

Highlights From 2001/02 Kentucky Produce Marketing Surveys

AEC-EXT 2002-05
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Introduction

Kentucky's produce industry has grown rapidly during the past three years. Many producers seeking alternatives to tobacco production have turned to vegetable and fruit crops for additional farm income. While many producers have successfully incorporated produce crops into their operation, many have also encountered production failure and financial loss as the result of this diversification. All too often, the financial loss from a produce crop is related to non-existent marketing plans or the failure of an existing marketing structure.

Several groups involved in produce marketing in Kentucky were surveyed during November and December of 2001 and throughout 2002. These were produce growers, wholesale buyers, and extension agents. Results from the grower survey were used throughout 2002 to generate produce planting intentions and identify potential crops for expansion. The buyer and extension surveys were completed throughout the summer and fall of 2002.

This publication will seek to integrate the grower survey results with the results of the extension agent and wholesale buyer surveys. It will especially focus on the marketing channels used by the responding Kentucky produce growers. Combining responses to similar questions from growers, buyers, and extension agents alike, recommendations will be offered for future produce crop expansion and marketing infrastructure development.

Grower Demographics

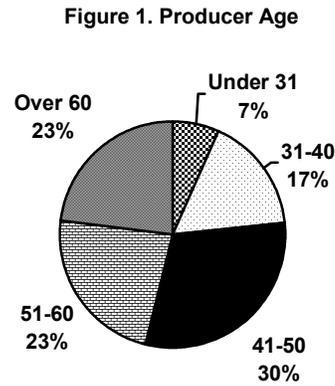
What does the Kentucky produce grower look like? The 2001 Kentucky Produce Marketing Practices Survey offered the most comprehensive look ever at the people in Kentucky who are producing fruits and vegetables on a commercial scale. Nearly 1,000 names of active produce growers were obtained through the Kentucky Department of Agriculture, County Extension Offices, vegetable cooperatives, and farmers' markets.

A single mailing to 955 fruit and vegetable growers yielded responses from over 40 percent (385) of the growers surveyed. Of these responses, slightly more than six percent (62) represented addresses where produce was not grown commercially in 2001. This left nearly 35 percent (323) of the grower surveys available for analysis. This is an exceptional response rate for a single-mailing survey.

Age

The fruit and vegetable producers surveyed, like Kentucky’s entire farm population, reflected a generally older operator base. Producers were asked to group themselves into one of five age categories: under 30 years old; 31-40; 41-50; 51-60; and over 60 years old.

Only a quarter (24 percent) of fruit and vegetable producers were under 40 years old (Figure 1). Almost half (145 or 46 percent) of the respondents were over 50 years old. The largest single category of producers, by age, was those producers between 41 and 50 (30 percent).

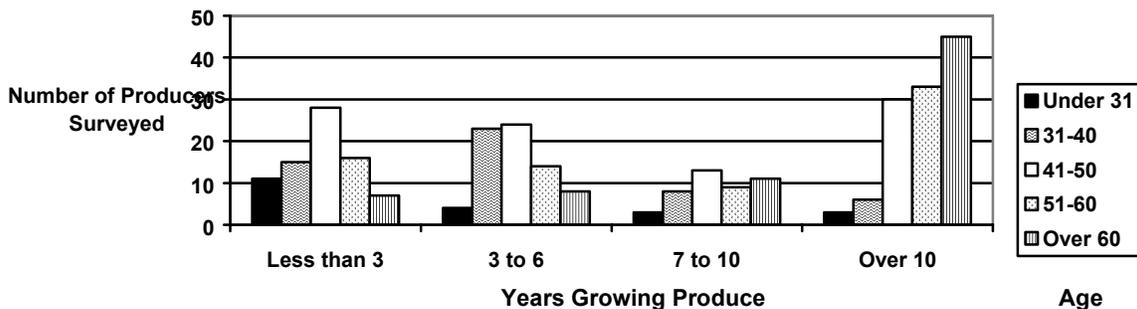


Experience

Many of Kentucky’s fruit and vegetable producers are relatively new entrants into the produce industry. One-quarter of the respondents had been growing produce for less than three years. Almost half (48 percent) of the commercial fruit and vegetable growers surveyed had less than seven years of experience producing commercial fruits and/or vegetables.

When age and experience were compared, older producers made up most of the 52 percent more experienced growers (growers with more than seven years experience growing produce crops). Two-thirds (78) of the 117 producers with more than 10 years experience growing fruits and vegetables were over 50 years of age. Only nine of the 117 producers with more than ten years experience were under 41 years of age (Figure 2).

Figure 2. Producer Age and Experience



The producer base in this sample is, like most of Kentucky’s farm community, generally older. However, the produce industry has tended to attract younger growers as new producers during the past five years. The largest number of producers who had been growing produce crops for less than six years were found in the 31-50 year old range. But there are still relatively few producers in these younger age categories; furthermore, less than one percent of those producers responding were under 31. Continued

recruitment and retainment of younger growers will be critical in ensuring the continued, long-term expansion of commercial fruit and vegetable production in Kentucky.

Farm Types

The producers who responded to this survey operated a diversity of farms, from “super-gardens,” to large commercial farm operations. Produce crops have often been touted as tobacco alternatives; tobacco was indeed the most common farm product produced alongside produce on the operations surveyed (Table 1). This may indicate that efforts to recruit tobacco farmers for Kentucky produce industry have been successful.

Table 1. Other Farm Production

314 respondents	n	% of producers
Tobacco	137	44%
Cattle and/or Horses	117	37%
Row Crops	101	32%
Hay	34	11%
Flowers	12	4%
Nursery/Greenhouse	5	2%
Other Livestock	5	2%
Honey	3	1%

One-fourth of the respondents indicated considerable diversity in their produce operations. There were 84 respondents who reported that they produced both vegetables and fruit on their operation. Those producers producing both vegetables and fruits had an average of 9.75 acres in vegetable production and 4.37 acres of fruit production. Several producers of both fruit and vegetables raised more than 20 acres of pumpkins; one producer of both fruit and vegetables reported more than 100 acres of sweet corn.

Income

Of the 323 producer surveys available for analysis, 290 included responses that categorized both gross farm income and gross produce income in 2001. Each income category was broken down into four categories (Under \$20,000, \$20,000-\$49,999, \$50,000-\$99,999 and More than \$100,000). The responses among these four broad categories indicate that produce sales comprise a minority of farm income, especially among producers with more than \$20,000 in farm income.

- “...27 percent of those providing income information reported both farm and produce sales less than \$20,000.”
- From respondents with more than \$20,000 in farm sales “...produce sales contributed to no more than 50 percent of gross farm incomes among half of the farms surveyed.”
- Under one-quarter of the producers surveyed indicated the possibility of generating more than half their farm income from produce sales.

Slightly more than one-quarter (27 percent) of those providing income information reported both farm and produce sales less than \$20,000. These operations presumably rely on farm (and produce) incomes only to supplement outside incomes. Over one-third (36 percent) of those reporting gross farm income over \$50,000 reported produce sales of less than \$20,000. An additional 12 percent of those responding to the

income questions reported gross farm income in excess of \$100,000 and produce sales less than \$50,000.

Future surveys may seek to more precisely gauge the percent contribution produce sales make to gross farm income in Kentucky. These 2001 data, however, suggest two generalizations about the industry:

- First, there is a significant portion of Kentucky's produce industry comprised of small, "hobby farms" or "super gardens." This is represented by the 27 percent of operations surveyed with both farm and produce sales less than \$20,000.

Second, produce sales contribute to no more than 50 percent of gross farm incomes among half (48 percent) of the farms surveyed. More detailed income questions would have been required to gauge the contribution of produce to farm incomes in the remaining 25 percent of respondents. However, it is very likely that the number of produce growers in Kentucky deriving more than half their farm income from produce is less than 10 percent.

Demographic Summary

These demographic data show that produce in Kentucky is primarily grown

- by older (over 50 years old) producers
- by a significant number of producers with less than six years of experience
- as a supplement in households not relying on farm income for their livelihood or
- as a supplemental crop on relatively traditional farm operations.

Recruitment of younger producers and producers dedicated to produce crops as long-term, more primary part of their farm income will be critical for continued expansion of Kentucky's produce industry.

Produce Expansion: Facts and Factors

2002 Facts

A major use of the producer survey was to generate information concerning planting intentions and produce crops slated for expansion in 2002. Of the 323 surveys available for analysis, 314 returned usable acreage information. The total acreage surveyed was 3,186 acres (2,566 acres of vegetables and 620 acres of fruit).

Producers reported an average vegetable acreage of eight acres. Vegetable producers indicated an anticipated acreage increase of nine percent in 2002. Factoring in producers who did not respond to this survey, as well as marketing co-op acreage reported in Kentucky in 2002, a five to six percent increase in Kentucky's total vegetable acreage was probably realized for the 2002 season.

Table 2. Anticipated Acreage Increase By Crop Surveyed

314 respondents

	<i>Surveyed Acreage</i>	<i>1997 USDA Estimated Acreage</i>	<i>Percent of 1997 Agriculture Census</i>	<i>Surveyed Acreage Change</i>	<i>Percent Change</i>	<i>Organic Acres Surveyed</i>	<i>Percent of Surveyed Acreage</i>
Apples	346.0	2169	16%	1.25	0.4%	3.0	0.9%
Asparagus	17.5	33	53%	2.04	11.6%	1.9	10.7%
Beans, Snap	78.0	168	46%	24.29	31.1%	1.5	1.9%
Beets	3.6	7	51%	0.09	2.6%	1.0	29.0%
Blackberries	13.1	72	18%	3.50	26.6%	1.7	12.9%
Broccoli	37.9	40	95%	-2.66	-7.0%	1.0	2.7%
Cabbage	108.9	202	54%	9.96	9.1%	5.1	4.7%
Cantaloupes	125.4	184	68%	36.66	29.2%	0.6	0.5%
Carrots	1.2	N/A		0.05	3.8%	0.3	26.8%
Chinese Cabbage	4.9	N/A		0.05	1.0%	0.2	4.3%
Chicory, Endive	0.6	N/A		0.00	0.0%	0.6	100.0%
Cauliflower	1.0	N/A		0.20	19.5%	0.2	17.7%
Corn, Sweet	936.4	1382	68%	50.85	5.4%	8.7	0.9%
Corn, Ornamental	19.5	N/A		0.13	0.6%	0.4	1.8%
Cucumbers, Fresh	36.0	102	35%	5.79	16.1%	0.8	2.3%
Eggplant	3.6	12	30%	0.69	19.1%	0.6	17.2%
Grapes	22.8	81	28%	7.75	33.9%	0.1	0.4%
Greens	22.1	N/A		0.41	1.9%	3.1	14.1%
Leaf Lettuce & Romaine	3.6	17	21%	0.38	10.4%	2.6	72.9%
Lettuce (Greenhouse)	1.6	N/A		0.05	3.0%	0.2	13.4%
Okra	4.4	5	88%	0.35	7.9%	0.4	8.8%
Onions	4.0	31	13%	0.50	12.3%	1.7	41.5%
Parsley	0.9	N/A		0.02	2.5%	0.7	78.8%
Peaches	158.1	590	27%	4.00	2.5%	0.4	0.2%
Pears	17.3	43	40%	0.00	0.0%	0.3	1.4%
Peppers, Bell	226.9	316	72%	8.89	3.9%	2.1	0.9%
Peppers, Pimento	6.9	127	5%	0.00	0.0%	0.4	5.1%
Peppers, Jalepeno	5.6	38	15%	1.60	28.5%	0.5	8.4%
Potatoes, White	53.3	N/A		1.80	3.4%	2.8	5.3%
Pumpkins	450.6	820	55%	27.50	6.1%	0.6	0.1%
Squash, Summer	47.5	100	58%	10.35	21.8%	1.1	2.4%
Squash, Winter	10.2			3.75	36.8%	1.2	11.5%
Strawberries	48.2	193	25%	4.40	9.1%	2.3	4.8%
Sweet Potatoes	14.7	N/A		0.59	4.0%	0.6	4.2%
Tomatoes, Fresh	245.6	562	44%	10.08	4.1%	4.5	1.8%
Tomatoes, greenhouse	4.2	N/A		0.81	19.3%	0.2	4.2%
Turnips	7.1	29	25%	0.05	0.7%	0.4	5.4%
Watermelons	42.7	167	26%	2.09	4.9%	0.3	0.8%
Herbs	10.0	N/A		3.03	30.3%	2.7	26.7%
Other Vegetables	29.1	35	83%	18.78	64.4%	1.6	5.5%
Other Berries	9.4	66	14%	4.95	52.7%	0.9	9.6%
Other Fruits	5.4	N/A		0.25	4.7%	0.3	4.7%

The average fruit acreage reported was two acres. The fruit producers responding to the survey were most frequently producers of small fruits (berries); orchard acreage was underrepresented in this survey. The fruit producers responding indicated an acreage increase of four percent for 2002. However, an expected increase in Kentucky vineyard acreage from 200 to 450 bearing acres in 2004 places this observed fruit acreage increase for 2002 in the six to seven percent range.

Vegetables reporting more than 20 acres that led percentage increases were winter squash (37 percent); snap beans (31 percent increase); cantaloupes (29 percent); and summer squash (22 percent). Small fruits led the increases in reported fruit acreage: grapes (34 percent); blackberries (27 percent); and other berries including raspberries, loganberries, and blueberries (53 percent).

Co-op Role In Vegetable Expansion

Much of Kentucky’s commercial vegetable production is marketed through four marketing cooperatives. After low wholesale prices and marketing crises in several of these co-ops in 2001, producers marketing through co-ops appeared to be treating vegetable expansion gingerly.

Producers using co-ops indicated that they would be most aggressively increasing cantaloupe and pumpkin acreage (Table 3). Those producers not using co-ops, however, contributed to most of the indicated expansion in green beans and other vegetable crops. This indicates that those using co-ops to market produce are rarely experimenting with other crops.

Organic Expansion

The producers surveyed indicated that organic fruit and vegetable acreage is increasing at 30 percent, a much faster rate than the increase of Kentucky’s total produce acreage. Of the acres included in this survey, 2 percent (60 acres) were used for organic production. This represented one-third of Kentucky’s 180 organic fruit and vegetable acres in 2002.

Although the organic producers surveyed indicated that they would be expanding their acreage by 30 percent in 2002, changes in the organic certification program delayed producers realizing this acreage increase. According to the Kentucky Department of Agriculture, organic fruit and vegetable acreage remained steady in 2002. This delay in organic acreage increase, combined with additional interest being generated in organic fruits and vegetables, is expected to contribute to a significant increase in organic fruit and vegetable acreage in Kentucky during 2003. In 2003, organic fruit and vegetable acreage in Kentucky may even eclipse 250 acres, a 40 percent increase over 2002 levels.

Table 3. Expansion of Selected Crops (Acres) *310 respondents*

	Co-op Users	Non Co-op Users
Beans, Snap	1.0	23.3
Cabbage	7.0	3.0
Corn, Sweet	27.8	23.1
Pumpkins	26.0	1.5
Squash, Summer	9.0	1.4
Other Vegetables	0.0	18.8

Table 4: Sales Via Specific Market Channels By Number of Producers Responding

<i>Percentage of Producer Sales</i>	Number of Producers by Percentage of Sales (301 respondents)					
	100%	50-99%	25-50%	10-25%	<10%	0%
Direct Markets	91	85	19	29	11	66
Cooperative/marketing association	39	21	10	9	1	221
Direct to retail market (grocery, etc.)	4	8	19	47	26	197
Wholesale (noncooperative) market	1	8	13	12	7	260
Direct to local restaurants	0	4	2	14	23	258
Shipper/packer (sell to another grocer)	0	1	2	4	1	293
Internet	0	0	0	1	1	299
Processor	0	0	0	1	2	298
Community Supported Ag.	2	3	2	6	2	286
Auctions	2	4	2	9	8	276

Marketing Channels

Produce growers in Kentucky use a variety of marketing channels. The first most frequently utilized marketing channel is direct marketing, utilized by 78% of the 301 producers that responded to this question. The second most frequently utilized channel is cooperatives or marketing associations, used by 27 percent of the responding producers (Table 4).

It is more likely that producers using co-ops will market all their produce through co-ops than it is that producers using direct marketing will market all their produce through direct channels. Among those producers using co-ops, 49 percent (39 of 80 producers) said that they used co-ops to market all of their produce. Among those who use direct marketing, 39 percent (91 of 235 producers) said that they used direct channels to market all of their produce.

This survey indicated that nearly 90% of producers use either direct markets and cooperative/marketing associations to market their produce.

The remaining market channels—including direct to retail, wholesale, restaurant, grocer, Internet, processor, CSA, and auctions—only account for a small fraction of produce marketing in Kentucky.

Perceived Barriers to Wholesaling by Direct Marketers	
• Lower prices	54%
• Volume/Quality Requirements	24%
• Availability of Markets	22%
• Labor/Time Requirements	17%
• Buyer/Seller Relationships	12%

Direct Marketing vs. Wholesaling

Comments throughout the surveys reflected an overall reluctance by direct marketers to be involved in wholesaling. Lower prices were cited by 54% of direct marketers as a barrier to wholesaling. Volume and quality requirements, as well as market availability, were also seen as barriers to wholesaling by direct marketers. Other barriers perceived by more than 10% of the respondents were labor and time requirements of wholesaling, as well as the buyer/seller relationships necessary in a wholesale market.

Only 19 of the 323 respondents (5.8%) said that they had transitioned from direct to wholesale markets. Six of these producers had started wholesaling because they had identified a new market, while five producers said that they had started wholesaling through a co-op. Six other producers said the market had just “come to them,” or that they needed a way to move excess production. Only two of these 19 producers had shifted to wholesaling for profitability reasons.

Changes related to direct marketing were cited by 15% of the respondents as being in store for the 2002 year. These changes appear to be frequently occurring as producers turn to direct marketing to generate greater profits.

Produce Expansion Factors

Over half (58 percent) of producers responding indicated that they were interested in expanding their produce production. Respondents were asked to rank 16 potential factors for limiting produce expansion on a scale of 1 to 5, with 1 being “Not Limiting” and 5 being “Limiting.” Not surprisingly, the leading factors for limiting expansion were prices received, market outlets, and harvest labor availability. Transportation and credit availability were cited as the least limiting factors (Table 5).

The factors that were cited as being most important varied to some extent between co-op users and non co-op users. Co-op users ranked “Prices

	<i>1=not limiting; 5=limiting</i>		
	<i>268 Responses</i>		
	Average	Non Co-op Users	Co-op Users
Prices Received	3.25	2.92	3.96
Market Outlets	3.24	3.10	3.64
Harvest Labor Availability	3.24	3.48	2.67
Cooling	2.85	2.89	2.87
Labor Management	2.76	3.00	2.24
Weather	2.63	2.65	2.65
Disease Control	2.37	2.43	2.28
Irrigation	2.36	2.46	2.14
Labor Housing	2.36	2.36	2.32
Insect Control	2.19	2.34	1.87
Land	2.17	2.32	1.74
Equipment	2.12	2.23	1.83
Transportation	1.94	1.99	1.87
Credit Availability	1.62	1.58	1.77

Received” as being much more relatively important (3.96) than non co-op users (2.92). This is undoubtedly due to the importance of price in the higher volume, lower-margin wholesale production.

Co-op users also ranked “Market Outlets” relatively more important (3.64) than did non co-op users (3.10). The most limiting factor seen for expansion by non co-op users was “Harvest Labor Availability.” This factor (3.48) was much more limiting than it was for co-op users (2.67). Non co-op users are concerned about the availability of labor; co-op producers are concerned about market prices and the availability of market outlets.

Producer/Extension Relationship

The Extension Service was rated by almost 70 percent of growers as a “4” or “5” on a scale of usefulness to their operation, with “1” being “not useful” and “5” being “very useful.” The majority of produce growers in Kentucky depend on, and appear to trust, the Extension service for information about their produce operation (Table 6).

Extension was cited by 71 percent of those growers surveyed as a source they would ask about growing a new crop. Extension ranked closely behind “other growers” as a source of crop growing information. However, producers were not as likely to ask Extension agents about marketing a new crop as they were about growing it.

Table 6. Sources growers asked about growing and marketing a new crop

	298 Responses	
	Growing	Marketing
Other Growers	78%	57%
<i>Extension</i>	71%	42%
<i>Buyers</i>	41%	41%
Co-op	N/A	23%
Grower Organization	36%	22%
KY Dept. of Ag	25%	17%
Internet	25%	N/A
Input Suppliers	20%	7%
FSA	11%	N/A
Farm Bureau	4%	2%
No-one	4%	8%

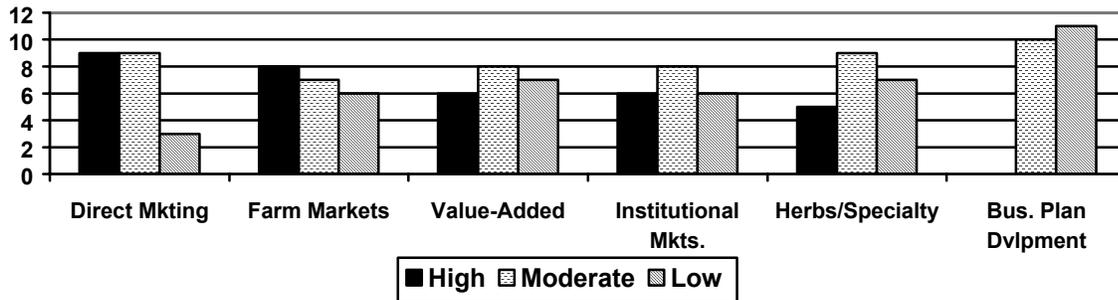
Surveys of 21 extension agents from counties significantly involved in produce marketing confirm the willingness of producers to ask extension about production first, and then marketing. Eighteen of the 21 agents indicated that they received moderate or high levels of requests from produce growers about soils testing, pest control, and irrigation. Sixteen of the agents indicated that they received moderate or high levels of requests about market development from produce growers. Market development (9 agents), however, was second only to pest control (11 agents) in the level of “high requests” that they had received from produce growers.

Extension agents were also asked to assess producer interest in developing educational programs for horticulture crops in six areas. These areas included:

- Organizing farm markets
- Direct marketing and retailing
- Processing and marketing value-added products
- Selling to institutional markets (schools, restaurants, etc.)
- Marketing herbs and specialty crops
- Business plan development
-

According to the responding extension agents, direct marketing and organizing farm markets are the areas in which producers are most interested in educational programs. This may indicate that, while produce growers are not as likely to ask extension agents about marketing produce crops, there is a great deal of interest in learning from extension educational programs—especially those targeting direct marketing of produce.

Figure 3
21 KY Extension Agents' Assessment of Horticultural Producer Interest in Developing Educational Marketing Programs



It may also be significant to note the relative lack of interest from producers for business plan development. Proactive market planning and development, such as is required by a business plan process, may assist producers in avoiding the lower prices, lack of market outlets, and lack of harvest labor availability that are cited as limiting factors for expansion.

Producer/Buyer Relationships

In addition to the relationship between Extension agents and producers, the produce industry surveys also offered a look at the relationship between producers and buyers. Both producers and buyers responded overwhelmingly that one of the most important factors when marketing produce is the relationship between the produce buyer and the produce grower (Table 7). Although there are discrepancies in sample size, each random sample represents an approximately equal percentage of produce growers and produce buyers in Kentucky.

Although the buyer survey sample size is small, there are a few interesting observations that can be drawn about these data. First, there is a considerable discrepancy in the importance placed on insurance among both producers and buyers. This is intuitive: producers selling to a wholesaler are not in need of product liability insurance while the

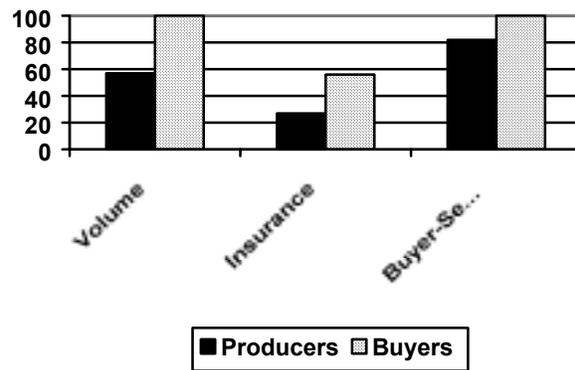
wholesaler, of course, is. Second, both producers and buyers place a considerable amount of importance upon the buyer/seller relationship.

But perhaps most revealing about the producer/buyer relationship in Kentucky is the lack of importance that producers place on volume requirements when considering expanding a new crop. Volume (as exhibited in Table 7 below) is totally important to buyers. However, it was only ranked by 57 percent of producers as a “4” or “5” on the Likert scale of importance when considering a new crop. More revealing is the fact that 24 percent of producers said that volume requirements are “not important” when considering growing a new crop.

The importance of volume to buyers appears to be a critical point that producers either do not understand, simply let marketing co-ops deal with, or are absolutely unaware when considering a new produce crop.

Interestingly, the buyers surveyed most strongly disagreed with the following statements about local farmers: “They are consistent,” and “They understand market conditions.” Basic market education for produce growers may be well warranted in Kentucky.

Figure 4. Importance of Selected Factors For Expansion: Responses of "4" or "5"
1=not important, 5=very important



Technology Adoption

Technology adoption can also affect expansion. There appears to be a significant difference in producer perception of old and emerging marketing technologies from those of buyers. Consider the following:

- Only 28 percent of producers believe traceback will impact their operation over the next few years

Of traceback, contracting, third party certification, organics, and branded produce, **produce buyers list traceback as the second most important of these factors** over the next few years—next only to the closely related third party certification. In a similar question, buyers rated only duration of supply more important than third part certification and traceback when buying fresh produce.

- Only 3 percent of producers surveyed in Kentucky use Product Lookup (PLU) coding.

Buyers surveyed in Kentucky were also less enthusiastic about the importance of PLU coding, ranking it eighth in importance out of nine requirements for buying fresh produce.

In Kentucky, there appears to exist considerable barriers toward adopting some new technologies among both buyers and producers of fresh produce. Food safety and produce quality issues, however, appear to be most important to address for growers and buyers.

Table 7. Importance of Selected Factors When Marketing Produce/Expanding Production

	<i>Likert Scale of 1-5; 1=Not Important; 5=Very Important</i>					
	1&2		3		4&5	
	Producer	Buyer	Producer	Buyer	Producer	Buyer
	<i>267 Producer Responses, 9 Buyer Responses</i>					
Insurance	55%	22%	18%	22%	27%	56%
Location	10%	11%	15%	22%	75%	67%
Volume Requirements	24%	0%	19%	0%	57%	100%
Grading	28%	11%	23%	22%	49%	67%
Cooling	31%	11%	20%	22%	49%	67%
Buyer-seller relationships	8%	0%	10%	0%	82%	100%

Crops for Expansion

While they frequently disagree about what are important variables in expanding fresh produce production, both growers and sellers agree that tomatoes and peppers are the most important vegetable crops for expansion in Kentucky. This corresponds to the

Vegetable Crops Most Frequently Named as Increasing in Market Opportunities	
Buyers	Growers
Tomatoes (including grape and green)	Tomatoes
Peppers (including specialty and processing)	Peppers
Squash (Winter & Summer)	Corn
Cucumbers	Pumpkins
Fruit Crops Most Frequently Named as Increasing in Market Opportunities	
Buyers	Growers
Watermelon	Strawberries
Cantaloupe	Blueberries
Peaches	Blackberries
Apples	Peaches
Berries	Raspberries

emphasis placed on these two crops in the state's developing commercial vegetable production system. Both producers and buyers were split on cabbage prospects for the state—almost as many said that cabbage presented increasing market opportunities as said that it presented decreasing opportunities.

For fruit crops, both groups agree: berries and peaches have potential in Kentucky. Buyers also see potential in watermelon and cantaloupe production, but growers had mixed experiences with these crops in 2001 and did not see as much opportunity for them.

CONCLUSIONS

Surveys conducted in 2001 and 2002 of Kentucky produce growers, extension agents, and produce buyers helped provide the most comprehensive look at the state of Kentucky's produce industry and marketing channels to date. These surveys have led to several conclusions about each of these groups, as well as prompting direction for future survey and research into the way Kentucky's produce is marketed.

Produce growers are composed of both older, experienced producers and middle-aged "new" producers. They are growing produce to either supplement farm income, investigate alternative sources of profit, or simply as a hobby or "supergarden." Most are marketing produce through direct or cooperative wholesale markets. More precise research is needed to gauge exactly how produce is contributing to farm incomes on different size operations and which marketing channels are being used most effectively for each kind of produce.

Produce growers rely on and trust the extension service for production information; yet, they are not as willing to consult extension about marketing information for new crops. Extension agents indicate that they see a need from produce growers for training in marketing. Training of extension agents about marketing produce, particularly through direct marketing channels, is critical in the immediate future for continued market development.

There is some discrepancy between what produce buyers value and what produce growers think is important when considering a new crop. For example, buyers place a strong emphasis on volume of product and think that traceback will be important in the near future; growers do not think either of these are too important. Produce growers could benefit from educational efforts about wholesale produce channels. Such programs could benefit the producer/buyer relationship which is very important to both growers and buyers in Kentucky.

Immediate future expansion in Kentucky's produce industry will come through the traditional vegetable crops—tomatoes, peppers, and sweet corn. Melons—especially cantaloupe—are also viewed by producers and buyers as important crops for expansion. Both producers and buyers alike say that berries continue to be a growth sector in Kentucky's fruit industry. There may also be room for expanded peach production.

Continued surveys of these groups will benefit awareness of the changes and challenges taking place in Kentucky's fledgling produce industry. Future survey efforts should be tuned to measure these changes and continue to account for the voices from the various sectors involved in produce marketing in Kentucky.

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