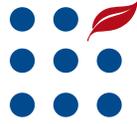


USDA

United States
Department
of Agriculture

VGS-329-01
October 2008

Outlook



A Report from the Economic Research Service

www.ers.usda.gov

Using Vertically Coordinated Relationships To Overcome Tight Supply in the Organic Market

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Abstract

Rapid growth in the organic foods market has placed great pressure on farmers and handlers in the U.S. organic sector. Handlers are firms that produce, process, and distribute organic food. As the middlemen in the supply chain, organic handlers have been unable at times to provide as much of their final product as the market wants and have also found needed ingredients in short supply. An Economic Research Service survey of certified organic handlers in the United States collected information on those intermediaries' marketing and procurement practices for 2004. The data reveal that handlers widely use contracts as a means to not only procure needed ingredients but also to develop and maintain strong working relationships with their suppliers. Only a few organic handlers, however, have worked to assist farmers directly with farmers' transition to organic production.

Keywords: organic handler, organic intermediaries, marketing organic food products, procurement, contracts, supplier-handler relationships, vertical coordination, transition to organic

Acknowledgments

The authors thank Karen Klonsky, University of California, Davis; Kent Olson, University of Minnesota; Rachael L. Dettmann, Rip Landes, and Steven Martinez, Economic Research Service, USDA; and Virginia Guzman and Sharon Hestvik, Risk Management Agency, USDA, for their insightful manuscript reviews. Appreciation is also extended to Priscilla Smith and Wynnic Pointer-Napper, ERS/ISD, for editorial and production support. Survey funding came from USDA's Risk Management Agency (RMA) and the survey was authorized by the Office of Management and Budget (control number 0563-0078). Carolyn Dimitri is with ERS/USDA and Lydia Oberholtzer is with the Department of Agricultural and Applied Economics, University of Georgia, Athens.

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Introduction

Anecdotal evidence suggests that some organic products are in short supply. At the retail level, critical supply shortages of organic milk and meat have occurred (Oliver, 2006; Organic Monitor, 2006). One factor contributing to the short supply of these final products is the scarcity of feed and grains, especially corn and soybeans, which are used in the production of milk and meat (Brasher, 2008; Clarkson, 2007). While recent products in short supply are milk, feed and grains, this is not a new problem in the organic industry. Indeed, securing an adequate supply of organic ingredients has been a long-standing problem. A lack of reliable supplies of organic raw materials has constrained some companies' growth, and high transportation and distribution costs have limited growth throughout the sector (Organic Trade Association, 2006, 2004, 2001). Firms have had and continue to have difficulty procuring large enough quantities of organic products to distribute to retailers, locating organic producers to buy from, and gaining access to shelf space in supermarkets (Dimitri and Richman, 2000).

Contributing to the shortages of organic products is the new competition faced by organic food marketers at all levels of the supply chain. Traditional purveyors of organic foods, such as natural foods stores, are facing competition from a wide range of retailers, including conventional food stores, such as Safeway, and "big box" stores, such as Wal-Mart, Target, and Costco. Organic manufacturers are doing business alongside conventional food manufacturers, such as General Mills, Kellogg's, and Dean Foods. Conventional firms initially gained market access by acquiring independent, successful organic companies, and more recently, have introduced organic versions of well-known products, such as Rice Krispies. Underlying these changes at the retail and intermediary levels of the supply chain is an intensifying consumer interest in organic food, which caused U.S. retail sales of organic food to increase from \$3.6 billion in 1997 to \$18.9 billion in 2007 (*Nutrition Business Journal*, 2008).

The impact of shortages and marketplace changes has been the subject of many discussions among those interested in the organic sector. At the 2007 Organic Summit, several speakers addressed the challenges of supplying the rapidly growing organic market.¹ In an April 2007 congressional hearing on organic agriculture, organic industry members testified that U.S. farmers were unable to keep pace with market demand for organic products, and urged lawmakers to make significant increases in funding for organic agriculture. Earlier, at a 2004 meeting hosted by USDA's Economic Research Service and the Farm Foundation, organic industry stakeholders similarly outlined the need for additional information and research on procurement methods used by organic firms and the supply constraints they face.

This report relies on data from an ERS survey of the 2004 population of certified organic handlers, which represents the most recent available information about organic handlers. A description of survey methodology, response rate, and a basic description of respondents is found in the appendix, "Survey Methodology and Respondent Characteristics," page 17. For more survey results, see *The U.S. Organic Handling Sector: Baseline Findings of the*

¹See <http://www.dailycamera.com/news/2007/jun/18/headline-here/> for conference synopsis.

Nationwide Survey of Manufacturers, Processors, and Distributors, available at: <http://www.ers.usda.gov/publications/EIB36/> (Dimitri and Oberholtzer, 2008). Summary statistics of the procurement and contracting data are available at: <http://ers.usda.gov/data/OrganicHandlers/>. A followup survey of organic handling facilities that studies 2007 practices was conducted in 2008.

Organic Handlers First To Experience Tight Supplies

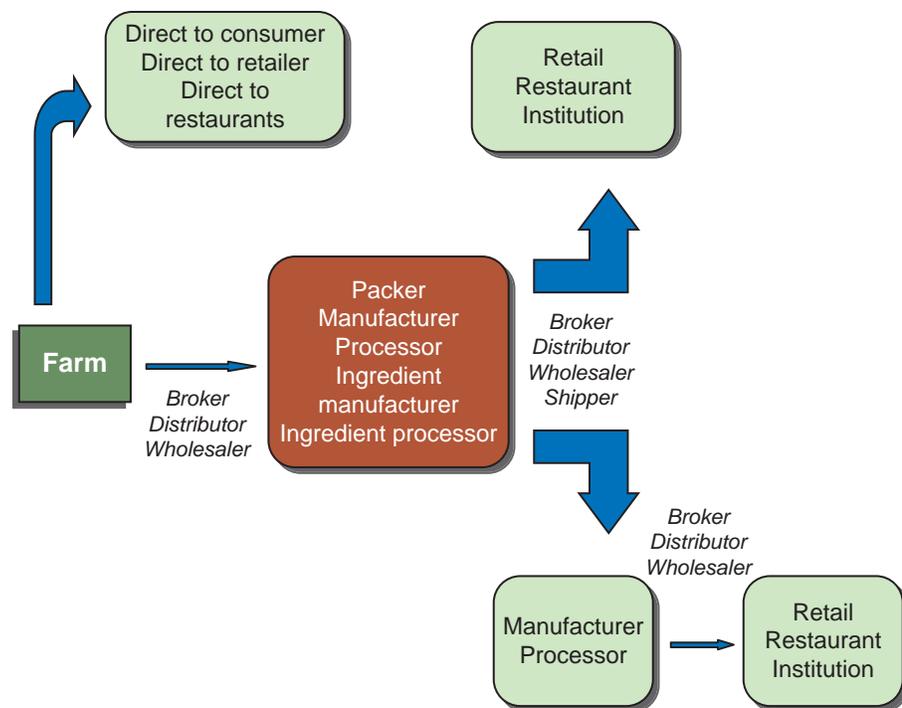
Organic handlers, the intermediaries in the supply chain, play a central role in the industry by purchasing ingredients, and packing, shipping, manufacturing, processing, and distributing organic products, connecting the farm level with retailers (fig. 1).² The functions performed by organic handlers are similar to those of their conventional counterparts, with the added requirement that the organic integrity of a product must be maintained as it moves along the supply chain, as specified by the national organic standards (see box, “Handlers Must Meet USDA Standards in Order To Use the Organic Label”). They are also the first to detect problems with the supply of organic products.

The results of the ERS survey of organic handlers confirm recent shortages in the sector, with 13 percent of all handlers unable to meet market demand (that is, they experienced critical shortages of at least one of their organic products) at some time during 2004. Another 16 percent of organic handlers experienced minor shortages. The survey data also show significant problems in some specific organic sectors. For example, 26 percent of milk handlers, 22 percent of feed and grain suppliers, and 16 percent of fruit and vegetable handlers experienced critical shortages of their products for sale

²Handlers purchase raw products or ingredients, depending on their use. Milk, for example, is a raw product to a dairy and an ingredient to a yogurt manufacturer.

Figure 1

Organic handlers move products through the supply chain



Note: The transactions along the supply chain are indicated by arrows; these transactions may be done by written contract, verbal contract, or anonymously. Handlers are all firms between the farm and the retailer, restaurant, or institution. A handler's supplier, as the chart shows, may be a farmer or another handler.

Source: USDA, Economic Research Service.

Handlers Must Meet USDA Standards in Order To Use the Organic Label

Implemented by USDA in October 2002, the National Organic Program (NOP) requires that organic growers and handlers be certified by a State or private agency accredited under the uniform standards developed by USDA. The standards apply to the methods, practices, and substances used in producing and handling crops, livestock, and processed agricultural products. Although specific practices and materials used by organic firms may vary, the standards require every aspect of organic production and handling to comply with the provisions of the Organic Foods Production Act (OFPA). OFPA was part of the 1990 Food, Agriculture, Conservation, and Trade Act.

As specified by the NOP standards, handling of organic products includes manufacturing, packaging, canning, jarring, or otherwise enclosing food in a container that may be used to process an organically produced agricultural product for the purpose of retarding spoilage or otherwise preparing the agricultural product for market.

Several categories of organic handlers are exempt from organic certification, including:

- entities with gross organic sales under \$5,000,
- final retailers of agricultural products, if the retailers do not process agricultural products, and
- traders and others who never take possession of the organic products.

For more information, visit USDA's Agricultural Marketing Service National Organic Program website at www.ams.usda.gov/nop/.

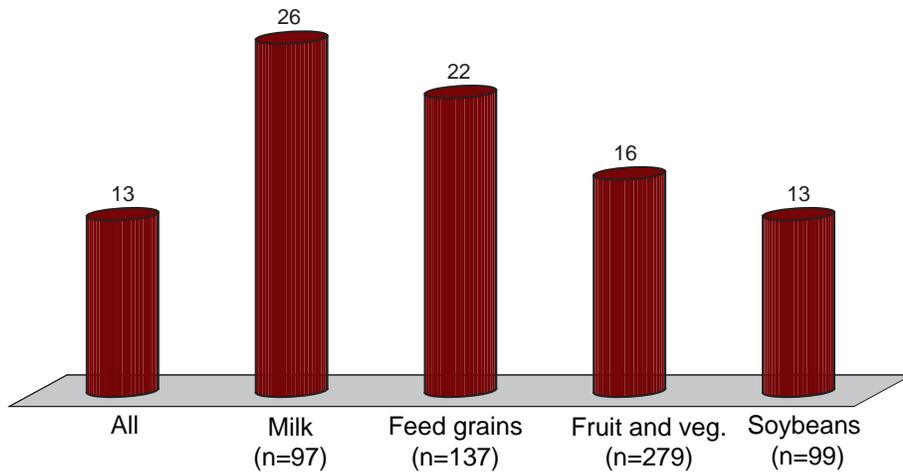
at some point during the year (fig 2)³. While basic economic theory suggests that prices should rise to eliminate shortages, in some sectors there has been reluctance to increase prices of organic products (Oberholtzer et al., 2006). This has resulted in periodic shortages of organic products (Dimitri and Richman, 2000). These product shortages are mirrored by handlers' difficulties procuring ingredients; 44 percent of handlers found needed ingredients or products in short supply during 2004. The main products and ingredients handlers found in limited supply were coffee, soybeans, milk, seeds (includes seeds for planting), corn, and nuts.

One question raised in the discussion about tight supplies is whether domestic suppliers have been able to increase supply quickly enough to meet demand, suggesting that handlers have needed to rely on imports to meet their needs (Starling, 2006). While statistics suggest that imports are increasing, with preliminary estimates from USDA's Foreign Agricultural Service (FAS) valuing U.S. organic imports in 2002 at between \$1.0 billion and \$1.5 billion (USDA, FAS, 2005), the survey data indicate that organic handlers relied primarily on domestic suppliers in 2004, with 38 percent of handlers importing some or all of their organic products (fig. 3). By volume, the average share of organic products purchased internationally was 20 percent, with 22 percent being procured locally (within a 1-hour drive of

³In this study, milk and fruits and vegetables were selected because these products made up a large share (56 percent) of organic retail sales in 2004 and were sold most frequently by organic handlers. Feed and grain, soybeans and soy products, and dairy were selected because anecdotal evidence suggests demand for these products is growing, and that supply shortages are commonplace (Clarkson, 2007; Oliver, 2006).

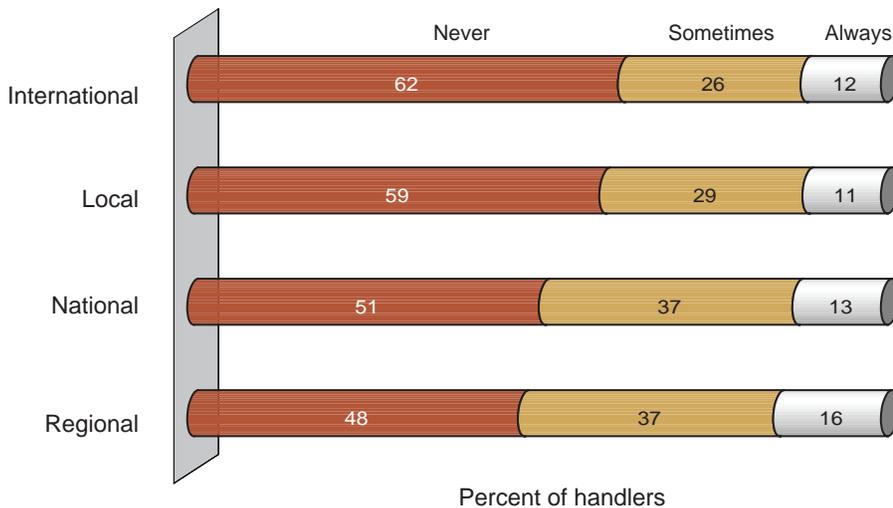
the facility), 27 percent nationally, and 31 percent regionally. The categories imported most often by handlers are coffee, tea, and cocoa and greenhouse, seeds, mushrooms, herbs, and extracts, while dairy and poultry and eggs were rarely imported (fig. 4). The majority of procurement in most categories is done locally and regionally, while poultry and eggs is the category most often procured locally.

Figure 2
Handlers unable to meet market demand, by product sold, 2004
 Percent of handlers



Note: Number of handlers procuring ingredients is 1,089.
 Source: USDA, Economic Research Service.

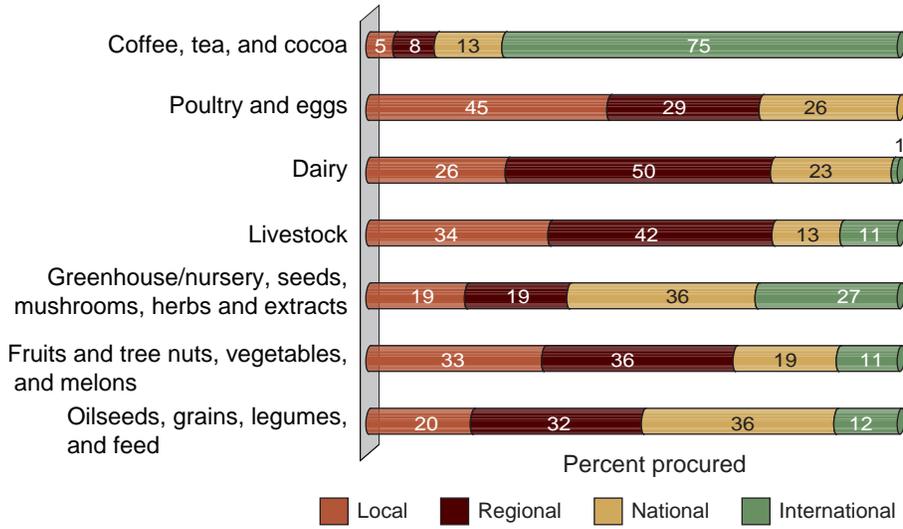
Figure 3
Handlers' sources of organic products, 2004



Note: Number of handlers procuring ingredients is 1,089.
 Source: USDA, Economic Research Service.

Figure 4

Where organic handlers buy specific product categories, 2004



Note: N=1,026. The figure reports category of top product/ingredient procured.
 Source: USDA, Economic Research Service.

Contracting Is Widely Used in the Organic Sector

In order to obtain needed products and ingredients, organic handlers can rely on the spot market or arrange sales in advance. Spot market sales are anonymous transactions between buyers and sellers that might take place in a wholesale market, for example. The advantage of spot market sales is that competition among buyers and sellers determines market prices, which transmits signals along the supply chain about the product attributes consumers desire. For conventional agricultural products, spot market purchases are common, making up 60 percent of all purchases (MacDonald et al., 2004). However, in markets with limited competition, because of increased demand for a distinctive process or short supply, spot markets often fail to produce enough products with the attributes consumers desire (MacDonald et al., 2004). In such cases, market needs can be more effectively met through vertically coordinated transactions, such as through contracts or closely aligned transactions between buyers and sellers.

Contracts may specify products and their desired attributes, such as size, quality, or time of delivery, and may provide suppliers with assistance such as advice on the National Organic Standards or production methods, or provide inputs such as seeds (MacDonald et al., 2004). Contracts can be used to share risks such as fluctuating market prices among buyers and sellers. Contracts also can be used to reduce transaction costs, which are the costs of obtaining the needed quantity and quality of product. Given the tight supplies in the organic market, in combination with the requirement that all products must satisfy the organic certification requirement, transaction costs for procuring organic ingredients and products are likely quite high. Thus the supplier-handler relationship is important for both parties in the transaction.

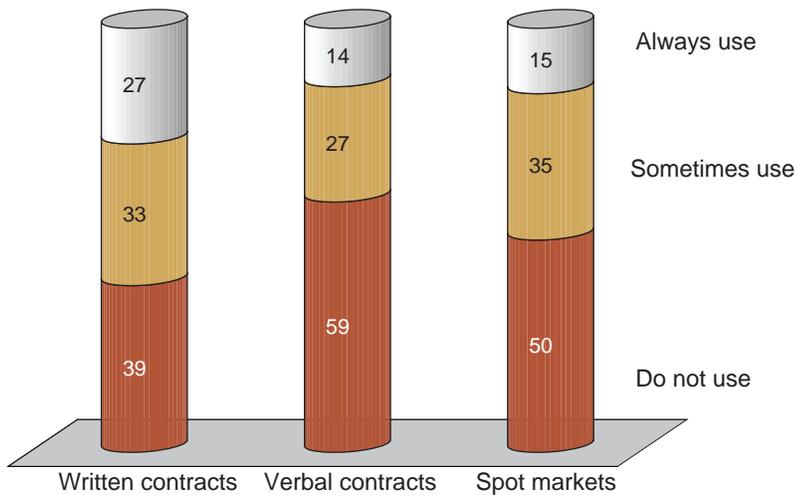
Based on survey results, the organic sector uses contracts at a much higher rate than the conventional sector. Nearly half of the volume (46 percent) of organic products bought by organic handlers is obtained with written, negotiated contracts. Another 24 percent is procured through verbal agreements or ongoing relationships between suppliers and handlers. The remaining 27 percent of ingredient volume is acquired through spot markets, or anonymous transactions. Coffee, soybeans, wheat, corn, and milk are the main products obtained through contracts.

Spot markets are used exclusively by 15 percent of handlers. Half of all handlers rely on contracts instead of using spot markets to procure their supplies (fig. 5). Twenty-seven percent of handlers procure all of their supplies through written contracts, and 39 percent of handlers never use formal contracts. Informal contracts, or ongoing verbal agreements, are used to procure all ingredients and products for 14 percent of handlers and part of the supply requirements for 27 percent of handlers. Fifty-nine percent of handlers never use informal contracts when procuring organic supplies.

Of the handlers procuring ingredients, the share of handlers using contracts (both written and verbal) ranges from 60 percent to 71 percent, depending on the main product sold (fig. 6). Overall, 67 percent of handlers use contracts,

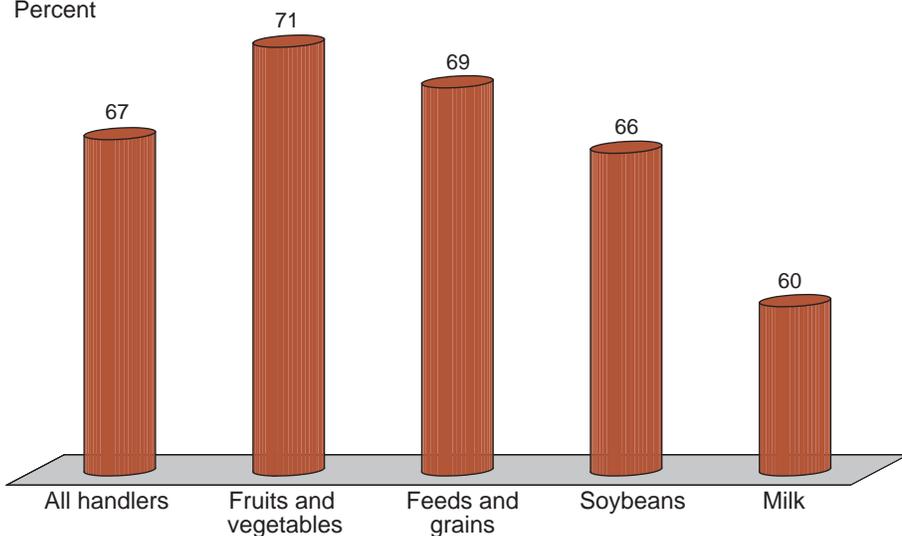
with fruit and vegetable handlers using contracts most often, followed by feed and grain handlers and soy handlers. Anecdotal evidence indicates that milk handlers have been unsuccessful at meeting market demand for organic milk, suggesting that handlers would use contracts to secure supplies of milk. Yet, surprisingly, handlers of organic milk use contracts only 60 percent of the time.

Figure 5
Use of spot markets and contracts by organic handlers, 2004
 Percent of handlers



Note: Number of handlers procuring ingredients is 1,089.
 Source: USDA, Economic Research Service.

Figure 6
Percent of handlers using contracts, by main product sold, 2004
 Percent



Note: Number of handlers procuring ingredients is 1,089. Data include both written and verbal contracts.
 Source: USDA, Economic Research Service.

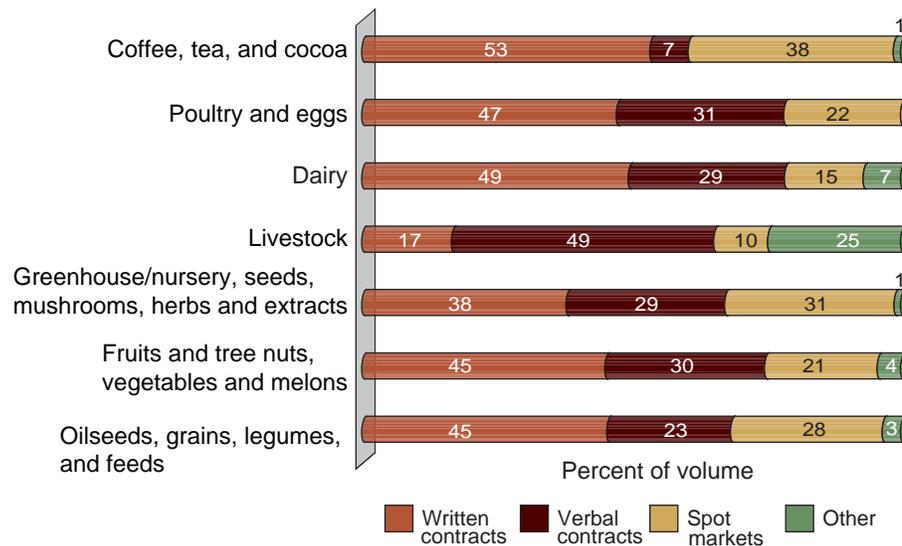
When considering the main product and ingredient categories procured by organic handlers in 2004, those procuring coffee, tea and cocoa are most likely to use written contracts and to procure in the spot market, while procurement of livestock is most likely to rely on verbal agreements (fig. 7).

The reasons for using contracts (both written and verbal) are fairly constant across the different types of handlers, and suggest that most contracts are used to reduce the transaction costs of finding enough product rather than sharing risk. When asked to rate the importance of specific reasons for using contracts, over 80 percent of handlers report that contracts are an important way to secure products essential to their business. Approximately 70 percent of handlers report that contracts are a very important risk management tool for securing products or ingredients that are in limited supply and to ensure consistent quality of supplies (fig. 8). Feed and grain handlers are the most likely to report using contracts for securing products that are in limited supply. In addition, the survey asks facilities to provide the most important reason for contracting: 45 percent of handlers indicated they use contracts to ensure a supply of organic products or ingredients followed by 23 percent that report the most important reason as finding high-quality products.

When considering risk factors such as a supplier’s risk of price volatility or to reduce the handler’s risks associated with fluctuating price (fig. 9), handlers report using contracts to reduce their own price volatility (53 percent) more frequently than to reduce a supplier’s risk from changing prices (39 percent). Of the four product categories, milk handlers are the least likely to use contracts to stabilize their own prices or their suppliers’ prices.

Figure 7

Use of spot market and contracts by product/ingredient category, 2004



Note: N=1,002. “Other” represents difference between 100 percent and total of written contracts, verbal contracts, and spot markets.

Source: USDA, Economic Research Service.

