



Department of Agricultural Economics  
Kansas State University

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## **“Consumer Preferences for Organic/ Free Range Chicken”**

*by Liz Neufeld, Research Associate with Tait Advisory LLC  
Paper based on her MS thesis, Department of Agricultural Economics,  
Kansas State University  
mboland@agecon.ksu.edu*

The poultry industry has experienced significant change in the last two decades. Trends in the poultry industry have included an increase in per capita poultry consumption, a decline in real prices for broilers, and a move in the poultry industry towards industrialized, vertically integrated broiler production. In fact, the broiler industry is one of the most tightly coordinated industries of the major commodity sub sectors in the U.S. food and agriculture sector. This large-scale production has helped make poultry a low cost alternative to other meats, but it has also forced small poultry producers to consider value added production. Some small poultry producers have taken advantage of the last decade’s large growth in the natural/organic market to produce organic/free-range chickens.

Organic/free-range chickens, also referred to as “all natural,” are known for containing no artificial ingredients or preservatives and being minimally processed. They also are raised/grown in an environmentally friendly fashion. Producing free-range/organic chicken responds to consumers’ demands for a potentially healthier, more natural, and better-tasting product.

Understanding the definitions of the terms ‘organic’, ‘free-range’, and ‘all natural’ is important, as they describe very different aspects of the production process. Free-range chickens have access to outdoor pens and are allowed to roam and forage freely. There are several different types of free-range systems, such as pastured (floorless pens which are moved daily) and day range (portable housing which is moved less frequently). The USDA allows food products to be labeled ‘certified organic’ by a certifying agency if certain criteria are met, including the following: the land on which the food is produced must be free of synthetic fertilizers, pesticides, and herbicides for three years, the food product is produced according to the certifying organization’s requirements, and the program is inspected annually (Agricultural Marketing Service, 2001).

Some producers may also use the term ‘all natural’ to describe their product. The USDA defines the term ‘natural’ as, “a product containing no artificial ingredient or added color and is only

minimally processed (a process which does not fundamentally alter the raw product)...The label must explain the use of the term natural (such as no added colorings or artificial ingredients or minimally processed).” Poultry producers may adopt some or all of these production techniques, which will determine how they are able to label and market their product.

### **Label Rouge**

In her 1998 thesis, Heady-Kelsay reviewed the market feasibility for *Label Rouge* poultry in Illinois. *Label Rouge*, which is French for ‘red label’, is a quality label used to delineate poultry produced in France under strict guidelines including small-scaled operations, low bird density in buildings, free-range access for chickens, and high food safety standards. The bird’s diet cannot contain any animal products, hormones, antibiotics or other additives. U.S. organic/free-range chickens would be very similar to the French *Label Rouge* chickens; however, the U.S. governance and regulatory structures are not mandatory in the United States as they are in France.

This study is based on surveys of executive chefs and retailers in the Chicago and St. Louis metropolitan areas. Similar to the survey in this research, retail chains were chosen that were classified as “up-scale.” A major difference is that the retail respondents selected for this survey were retail buyers and not end consumers. Some of the major factors that retail buyers considered when choosing poultry products were reliable delivery and consistent quality, quantity and size. They also expressed concern over whether consumers were willing to pay a significant premium for *Label Rouge* poultry. Of the five retail buyers surveyed, the three buyers from the smaller retail chains were interested in *Label Rouge* poultry, but neither of the two buyers from the larger chains were interested in putting *Label Rouge* poultry into their market on a large scale. The main concerns expressed by the larger chains were maintaining supplies of the more expensive *Label Rouge* poultry and the shorter shelf life of the *Label Rouge* poultry from the air chilling process that it used.<sup>1</sup>

For the retail buyers that were interested in *Label Rouge* poultry, the primary appealing characteristics were the growing technique and air chilling process. They also felt that the success would depend on marketing efforts. Some buyers preferred to buy whole chickens because of their shelf life and the ability to cut them up as the customer prefers, but others wanted to buy individual parts, leading to their conclusion that the option to purchase both the whole chickens and the cut-up parts seems appropriate for the retail trade.

Other significant findings were that the larger retail chains source directly from large processors like Perdue and Tyson foods, while the three smaller chains said that they would consider sourcing directly from the growers. The larger chains had nearly 25 times the number of locations and felt that *Label Rouge* growers could not meet their volume demands. She also found that retail prices cannot be extremely high, as consumers are “programmed by society to be bargain shoppers.” High-end, small-scaled retail chain stores were seen as the primary target, with those already having a market for natural or organic products being of particular importance. None of the retail buyers responded with an expected price for the product, so no empirical analysis of willingness to pay was completed.

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<sup>1</sup> Using the European air-chilling method, fans producing cold wind slowly decrease the body temperature of the chicken prior to packaging. American plants use the “water chilling” process through which chicken is gathered in a tank filled with cold chlorine water to decrease the body temperature rapidly and to kill remaining bacteria.

Richman (2002) identified seven obstacles that may hinder the success of mass marketing natural foods in conventional grocery stores. The three most important obstacles were finding timely and complete market information, linking with natural foods suppliers, and pricing and marketing natural foods. Other obstacles include uncertainty about future standards for natural foods, the market structure of the natural foods industry, inadequate data collection regarding prices and quantities, and lack of standard operating procedures regarding natural foods.

### **Production Costs**

The pastured poultry operation is based on a faithful adoption of the Joel Salatin production model, using a system of portable field pens. The data indicate per-bird costs of \$0.64 for day-old chicks and \$1.40 for feed (12 lbs feed per chicken at \$233 per ton) at 5,000 to 15,000 chickens produced per year. They paid \$1.25 per chicken for processing during this last season. According to these calculations, the total expense per bird, including depreciation on equipment, operating cash flow interest, and health insurance but excluding labor cost, was \$5.27. Selling their chickens for \$1.99 per pound yielded approximately \$1.73 per bird in pre-tax profit. They estimate their per-hour return on labor to be \$15.32.

In *Pastured Poultry Profits*, Joel Salatin (1993, 2001) concludes that each bird requires about 5.5 person minutes during the production phase and roughly 3.5 minutes during the processing phase for a total of approximately 9 person minutes. Fixed costs run approximately \$1.80 to \$2.00 per bird. At his suggested selling price of \$1.35 per pound for an average carcass weight of 4 pounds, this yields about \$3 profit per bird, or \$12 to \$20 per hour for the producers' time.

The University of Wisconsin's Center for Integrated Agriculture Systems (CIAS) studied five farms with experience ranging from 3 to 10 years (four in Wisconsin and one in Minnesota) using the Salatin pastured poultry production method. In Research Briefs #57 (2001) and #46 (2000) they reported that these farmers were charging an average of \$1.90 per pound for their chickens, marketing them directly from their farms, at farmers' markets and to restaurants. In 1997 and 1998 four of these farms experienced an average annual net return per bird of \$2.43, with a range that varied greatly from (\$2.82) to \$7.05. The average annual net return per farm was \$3,580, with a range of \$1,609 to \$11,040. Some of the variability in returns was attributed to differences in feed cost, experience levels and marketing factors. CIAS reports the average time spent on pastured poultry for 1998 and 1999 was 24 hours per week, with most of this time spent feeding and watering chickens and moving pens. One less experienced farmer worked over an hour per bird, while an experienced farmer spent only 10 minutes per chicken from chick to processed bird. This latter case is analogous to Joel Salatin's 9 minutes per bird.

Based on on-farm data, the CIAS researchers developed a model of a 1,000-bird supplementary enterprise. This model shows an annual net return to labor and management of just over \$5,000 after 5 years of operation and management skill building. Labor was 20 to 22 hours per week over a four-month production schedule. They suggest an efficient and experienced pastured poultry farmer could earn \$10-15/hour.

Their model of a 5,000-bird operation (a primary enterprise) shows annual net returns to labor and management of over \$18,000 in its tenth year. This would involve a 35 to 42 hour workweek over a six-month production schedule. Here an experienced farmer could earn \$12-

18/hour. In comparison, Joel Salatin reported a couple could raise and process 10,000 birds in 6 months and net \$25,000.

The National Center for Appropriate Technology (NCAT), the Kerr Center, and Kansas State University are currently collaborating to produce, *Growing Your Range Poultry Business: An Entrepreneur's Toolbox*, an endeavor sponsored by Heifer Project International. In a draft version of this document (2001) the authors note the lack of available detailed production budgets for range poultry enterprises. Their proposed toolbox contains suggested production budgets for multiple free-range production/ processing scenarios. Their first consists of summer season production of 2,100 birds per year raised in 7 batches of 300 chickens, with 8 weeks growing time per batch. Each batch is divided into 4 pens holding 75 birds. The toolbox uses a 10% death loss, \$0.57 day-old chick cost, and \$1.50 (13 pounds feed per chicken at \$230 per ton = \$1.50 per bird) per chicken feed cost. At 22.4 minutes per bird (0.5 hours per pen/75 birds x 7 days/week x 8 weeks x 60 minutes = 22.4 minutes per bird) for pasture grow-out, production labor appears to be significantly higher than other sources. The second scenario presented in the toolbox is based on a day range production system. This approach consists of fewer larger pens with more birds per pen. In this example 4 pens (12' x 21') contain 250 birds each. During a single season five flocks of 1,000 birds are raised for 8 weeks. The chick and feed costs used are the same as in the first scenario. However, at 6.72 minutes per bird (0.5 hours/250 birds x 7 days/week x 8 weeks x 60 minutes = 6.72 minutes per bird), production labor is more in line with other published findings.

### **Derived Production Cost Data**

Certain assumptions are needed because costs and returns in free-range bird production are highly dependent upon production levels and conditions. These assumptions are as follows:

- A season consists of 26 flocks requiring a production span of 30 weeks between March and October.
- Average flock size is 200 birds.
- Chicks are kept in a brooder for 3 weeks.
- A rotational pasturing system is used for the next 4 to 5 weeks with one 10 x 12 floorless field pen holding 100 birds.
- The pens are moved daily to fresh pasture.
- A free-range bird converts approximately two pounds of feed into a pound of protein.
- A 10 percent death loss occurs during production due to weather and illness and thus, producers must purchase 5,778 chicks in 26 weeks to actually market 5,200 birds (the loss rate will depend on conditions).
- Birds are delivered at an average 5-pound live weight and sold at an average dressed weight of 3.5 pounds.
- Facilities and equipment have a five-year depreciable life with zero salvage value.

An annual capital recovery charge is calculated for facilities and equipment and an opportunity cost or charge for all resources used by the free-range bird is assigned. Interest rate is ten percent. Interest on facilities and equipment is one-half of their original cost.

The cost of the land itself is not included in the analysis. Land cost varies considerably depending on location. Regardless of its initial cost, land value is unaffected by its use for this purpose. There is no cost included for labor. Rather, a return per hour worked is calculated in each model. The producer's costs end with delivering live birds to the plant for slaughter and processing. This means no separate marketing expenditures are required from the producer to sell chickens (including advertising, packaging, etc). Wholesale price paid to the producer is \$1.60 per pound.

### Assets Required

In order to devote sufficient pasture space to raising free-range chickens, approximately 10 acres of land is needed for each increment of 200 chickens per week, or 5,200 birds per season. The only facilities required are the portable pens. These can be purchased from suppliers such as Brower Manufacturing. One pen is required for every 100 chickens. Brooder space is needed during the first three weeks of a bird's life. A farm tractor, a water delivery system and broiler feeders are needed to tend the birds in the pasture. At 200 birds per week 55-gallon drums can be used for feed; at 400 per week and above a feed trailer is included. Appropriate fencing accommodates rotational cattle grazing for grass management. To transport chickens to the processing facility, crates and a pickup truck with trailer (larger for 600 birds per week or more) are needed.

Table 2.1 summarizes the quantity and cost of these items for operations ranging from 200 to 600 chickens per week.

**Table 2.1. Assets Required for Pastured Poultry Production**

Item	Unit cost	200 per wk	400 per wk	600 per wk
Land	-	10 acres	20 acres	30 acres
Fencing	\$ 500	\$ 500	\$ 1,000	\$ 1,500
Brooder	500	500	1,000	1,500
Pens	325	3,250	6,500	9,750
Broiler feeders	25	300	600	900
Water system	500	500	750	1,000
Farm tractor	4,000	4,000	4,000	4,000
Feed trailers	1,500	100	1,500	3,000
Utility trailer	500	0	0	500
Trailer	Varies	500	750	1,000
Crates	30	450	900	1,350
Total depreciable assets		\$10,100	\$17,000	\$24,500

While fixed and variable costs are expected to increase linearly, clearly there are economies of size with regard to labor. This can be seen in the breakdown of labor required for a 26-flock growing season in Table 2.2. Thus, in order to fully utilize 2,000 hours of labor per year a producer may have other work or another occupation.

**Table 2.2. Man-hours Required per Season for Pastured Poultry Production**

Production activity	200 per week	400 per week	600 per week
Chick pickup at post office	30	30	30
Brooding	105	210	315
Chicken move to pasture	26	39	52
Brooder prep	30	38	45
Pasture grow-out	315	525	735
Chicken pickup for processing	39	52	65
Delivery to processing plant	120	150	180
Building projects	20	30	40
Repair and maintenance	30	45	60
Total man-hours per season	715	1119	1522
Minutes per bird	8.22	6.44	5.85

Table 2.3 illustrates the predicted returns to the producer based on the three levels of production examined, all at \$1.60 per pound wholesale price for an average 3.5 pound bird which yields an expected \$8.07 return or gross revenue per bird.

**Table 2.3. Producer Return Calculations Based on \$1.60/lb for 3.5 lb Average Bird**

	200 per wk	400 per wk	600 per wk
Variable costs per bird			
Chick cost	\$ 0.64	\$ 0.64	\$ 0.64
Bird loss	0.07	0.07	0.07
Feed	1.40	1.40	1.40
Facilities and equipment repair	0.06	0.06	0.06
Utilities, fuel and oil	0.17	0.17	0.17
Personal vehicle mileage	0.21	0.10	0.07
Broiler supplies	0.12	0.08	0.06
Equip rental, dues, fees, clothing, property tax, office supplies, etc.	0.14	0.11	0.10
Processing	1.25	1.25	1.25
Interest on ½ of variable costs	0.20	0.19	0.19
<b>A. Total variable costs per bird</b>	<b>\$4.26</b>	<b>\$4.07</b>	<b>\$4.01</b>
Fixed costs per bird			
Depreciation on facilities and equipment	\$0.40	\$0.34	\$0.31
Interest on facilities and equipment	0.13	0.11	0.10
Insurance and taxes on facilities & equipment	0.03	0.03	0.03
<b>B. Total fixed costs per bird</b>	<b>\$0.56</b>	<b>\$0.48</b>	<b>\$0.44</b>
<b>C. Total costs per bird (A + B)</b>	<b>\$4.82</b>	<b>\$4.54</b>	<b>\$4.45</b>
<b>D. Returns per bird</b>	<b>\$5.60</b>	<b>\$5.60</b>	<b>\$5.60</b>
<b>E. Return to Management, Land and Labor over variable cost (D-A)</b>	\$1.34	\$1.53	\$1.59
<b>F. Return to Management, Land and Labor over total cost (D-C)<sup>a</sup></b>	\$1.11	\$1.36	\$1.44
G. Total \$ per season above cost	\$5,772	\$14,144	\$22,464
H. Dollars per hour of labor <sup>a</sup>	\$8.07	\$12.64	\$14.76
I. Dollars per hour of labor <sup>b</sup>	\$9.44	\$13.71	\$15.74
J. Return to Management and Land <sup>c</sup>	(0.26)	\$0.29	\$0.47

<sup>a</sup>Includes the interest on ½ variable costs and interest on facilities and equipment added back. This is multiplied by the number of birds marketed that week divided by the total number of minutes needed to produce the bird.

<sup>b</sup>Includes a \$10/hour charge for labor. The number of chickens per hour was calculated using the data in table 2.2. This was converted to a chickens per hour. For example, a 200 head flock has 8.22 minutes of labor or 7.3 chickens per 60 minutes (one hour). This results in a \$1.37 per hour charge for a chicken. This was calculated for each flock and added to row H.

<sup>c</sup>Includes the charge for labor calculated in I and added to F.

It should be noted that winter production would involve higher variable production costs, as utility and feed costs increase. To examine the sensitivities of these results to changes in processing cost, wholesale price and size of the finished bird, several combinations of these factors were evaluated using this same model.

Between October and December, 2001 the plant charged \$1.25 per bird for slaughter and processing, as did the Bronson facility processing the birds. However, the plant has announced plans to raise their charge to \$1.35 beginning in January 2002. Consequently both the \$1.25 and \$1.35 processing cost rates were examined. The wholesale prices paid to the three producers have ranged from \$1.60 to \$1.99 per pound. In this evaluation both \$1.60 and \$1.75 per pound were tested.

From May through September the chickens were retailed at \$2.99 per pound, with the *Good Nutured Family Farms* program receiving \$1.99 per pound in wholesale revenue. During the traditionally slower chicken sales months of November and December of 2001, retail prices were lowered to \$1.99 per pound and wholesale prices were dropped to \$1.50 per pound. Retail prices for cut-up parts were: split breast (bone-in) \$4.99 per pound; legs \$2.59 per pound, thighs \$2.50 per pound, and wings \$2.59 per pound. At these prices the store calculated that, after factoring in waste, their gross margin from a \$1.99 per pound wholesale bird averaged 33.16%. Appropriate price look up codes were assigned for whole chickens as well as each individual part.

### **Economies of Scale in Production**

Feed is the single largest component of producer cost. Bulk feed purchasing among a network of producers may offer some cost savings, although the storage life of mixed grain can present some difficulty. The convenience of purchasing custom mixed feed in minimum quantities of 250 to 400 pounds at the local grain co-op relieves the small farmer from storing feed components and owning and operating a grinder and mixer. Further evaluation is required to evaluate potential cost savings in this area.

Clearly there are potential cost increases for certified organic grain. While regular feed can be purchased at roughly \$230 per ton, certified organic feed runs closer to \$325 per ton. Most of this extra cost stems from transportation costs. The only way a network of small poultry farmers can produce a competitively priced certified organic chicken is to pool their purchasing power in tapping a lower cost solution for this feed.

Day-old Cornish Cross chick prices can vary from \$0.57 to \$0.64 per chick for orders of about 5,000 birds per season. At 10,000 to 15,000 birds per season these prices may drop to as low as \$0.45. Additionally, the availability of day old chicks from hatcheries is typically seasonal due to demand patterns. A group of producers purchasing from the same hatchery can have a major affect on service and availability. Two producers supplying chickens for the program have found that synchronizing their purchasing from the same hatchery has resulted in the hatchery providing day old chicks year round. This is extremely beneficial when servicing a retail supermarket's fresh chicken program.

Production materials such as pens, crates, feeders, water drinkers, lighting, trailers, fencing, etc. present very little (if any) cost advantage in creating "economies of scale" through group purchasing. The average free-range farm producing 5,000 to 10,000 birds per season will meet minimum orders for cost breaks. However, the Wholesome Harvest business model identifies some production material cost savings at collective volumes of 256,000 birds when purchasing pens and chicken tractor cages.

Product liability insurance is absolutely required when selling to wholesalers such as supermarkets. Recently farmers markets have likewise started to require this coverage. An average \$2 million policy costs approximately \$1,100 per year. In most cases the premium is unrelated to product volume or gross sales. If a producer is only raising 1,000 birds per year, this adds \$1.10 to the production cost of each chicken.

The greatest potential benefit achieved by creating economies of scale among family farm poultry operations is the exchange of best production practices. There is a learning curve in production methods and techniques that everyone experiences. Knowledge of sources of information as well as ‘tricks of the trade’ often prevents costly mistakes. This is especially true for new free-range poultry producers. In order to encourage this collaboration it is helpful to reduce the competition factor in serving a limited market.

### **Market Survey**

The purpose of this survey was to evaluate the market potential for free-range/organic chicken in the Kansas City metropolitan area and to provide recommendations for producers interested in marketing free-range/organic chicken. A survey was used to gather consumer purchasing decision information at retail supermarkets that sell conventional, organic and natural food products. The objectives were to learn consumers’ motivations and barriers to purchasing free-range/organic chicken, determine current perceptions, to find out what is important to consumers when making purchasing decisions and to determine price sensitivities.

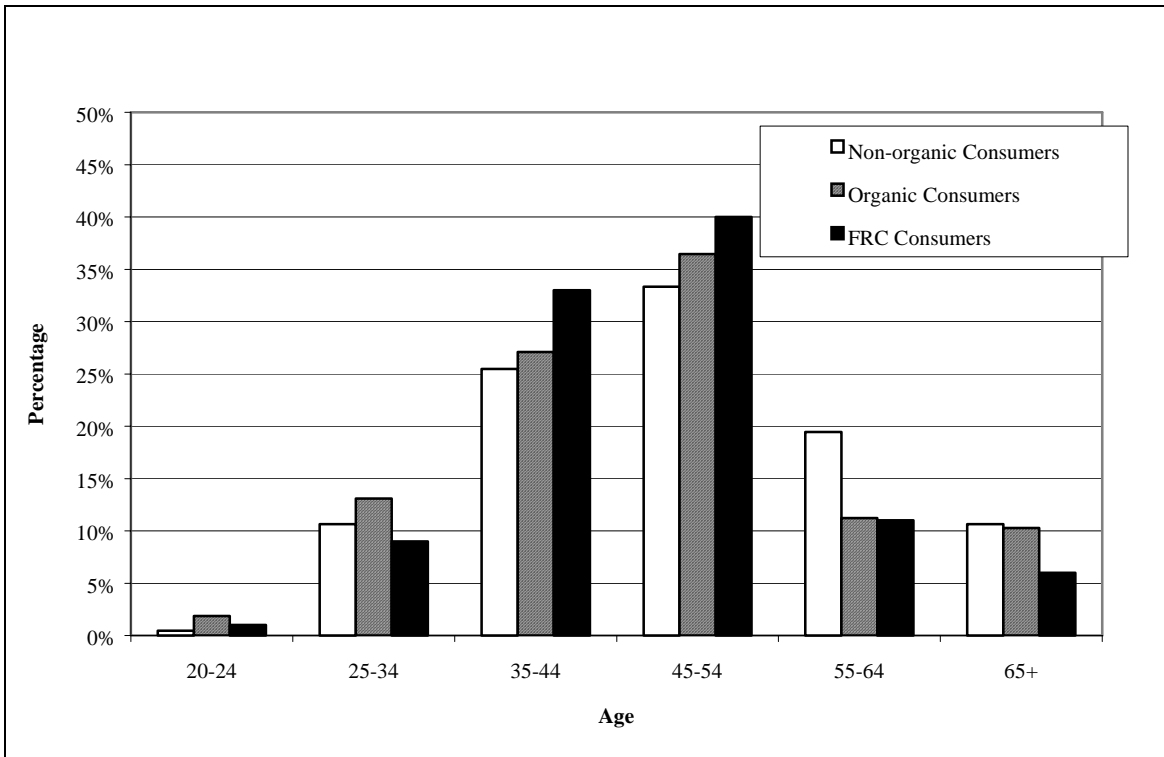
The survey was sent to 1,000 respondents in September 2001. Three groups of consumers were identified based on their last twelve months of purchasing history using scanner data from retail supermarkets in Kansas City. Half of the surveys were mailed to non-organic food purchasers who had purchased regular chicken. Three hundred surveys were mailed to organic food purchasers who had not purchased the free-range chicken. The final 200 surveys were mailed to consumers who had purchased the free-range chicken, whether or not they had a history of organic food purchases. The surveys, each containing a \$1 bill as a return incentive, were prepared for mailing by the Kansas State University student chapter of the National Agribusiness Marketing Association (NAMA).

The overall response rate was 46.3 percent. However, 36 of the total surveys returned (7.8 percent) had incomplete price and willingness-to-pay data and so were excluded from further analysis. Of the 427 complete surveys returned, 218 (51 percent) were from the non-organic food purchasers, 109 (33 percent) were from the organic food purchasers who had not purchased free-range chicken, and 100 (50 percent) were from the organic food purchasers who had purchased free-range chicken. The subsequent information, figures and tables in this report include only the information from the 427 complete surveys returned.

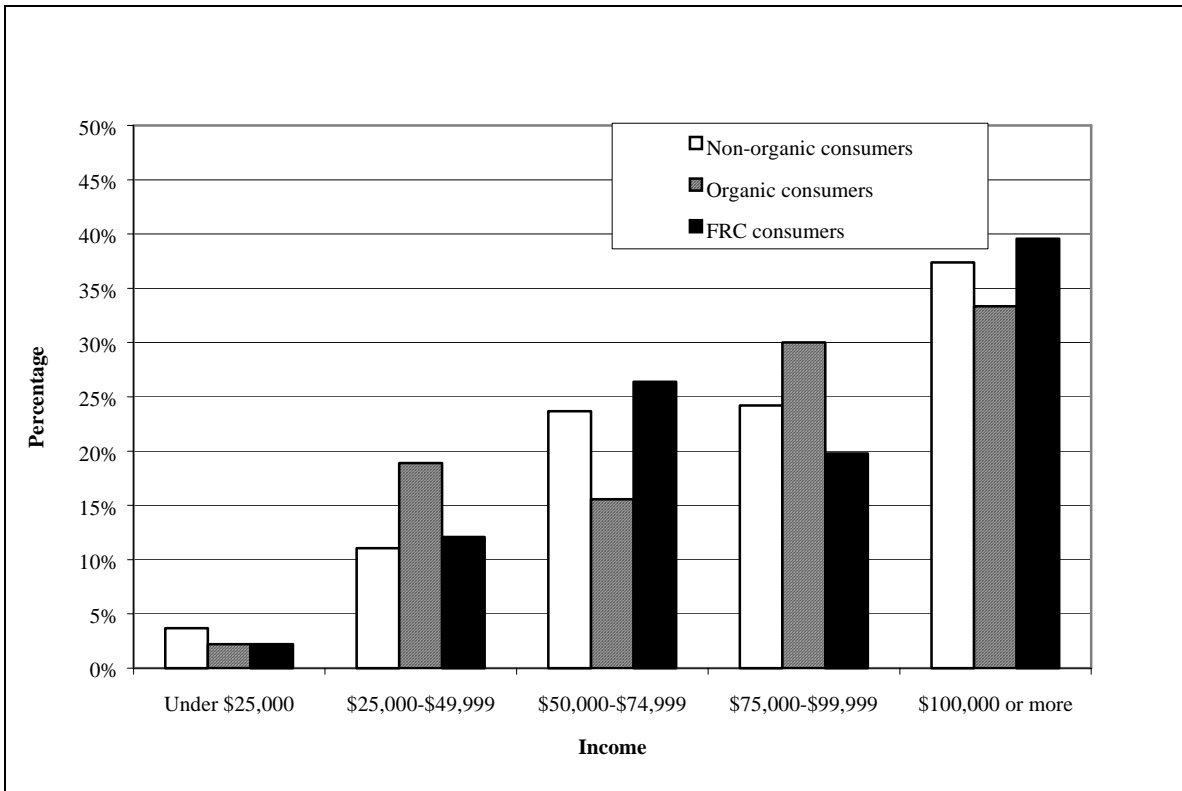
### **Demographic Information**

Many of the respondents were females, 70%, 84%, and 77% for non-organic consumers, organic food purchasers who had not purchased free-range chicken and organic food purchasers who had purchased free-range chicken, respectively. Most consumers were in the 45-54 age range category with 33%, 36% and 40% for non-organic consumers, organic food purchasers who had not purchased free-range chicken and organic food purchasers who had purchased free-range chicken, respectively. The age distribution is shown in Figure 3.1. Figure 3.2 illustrates the income levels of all three consumer categories. The average annual income level for all three

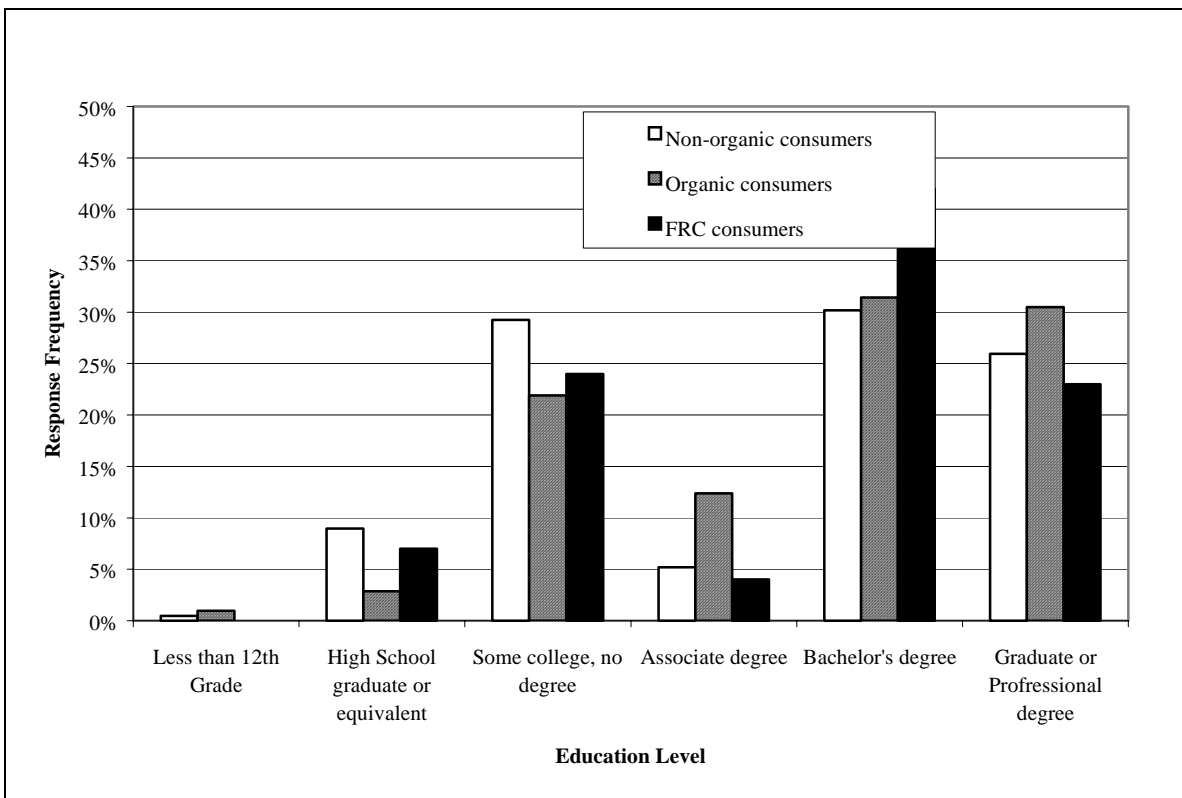
consumer categories was \$75,000 to \$99,999. The mode, or the number answered most frequently among respondents, was slightly higher than the average. The modes of all three consumer categories were \$100,000 or more in total annual household income. The modes of all three consumer categories were 'bachelor's degree' for highest level of education reached, shown in Figure 3.3. With respect to children, 43 percent of the total respondents had children under 18 in the household. This includes 43%, 36% and 50% for non-organic consumers, organic purchasers who had not purchased free-range chicken, and organic purchasers who had purchased free-range chicken, respectively.



**Figure 3.1. Age of Consumers by Category**



**Figure 3.2. Consumer Household Income by Category**



**Figure 3.3. Consumer Education Level by Category**

## Consumer Survey Questions and Results

*Question 1: How often do you eat chicken, whether as a main dish or an ingredient?*

Respondents were asked to indicate their consumption on a scale of 1 to 4 where 1 equals “never,” 2 equals “once per week,” 3 equals “twice per week,” and 4 equals “three or more times per week.” Most consumers reported that they eat chicken twice per week. Table 3.1 lists the summary statistics for weekly chicken consumption.

**Table 3.1. Weekly Consumer Consumption**

Consumer Type	Mean	Std. Dev.
Non-organic Consumers	3.17	0.73
Free-range chicken Consumers	3.15	0.74
Organic Consumers	2.91	0.96

*Question 2: How often do you buy each of the following chicken parts? Circle one number for each. 1 = often, 2 = occasionally, 3 = rarely, 4 = never.  
(Whole chicken, boneless breast, breast with ribs, wings, thigh, drumstick)*

Boneless chicken breasts were reported the most by consumer respondents as being purchased ‘often.’ Eighty-six percent of non-organic consumers purchased boneless chicken breasts ‘often.’ Organic consumers who had not purchased free-range chicken and consumers who purchased free-range chicken reported purchasing boneless chicken breasts ‘often,’ with 67% and 74%, respectively.

**Table 3.2. Consumer Consumption of Chicken Parts**

Part	Non-Organic		Non-FRC purchasers		FRC Purchasers	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Boneless Breast	1.18	0.50	1.46	0.80	1.37	0.70
Breast with ribs	2.35	0.99	2.57	1.09	2.27	1.01
Whole Chicken	2.66	0.96	2.53	1.04	1.79	0.72
Drumstick	2.70	1.10	3.02	1.00	2.77	1.05
Thigh	2.73	1.10	3.14	0.98	2.63	1.11
Wings	3.08	1.00	3.52	0.79	3.15	0.96

*Question 3: Please indicate how important each of the following factors are to you when deciding what type of chicken to buy. (1 equals not at all important, ..., 5 equals very important).*

Respondents in all three groups indicated that taste, appearance and being USDA approved were ranked very high in importance (Table 3.3).

**Table 3.3. Summary Statistics for Chicken Purchasing**

## Factors

Factor	Non-Organic		Non-FRC purchasers		FRC Purchasers	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Taste	4.73	0.65	4.62	0.84	4.82	0.56
Appearance/color	4.66	0.69	4.58	0.82	4.73	0.55
USDA approved	4.61	0.84	4.60 <sup>a</sup>	0.86	4.70 <sup>a</sup>	0.68
Available as individual parts	4.33	1.00	4.14	1.08	3.57	1.22
Available pre-packaged or fresh	4.27 <sup>a</sup>	0.97	4.01	1.18	4.15	1.10
Price	3.74	1.13	3.66	1.19	3.29	1.09
Extra lean/low fat	3.54	1.24	4.11	1.04	3.28	1.29
No artificial ingredients or additives	3.46	1.33	4.33	1.08	4.37	0.91
Grown without pesticides	3.37	1.37	4.11	1.23	4.22	1.13
Raised in a humane way	3.32	1.38	3.93	1.30	3.90	1.26
Grown without antibiotics or hormones	3.06	1.30	3.96	1.19	4.06	1.12
Raised with access to outdoors and grass	3.04 <sup>a</sup>	1.30	3.87	1.28	3.80	1.24
Known brand name	2.79	1.32	2.72 <sup>a</sup>	1.34	2.63 <sup>a</sup>	1.33
Vegetarian fed	2.64	1.33	3.64	1.26	3.77	1.17
High in omega-3	2.61	1.27	3.49	1.24	3.46	1.23
Grown on local farms	2.50	1.23	3.32	1.27	3.48	1.21
Grown on small family farms	2.42	1.18	3.25	1.28	3.39	1.20

<sup>a</sup>Indicates that the factors after this are ranked significantly greater than those previous to it (P<.01). For example, taste, appearance, and USDA approved are ranked significantly greater than any other factor for non-FRC purchasers.

*Question 4: For each of the following words or phrases below, please indicate your level of agreement that they describe free-range/organic chicken by circling one number for each. (1 equals strongly agree, ..., 5 equals strongly disagree, ..., 9 equals don't know).*

**Table 3.4. Summary Statistics for Free-Range/Organic Chicken Attributes**

Factor	Non-Organic		Non-FRC purchasers		FRC Purchasers	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
USDA approved	1.56	0.90	1.63	1.01	1.58	0.94
No artificial ingredients or additives	1.71	0.95	1.39	0.72	1.31	0.69
Taste	1.71	0.97	1.49	0.81	1.28	0.55
Grown without antibiotics or hormones	1.75	1.04	1.46	0.76	1.46	0.98
Grown without pesticides	1.76	1.00	1.45	0.80	1.31	0.64

Raised in a humane way	1.79	0.94	1.58	0.82	1.61	0.89
Raised with access to outdoors and grass	1.79	0.97	1.46	0.68	1.57	0.81
Appearance/color	1.79	1.02	1.56	0.87	1.39	0.62
Vegetarian fed	1.89	1.01	1.76	0.93	1.62	0.85
Grown on small family farms	2.13	1.00	2.02	0.87	2.02	1.09
Available as individual parts	2.15	1.18	2.23	1.09	2.69	1.34
Extra lean/low fat	2.16	1.00	1.94	0.89	2.32	0.97
Grown on local farms	2.16	1.00	2.11	0.92	2.08	1.05
Available pre-packaged or fresh	2.30 <sup>a</sup>	1.21	1.98	0.97	2.10	1.20
High in omega-3	2.31	0.93	2.09	1.06	2.15	0.90
Price	2.56	1.30	2.52 <sup>a</sup>	1.30	2.67 <sup>a</sup>	1.24
Known brand name	3.02	1.19	2.95	1.16	3.26	1.17

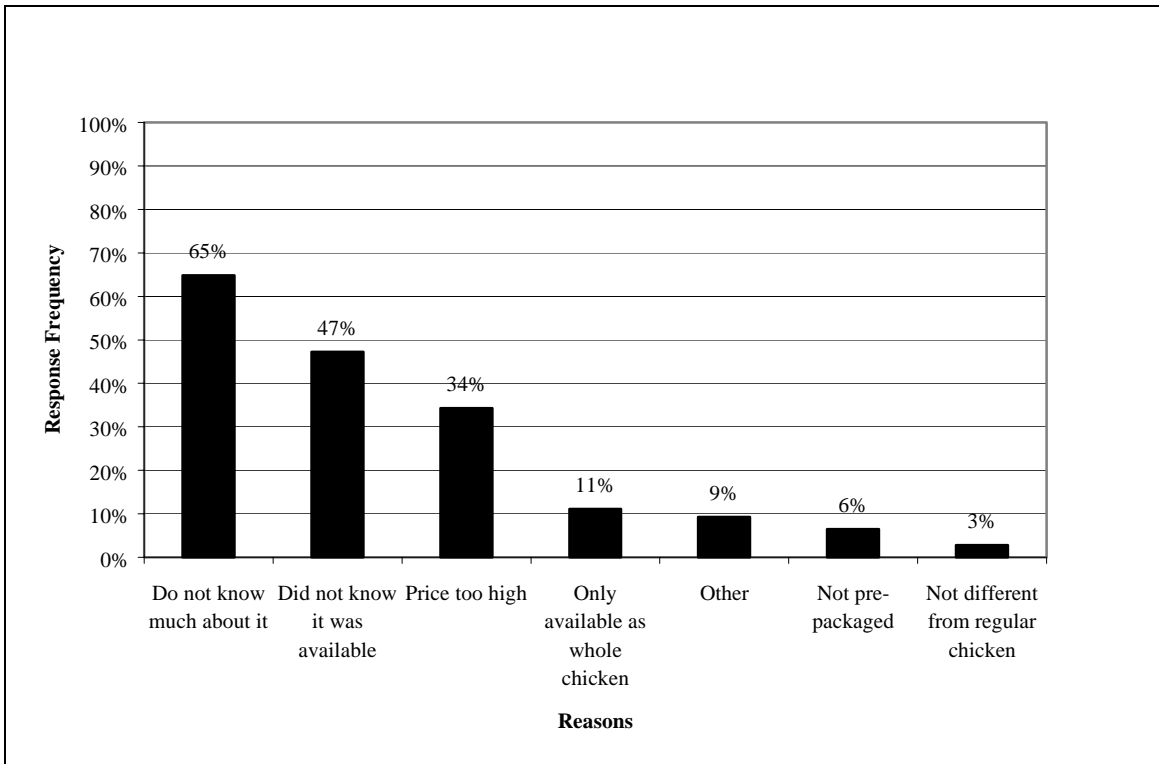
<sup>a</sup>Indicates that the factors after this are ranked significantly greater than those previous to it (P<.01). For example, price and known brand name are ranked significantly greater than any other factor for non-FRC purchasers.

*Question 5: Have you ever purchased free-range/organic chicken? Circle one number.  
1 = Yes, 2 = No, 3 = Don't Know*

Nearly half (47 percent) of the sample indicated that they had purchased free-range/organic chicken at some point. However, another 27 percent of the sample reported that they were not sure if they had purchased the product. This indicates that consumers are somewhat unfamiliar with the free-range/organic chicken.

*Question 6a: If you have never purchased free-range/organic chicken, what are the reasons you have not? Circle as many numbers as apply.  
Did not know it was available, price is too high, do not know much about it, only available as whole chicken, not available pre-packaged, there is no difference between regular and free-range/organic chicken, other*

Among those who said they had not purchased a free-range/organic chicken, not knowing much about it and not knowing it was available were the reasons given the most as to why they had not purchased the product. Figure 3.4 shows other reasons consumers have not purchased free-range/organic chicken.

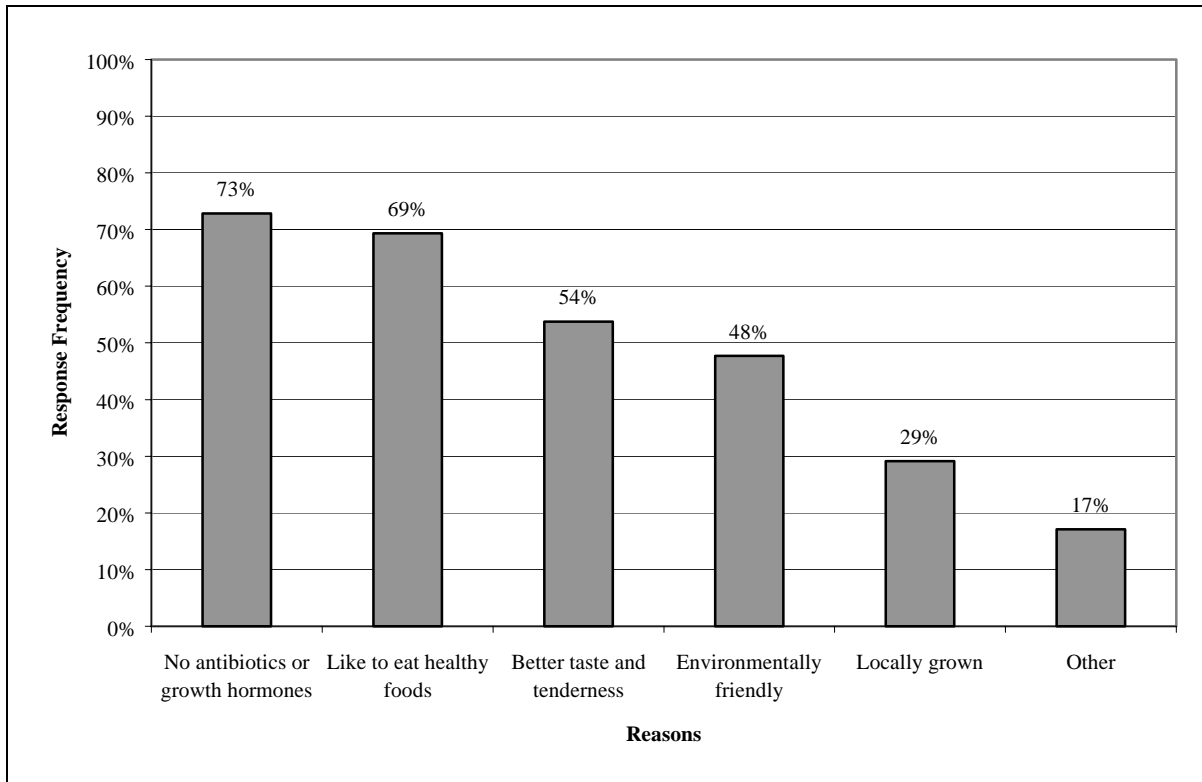


**Figure 3.4. Reasons for Not Buying Free-Range/Organic Chicken**

*Question 6b: If you have purchased free-range/organic chicken, what are the reasons you bought it? Circle as many numbers as apply.*

*Better taste and tenderness, it's locally grown, contains no antibiotics or growth hormones, like to eat healthy foods, they are raised in an environmentally friendly fashion, other*

Among consumers who had purchased free-range/organic chicken, the two primary reasons given were that it has no antibiotics or growth hormones and it is healthy. Figure 3.5 shows other reasons why consumers have chosen to purchase free-range/organic chicken. Additional comments from respondents are included in Appendix B.



**Figure 3.5. Reasons for Buying Free-Range/Organic Chicken**

*Question 7: Please indicate all the places you have purchased free-range/organic chicken. If you have never purchased free-range/organic chicken, please circle '1'. Have never purchased, Farmers' Market, Wild Oats, Other Health Food Stores, Hen House Market, Hy-Vee Store, Price Chopper store, over the Internet, direct from a local farmer, through a community supported subscription (CSA) group*

Of the entire sample, 38.6 percent reported that they had never purchased the free-range/organic chicken. Hen House Market, Wild Oats and direct from the farmer were the most popular shopping choices for those who had purchased the free-range chicken.

*Question 8: Whether you have purchased free-range/organic chicken previously or not, how likely are you to purchase it in the near future? Circle one number. 1 = definitely would buy, 2 = probably would buy, 3 = might or might not buy, 4 = probably would not buy, 5 = definitely would not buy*

Toward the end of the survey, the majority of respondents said they had at least some interest in purchasing free-range/organic chicken in the future. Of the total sample, 35 percent said they would definitely purchase the chicken and another 27 percent said they probably would purchase the free-range/organic chicken. Another 31 percent said they might or might not purchase the chicken. However, only 7 percent said they probably would not or definitely would not purchase the free-range chicken in the near future. Table 3.5 lists the summary statistics for the likelihood to purchase free-range/organic chicken in the future.

**Table 3.5. Likelihood to Purchase FRC in the Future**

Consumer Type	Mean	Std. Dev.
Free-range chicken Consumers	1.54	0.79
Organic Consumers	1.92	1.03
Non-organic Consumers	2.45	0.93

*Question 9: Shown below are two labels that might appear on free-range chicken. If you were desiring to purchase free-range chicken and saw two brands with these different labels, which would you choose, assuming they are both priced the same? (circle one number)*

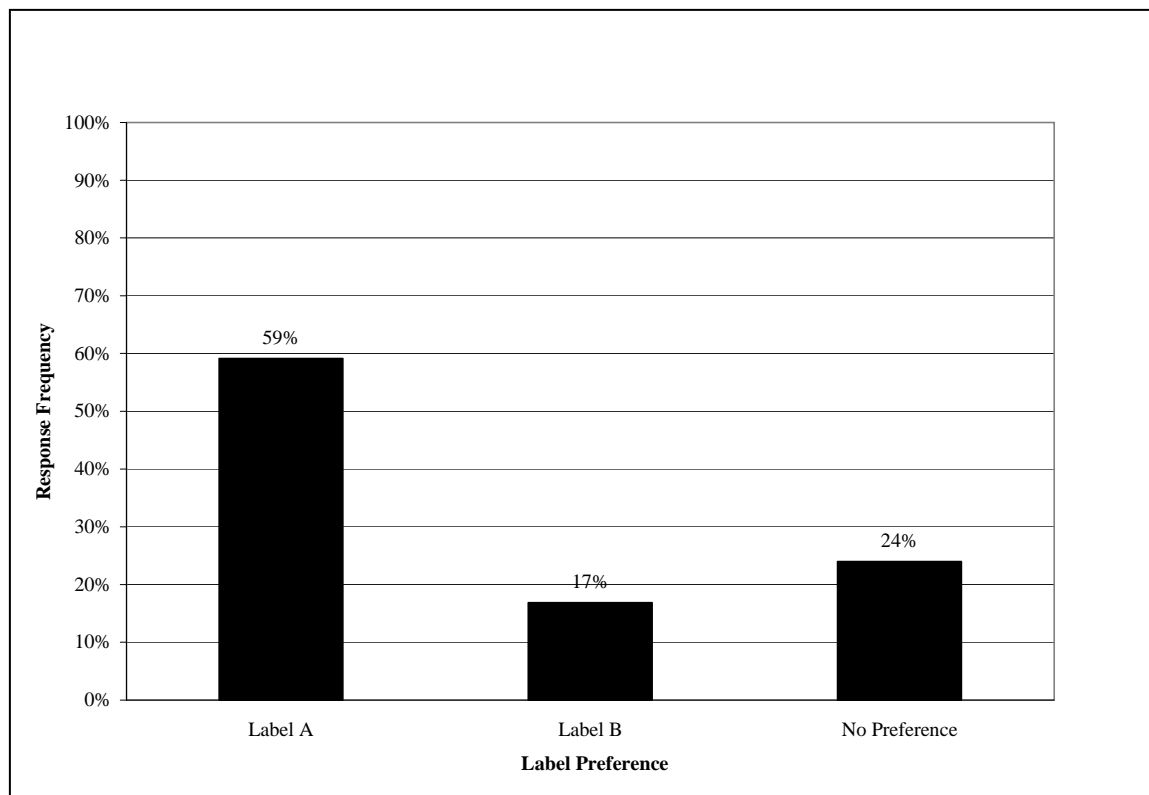
**Label A**



**Label B**



Label A contains the USDA Process Verified logo while Label B contains the USDA Organic logo. The International Organization for Standards' ISO-9000 quality standards have been embraced on a global basis in the last decade. Rather than relying on product inspection as a means of controlling quality, this approach is geared towards documenting and controlling processes, establishing product traceability, and applying corrective and preventive actions when problems occur. The system is self-monitored through routine internal audits and management reviews. Rigorous third-party certification is required before an organization can claim to manage their quality program according to this methodology.



**Figure 3.6. Preference for Label**

The USDA Agricultural Marketing Service’s Livestock and Seed program developed a voluntary, ISO-9000-based Quality System Certification Program (QSCP) specific to red meat commodity products. The QSCP stipulates 13 sets of requirements for a certifiable quality system that includes management responsibility, management review, documentation requirements, documentation control, product identification and traceability, internal review, process control, inspection and testing, inspection and test status, training, statistical procedures, contract review, and control of promotional materials.

Firms that successfully demonstrate compliance with a quality system meeting QSCP requirements are granted permission by the USDA to identify their products as “USDA Process Verified” on product packaging and labeling as well as in marketing materials. This is a stringent standard that only a handful of companies had achieved by the summer of 2002. However, no one has yet achieved it through use of a retail supermarket chain. Table 3.6 presents the breakdown of consumers by category.

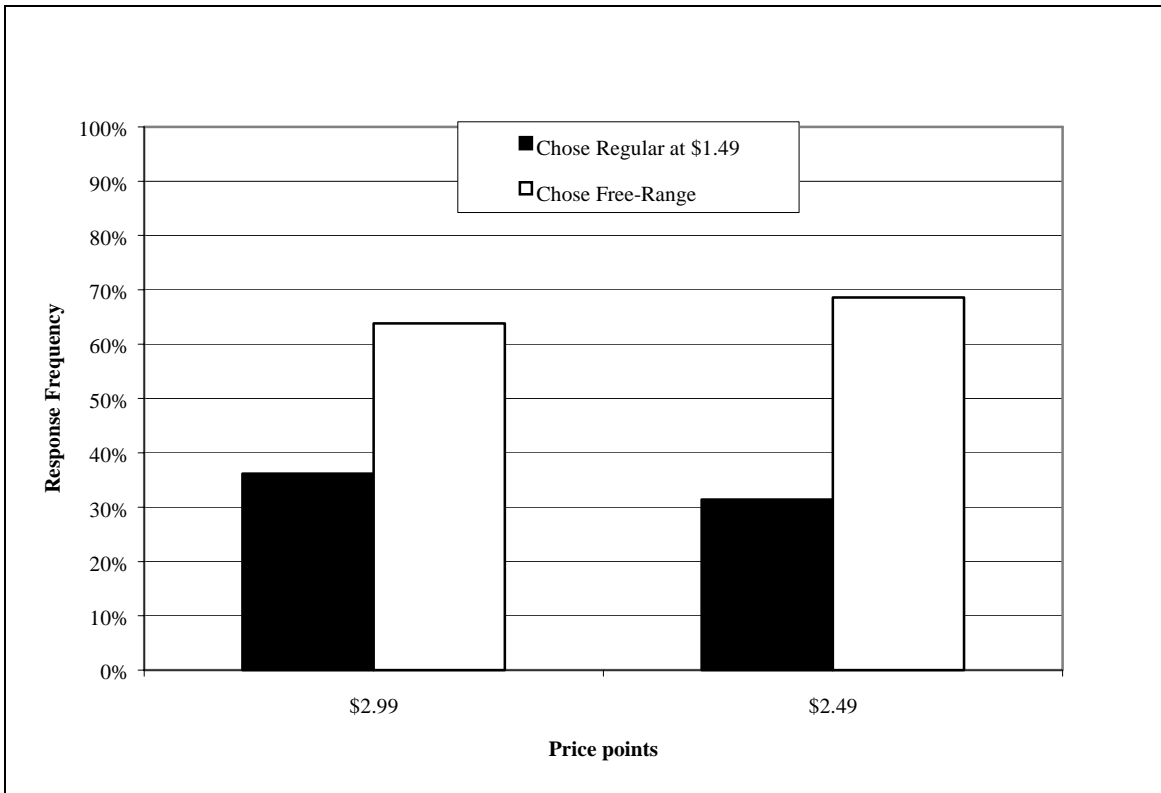
**Table 3.6. Preference for Label by Consumer Type**

Consumer Type	Process Verified	Organic	Indifferent
Non-organic consumer	126	34	54
Organic consumer	65	21	22
Free-range chicken consumers	58	16	25

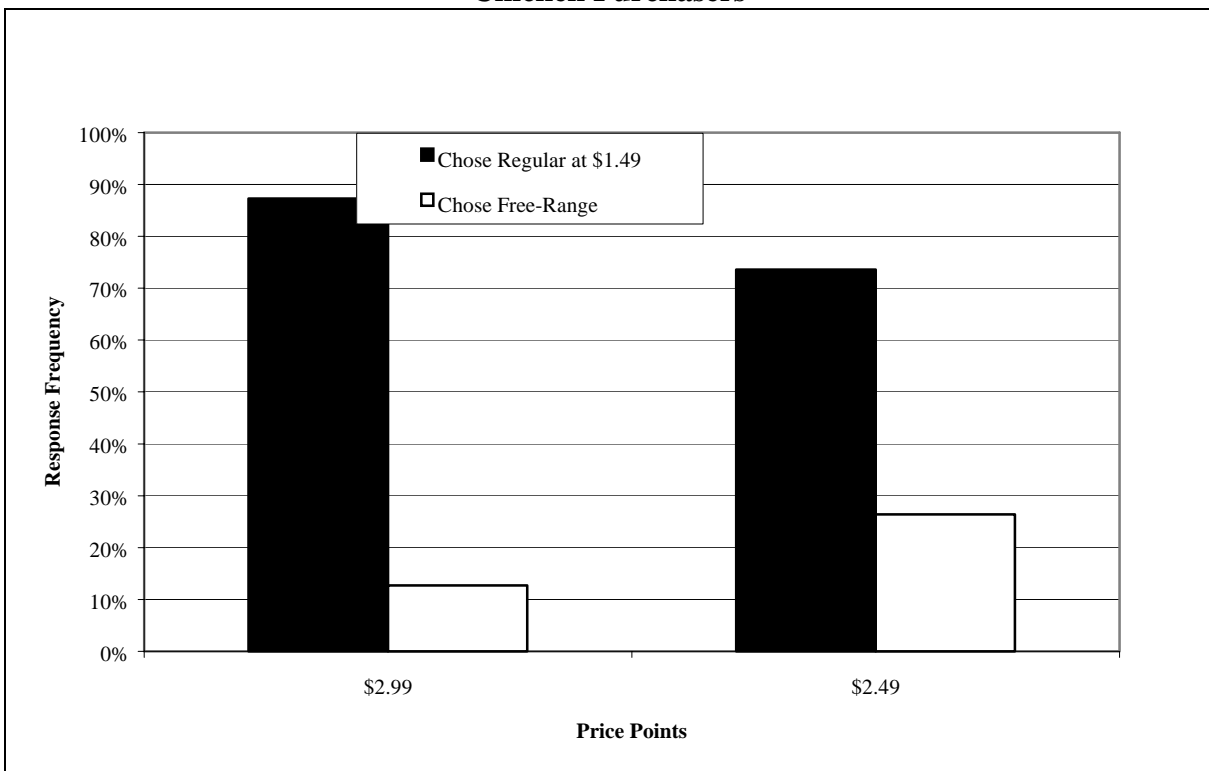
*Question 10: Now, imagine you are shopping for a whole, fryer chicken at your local grocery store. You can choose between regular and free-range/organic chicken. Please indicate which of the two you would purchase at the prices shown by circling one number.*

*(Price points are \$1.49/lb for regular whole fryer chicken and test points \$2.99/lb and \$2.49/lb for free-range/organic whole fryer chicken)*

All of the price questions have included as a base those who reported they purchased free-range chicken from survey question 5. Among free-range chicken purchasers, lowering the price by \$0.50 would have only a slight impact on purchase behavior. Dropping price per pound from \$2.99 to \$2.49 per pound for free-range/organic whole fryer chicken would only increase expected purchases by 5 percent. This indicates that current prices are not a significant barrier. Figure 3.7 illustrates this price relationship. Figure 3.8 shows that among non free-range chicken users, lowering the price by \$0.50 would help entice some new purchasers. However, the majority would still buy regular chicken. Dropping price per pound from \$2.99 to \$2.49 per pound for free-range/organic whole fryer chicken increased expected purchases by 13 percent.



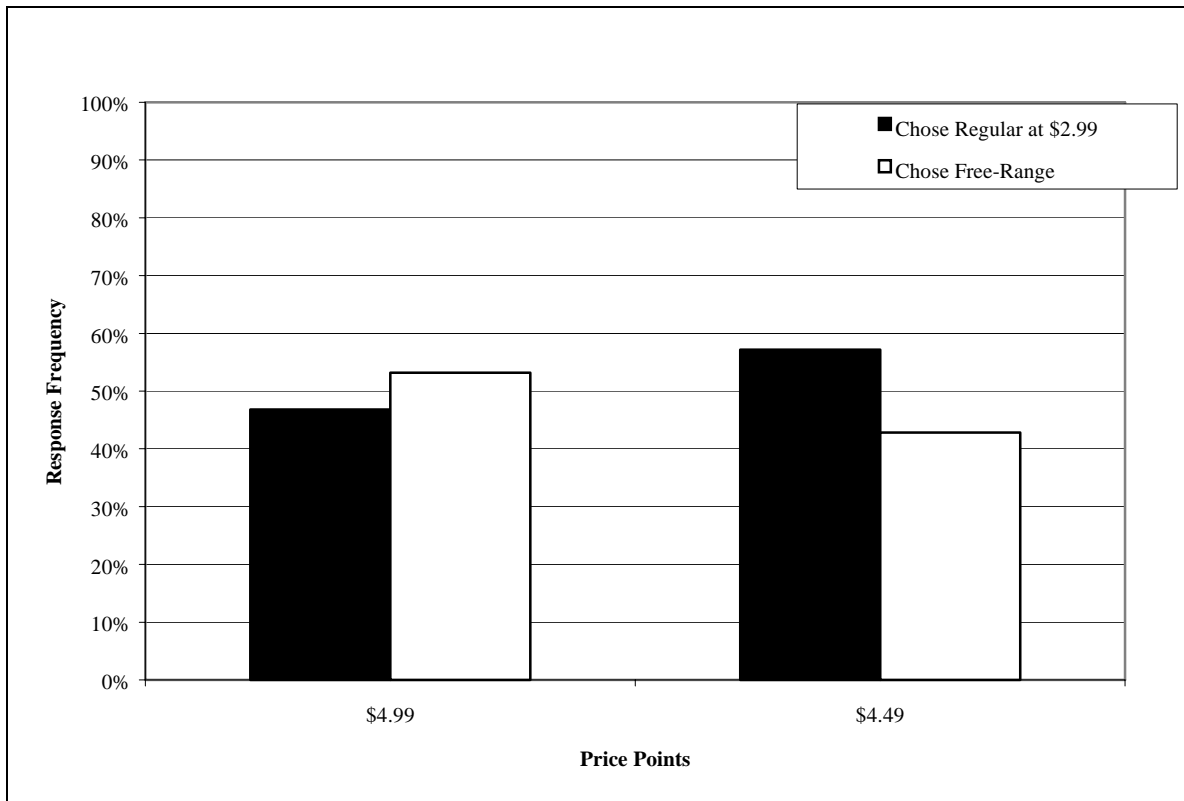
**Figure 3.7. Whole Fryer Chicken Price Sensitivity Among Free-Range Chicken Purchasers**



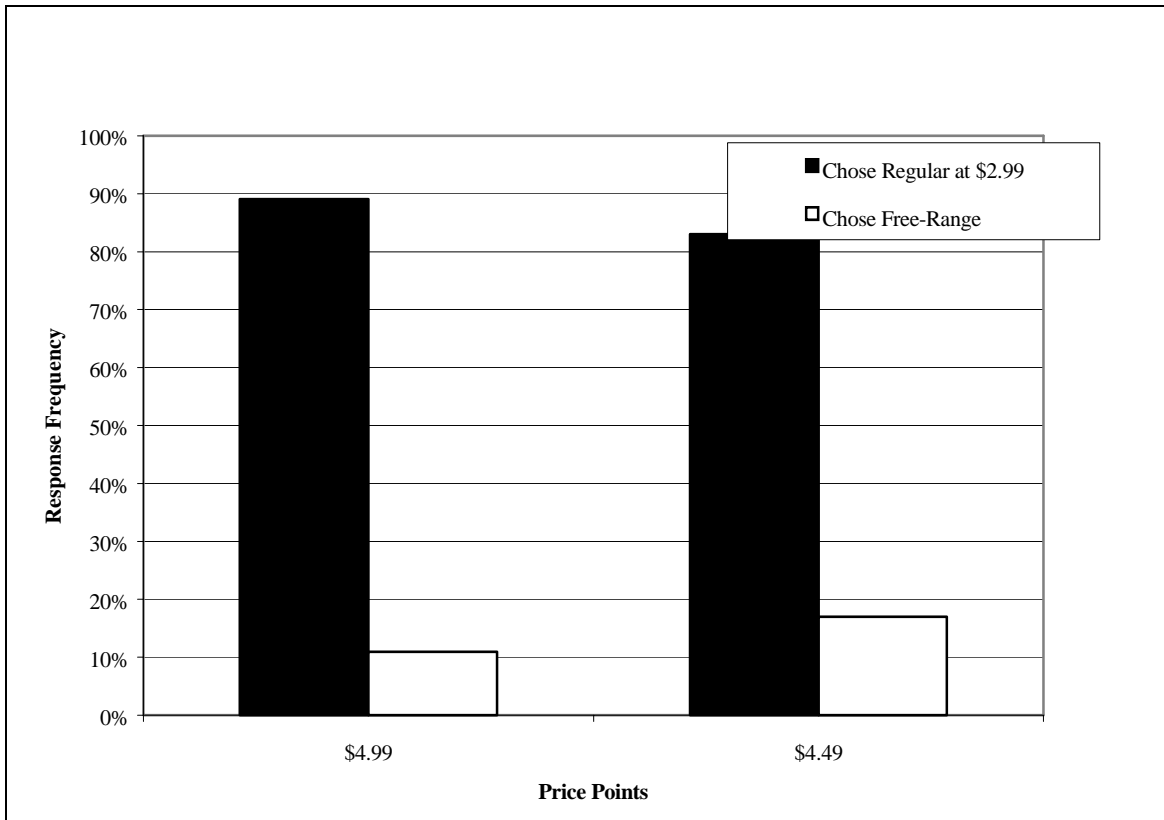
**Figure 3.8. Whole Fryer Chicken Price Sensitivity Among Non Free-Range Chicken Purchasers**

*Question 11: Now, imagine you are shopping for chicken breast (with bone in) at your local grocery store. You can choose between regular and free-range chicken. Please indicate which of the two you would purchase at the prices shown below by circling one number.  
 (Price points are \$2.99/lb for regular bone-in chicken breast and test points \$4.99 and \$4.49/lb for free-range/organic bone-in chicken breast)*

Among free-range chicken purchasers, lowering the price by \$0.50 once again had only a slight effect on purchasing behavior. Figure 3.9 illustrates the purchasing behavior and price sensitivities among current free-range chicken purchasers. Among non free-range chicken users, dropping the price by \$0.50 from \$4.99/lb to \$4.49/lb for bone-in chicken breast did not necessarily make them more inclined to purchase the free-range chicken. Figure 3.10 shows the price sensitivities of non free-range chicken users.



**Figure 3.9. Chicken Breast Price Sensitivity Among Free-Range Chicken Purchasers**



**Figure 3.10. Chicken Breast Price Sensitivity Among Non Free-Range Chicken Purchasers**

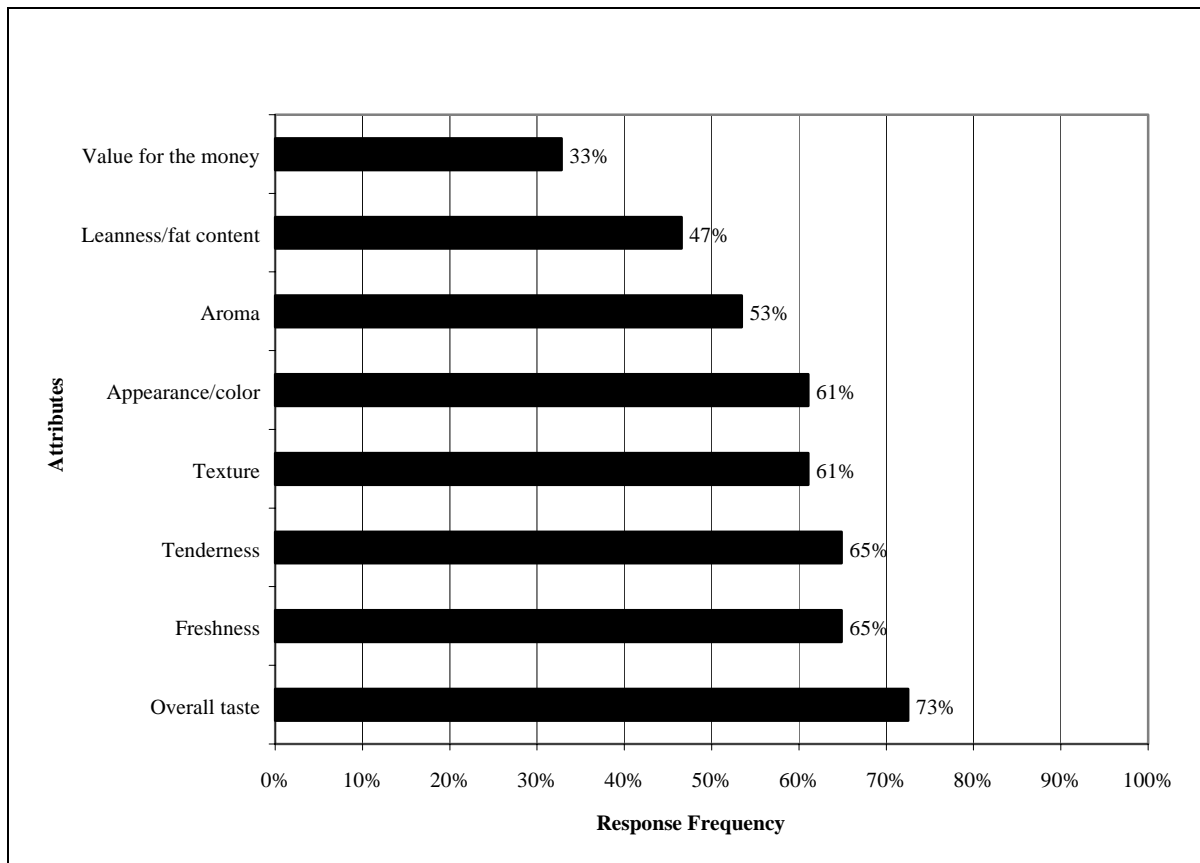
*Question 12: Which best describes how you used the free-range/organic chicken?  
As an ingredient in a recipe, as the main dish by itself*

Of those who had purchased and eaten free-range/organic chicken in the past 30 days, 92 percent used the chicken as the main dish by itself while only 8 percent used it as an ingredient in a recipe.

*Question 13: For each of the characteristics below, please rate your feelings toward the free-range/organic chicken compared to regular chicken by circling one number for each characteristic.  
Overall taste, texture, appearance/color, freshness, value for the money, leanness/fat content, aroma, tenderness*

Free-range/organic chicken rated favorably compared to regular chicken among those who had purchased free-range chicken within the previous 30 days. Overall taste received the highest rating with 73 percent judging the taste, more than any other attribute, to be “much” or “a little” better. More than 60 percent also favored the freshness, tenderness, texture and appearance and color of the product. Value was an attribute that consumers placed much lower. Only 33 percent of the recent free-range chicken purchasers rated the value for the money of the product as

“much” or “a little” better than regular chicken. Figure 3.11 shows the rankings of other product attributes compared to regular chicken.



**Figure 3.11. Free-Range Chicken Attributes Compared to Regular Chicken**

The outcome of the survey was to answer four main questions. These were: 1) What are the motivations and barriers to purchasing free-range chicken?, 2) What are important attributes of purchasing free-range chicken?, 3) How should a brand be positioned for free-range chicken?, and 4) How would consumers respond to changes in price?

### **Brand Positioning**

Kotler (2001) notes that there are three critical aspects that must be satisfied to ensure long-term successful branding of a product. The first aspect is that it must communicate an end benefit to the consumer. For example, stating that something is “natural” is not really an end benefit but that it is “better for you.” The second aspect is that it must be focused on only a few benefits. For example, stating that something has been produced without artificial ingredients, that it has been produced without antibiotics, and that it has been produced by small producers can be cumbersome on a label. Identifying a product as “natural” may signal these attributes to a consumer. The third aspect is that it must communicate a point of difference between itself and other brands. For example, a brand can signal consumers that something is “better” in some way.

It was clear from Tables 3.3, 3.5, and 3.11 that taste was an important attribute that distinguished free-range chicken from regular chicken. Taste is clearly an end benefit for consumers. Thus,

any brand used by a producer or producer group must convey this attribute to consumers. Health-related benefits also appear to be a secondary important attribute and could be communicated to consumers using a brand.

Taste is clearly important but this is difficult to convey to consumers without their trying the product. Organic or natural labeling could be used to signify that the product tastes better because it is grown without artificial ingredients or additives, without pesticides and without antibiotics. Most surveys have found that something that is labeled organic or natural conveys these attributes. Thus, USDA has set strict guidelines for the use of these claims on a label as noted in Chapter 1.

Organic food users should be a primary market for free-range chicken. These consumers had a higher level of usage and interest in purchasing free-range chicken as seen in Table 3.3. In addition, 72 percent of the organic food purchasers had purchased free-range chicken compared to 22 percent of the non-organic food purchasers. In addition 80 percent of organic food purchasers indicated that they would purchase free-range chicken in the future compared to 47 percent of the non-organic purchasers (Table 3.4).

Lack of awareness that free-range chicken was available was a primary reason why organic consumers had not tried free-range chicken. Sixteen percent of organic food purchasers were uncertain that they had purchased free-range chicken compared to thirty-nine percent of non-organic food purchasers. Overall, 63 percent of the non-organic consumers did not know much about free-range chicken and 51 percent did not know it was available. Clearly promotion is important.

### **Summary**

Several significant insights were gained from this survey. First, there is an apparent lack of knowledge about free-range chicken and its availability. Although nearly half of the sample indicated that they had purchased free-range chicken, nearly 27 percent were not sure. Another insight is that consumers in this sample were generally not price sensitive. Lowering the price by \$0.50 per pound in two different scenarios had only a minor effect on consumer's purchasing behaviors.

An additional significant insight was the fact that consumers reported that taste, appearance, and USDA approval were clearly the most important factors to consider when purchasing chicken of any type. An additional conclusion was that the greatest motivations to purchase free-range chicken that consumers reported were the perceived health benefits—most importantly, the lack of growth hormones or antibiotics and the fact that it is healthy. Finally, an additional insight was that recent purchasers of free-range chicken rated it above regular chicken in all attributes but value. Overall taste was rated the most favorably.

Generally, free-range chicken purchasers from this sample tend to be among the 45-54 age group, have higher incomes than non purchasers, tend to be more educated, and are about as equally likely as consumers in the other two groups to have children under age 18 in the household.

These observations were found in the survey by analyzing these data in a qualitative manner. The next chapter uses a quantitative technique, logit regression, to see what impact the variables

had a consumer's decision to purchase regular or free-range chicken breasts, or regular or free-range whole chickens.