes in the amount and type of products consumers buy. For example, restaurant meals have more marketing costs associated with them, and are therefore more expensive than foods at grocery stores.
Management Compensation and Economic Value Added (Technical Note). by S. David Young. published: 01 Jan 1998. Abstract: This technical note addresses the key issues involved in designing executive compensation systems in accordance with value-based management principles. It focuses on the use of Economic Value Added as a means of aligning managerial and shareholder agendas. The potential advantages of this approach are examined in detail, as are the potential drawbacks and limitations. Pedagogical Objectives: The note is designed as a supplement to courses in corporate finance, financial management, organizational design, or any other course that addresses implementation of value-based management. The Technical Note is organized in three main parts. Section II, following this Introduction, provides a succinct view of the theoretical foundation of GIIFUD and the evolving economic development thinking supporting it. In Section III emphasis is on methodologies for identification of sectors with latent comparative advantage, which is GIIFUD’s unique contribution. Section IV gives a brief overview of some of the policy instruments to implement quick win solutions. Rising wages will force the PRC to upgrade to higher value-added and more capital-intensive and technology-intensive sectors and to relocate jobs in the existing sectors to countries that have a lower wage rate. India currently employs about 9 million workers and Brazil employs about 13 million. Technical articles. Economic value added versus profit-based measures of performance - part 2. Relevant to ACCA Qualification Paper P5. In the first part of this article, we considered the rise in popularity of Economic Value Added (or EVA) as an alternative to traditional performance measurement systems. Note 2: The finance charge is 10% of the net book value of the assets of the project at the start of each year: Year 1 Year 2 Year 3 Opening net book value 10,000 6,667 3,334 Less depreciation (note 1) (3,333) (3,333) (3,334) Closing net book value 6,667 3,334 0 Finance charge 1,000 667 334. This relationship between residual income and therefore EVA and net present value is important.