



## *ND Rural Life Poll Results, Spring 2006*

The Rural Life Poll is a project of the Center for Rural Studies at the University of North Dakota. The purpose of the Center is to enhance the quality of life of rural residents of the Northern Plains through coordinated research and information dissemination efforts. A public scholarship grant from UND provided the financing to conduct this poll.

The poll was conducted in collaboration with the Foundation for Agricultural and Rural Resources Management and Sustainability. The mission of FAR<sup>R</sup>RMS is to serve the region, the state and the world in discovering, exploring and implementing practices and methods to further the sustainability of farms and rural communities.



## Purpose and Methodology

This poll was designed to identify the obstacles prohibiting conventional farmers from transitioning to organic production and to try to identify the characteristics that predispose farmers to adopt organic farming techniques.

The results of this study are based on telephone interviews of two populations: conventional and organic farmers.

The sampling frame of conventional farmers consists of the subscribers of *Farm and Ranch Guide*.

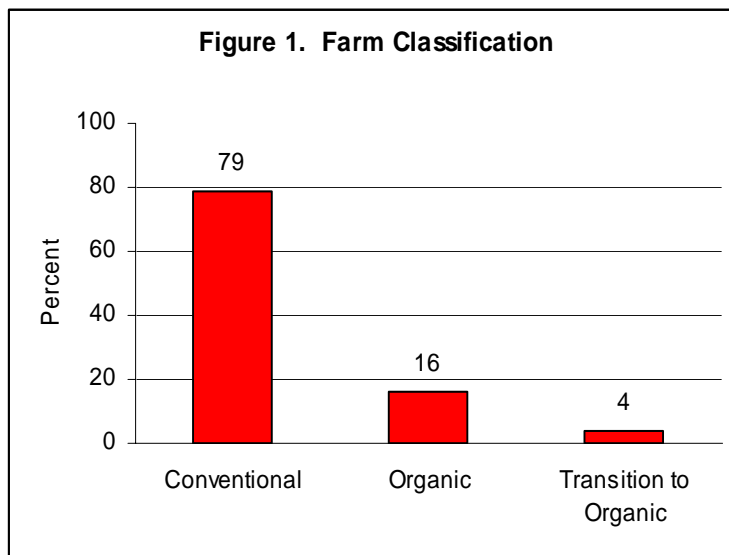
The sampling frame for organic farmers was compiled from lists of producer members provided by the Northern Plains Sustainable Agriculture Society and the International Certification Services together with the North Dakota Department of Agriculture list of organic growers.

Telephone interviews of 113 organic producers and 378 conventional producers were conducted by the Social Science Research Institute at UND from February 20 through March 24, 2006. The overall response rate was 69%.



## Classification of Farms

The farmers interviewed were asked to describe their farm operation in accordance with the following definitions: 1) A conventional farming production system refers to a production system which employs a full range of pre- and post-plant tillage options (e.g., plow, disk, plant, cultivate), synthetic fertilizers, herbicides and pesticides. 2) An organic agriculture production system refers to particular farming practices that have been followed and certified by a third party inspector. Based on these definitions, 79% of farmers contacted classified their operations as conventional, 16% as organic and 4% as transitioning to organic (Figure 1). However, 14% of conventional farmers had considered organic production.





## Transitioning to Organic Production

Three hundred eighty-nine of the farmers interviewed classified their operation as conventional. Eighty-two percent of these farmers (318 individuals) have never considered transitioning to organic production. Eighteen percent (68 individuals) have considered making the transition to organic production. The sixty-eight farm producers who have considered transitioning to organic production were asked to identify the activities they have pursued in considering transitioning to organic production.

### Activities Pursued

<u>Activity</u>	<u>Number</u>	<u>Percent</u>
Discussed it with organic farmers	38	56
Sought info from organic farmers	33	49
Attended seminars/workshops	17	25
Looked for information on internet	16	24
Attend organic agric field days	12	18
Sought info from gov't agencies	8	12



## Greatest Barrier To Transitioning to Organic

Concerns about marketing, production yields, income and expenses involved in changing to organic production, management difficulties and compliance procedures were some of the barriers to transitioning to organic production mentioned by those interviewed.

### Barriers to Transitioning to Organic Production

<u>Barrier</u>	<u>Number</u>
Weed control	15
Marketing	6
Market availability	4
Production yield uncertainty	4
Cost of change	4
Income reduction	3
Finding markets	2
Loss of income during transition	2
Lack of information	2
Amount of paperwork	2
Lack of time	2



## Constraints in Transitioning to Organic Production

The 81 farmers who are currently farming organically, the 21 who are in the process of transitioning to organic production and the 68 conventional farmers who are considering a change to organic production (a total of 170 farmers) were asked to what degree a series of circumstances serve as a constraint or problem specific to their transitioning to organic production. (1= not a constraint, 5 = serious constraint)

### Degree of Serious Constraint in Transitioning to Organic

<b>Circumstance</b>	<b>Serious Constraint</b>	
	<b>Mean</b>	<b>Percent</b>
<b>Finding organic markets</b>	<b>3.21</b>	<b>25</b>
<b>Distance to transport organic inputs</b>	<b>3.17</b>	<b>23</b>
<b>Lack of organic marketing networks</b>	<b>3.13</b>	<b>15</b>
<b>Obtaining access to existing markets</b>	<b>2.99</b>	<b>19</b>
<b>Lack of consumer understanding</b>	<b>2.85</b>	<b>15</b>
<b>Achieving desired production/yields</b>	<b>2.79</b>	<b>15</b>
<b>Sourcing organic allowable inputs</b>	<b>2.68</b>	<b>11</b>
<b>Cost of organically allowable inputs</b>	<b>2.68</b>	<b>10</b>
<b>Effectiveness of organic inputs/methods</b>	<b>2.63</b>	<b>6</b>
<b>Organic practice information hard to find</b>	<b>2.51</b>	<b>10</b>
<b>Uncooperative/uninformed extension agents</b>	<b>2.50</b>	<b>16</b>
<b>Lack of knowledge about organic production</b>	<b>2.41</b>	<b>11</b>
<b>Social pressure to farm conventionally</b>	<b>2.34</b>	<b>12</b>
<b>Lenders' pressure to farm conventionally</b>	<b>1.83</b>	<b>6</b>



## Reasons to Farm Organically

All of the farm producers interviewed were asked whether or not a series of reasons to choose to farm organically was important for them in choosing to farm organically. A range of responses was provided, ranging from 1 (not important) to 3 (moderately important) to 5 (very important).

<b>Reason</b>	<b>Very Important Mean</b>	<b>Percent</b>
Maintain economic sustainability of the farm	3.96	55
Chemical avoidance for family/worker health	3.84	51
Land stewardship/ecological sustainability	3.68	42
Chemical avoidance for environmental health	3.66	44
Organic represents good farming practices	3.55	38
Quality of organically grown produce	3.52	38
Community values, tradition, quality of life	3.51	36
Reduced input costs	3.49	35
Provide economic support on fewer acres	3.48	35
View farm as an ecological system	3.44	31
Organic price premiums	3.35	36
Growing consumer demand for organic	3.25	28
Changing practices because of chemical reg.	3.24	28
Required by customer or buyer	3.12	26
Challenging/interesting/intellectually appealing	2.94	17
Required by land owner	2.80	26
Philosophical, spiritual, or ethical reasons	2.67	19



## Differences in Reasons to Farm Organically

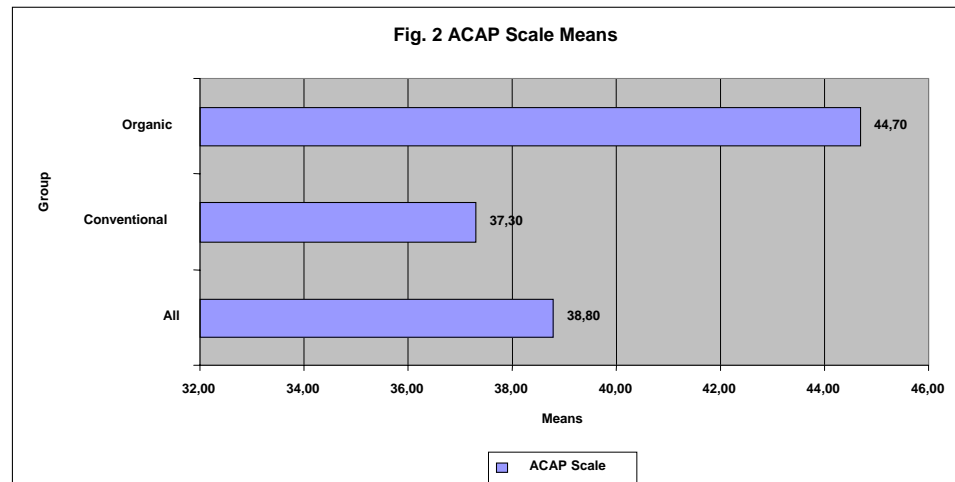
Differences in percentages by type of operation were statistically significant for thirteen of the seventeen reasons to farm organically.

<u>Reason</u>	<u>Mean Conventional</u>	<u>Mean Organic</u>	<u>Difference</u>	<u>Reason</u>	<u>Mean Conventional</u>	<u>Mean Organic</u>	<u>Difference</u>
Maintain economic sustainability of farm	3.85	4.31	.46	View farm as ecological system	3.25	4.04	.79
Quality of organically grown products	3.28	4.25	.97	Community values, tradition, quality of life	3.32	4.10	.78
Organic represents good farming practices	3.27	4.37	1.10	Required by land owner	2.92	2.43	Not Sig.
Land stewardship/ ecological sustainability	3.44	4.44	1.00	Required by customer or buyer	3.07	3.27	Not Sig.
Chemical avoidance for environmental health	3.39	4.51	1.12	Provide economic support on fewer acres	3.34	2.71	.63
Chemical avoidance for family/farm worker health	3.60	4.60	1.00	Challenging, interesting, Intellectually appealing	2.74	3.52	.78
Changing practices because of chemical reg	3.22	3.31	Not Sig.	Growing consumer demand for organic	3.12	3.66	.54
Philosophical, spiritual, or ethical reasons	2.42	3.43	1.01	Organic price premiums	3.31	3.47	Not Sig.



## Comparisons on Alternative-Conventional Agricultural Paradigm (ACAP) Scale

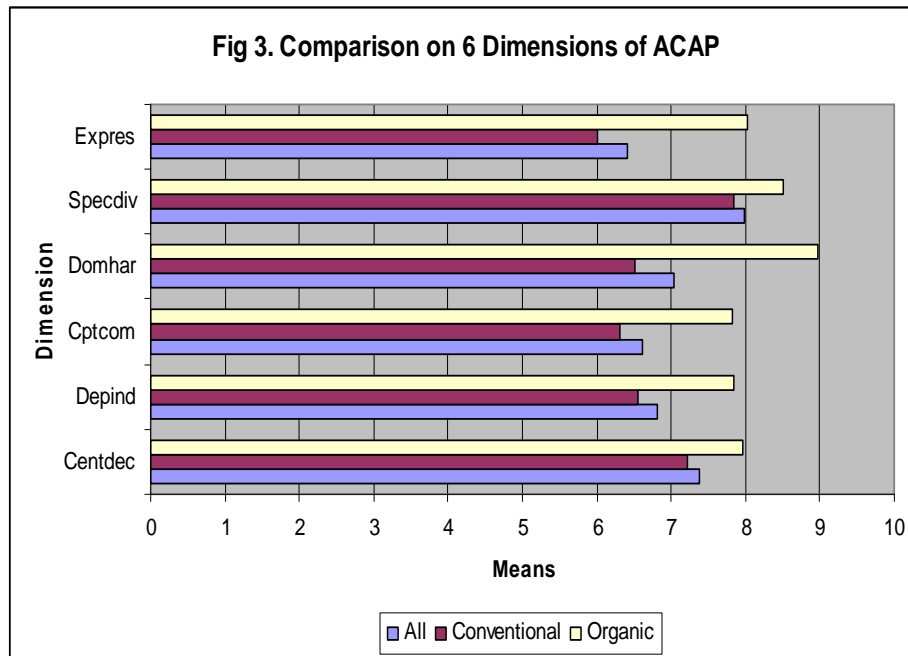
We were interested in knowing whether farmers who were conventional, organic and transitioning to organic production differed in their responses to a scale measuring their support for alternative or conventional farming. The scale was developed to measure the various contrasting dimensions of conventional vs. alternative agriculture: Centralization vs. decentralization, dependence vs. independence, competition vs. community, domination of nature vs. harmony with nature; specialization vs. diversity; and exploitation vs. restraint. We chose two items from each dimension and combined them into one scale. The range of the entire scale is twelve to 60 with a midpoint of 36. The scale is reliable (All, .6699; conventional, .5910; organic-transitioning, .6865). An analysis of variance determined that the means on ACAP for organic-transitioning and conventional producers are significantly different from each other.





## Comparisons on Components of the ACAP Scale

The range for each of the six dimensions is two to ten with a midpoint of six. An analysis of mean responses to the six components of the ACAP scale revealed that the means were significantly different for the two groups on all six dimensions. As with overall ACAP scale, both the organic/transitioning and conventional producers scored above the midpoint. An analysis of variance determined that the means for the organic/transitioning and conventional farmers are significantly different for each of the six dimensions.

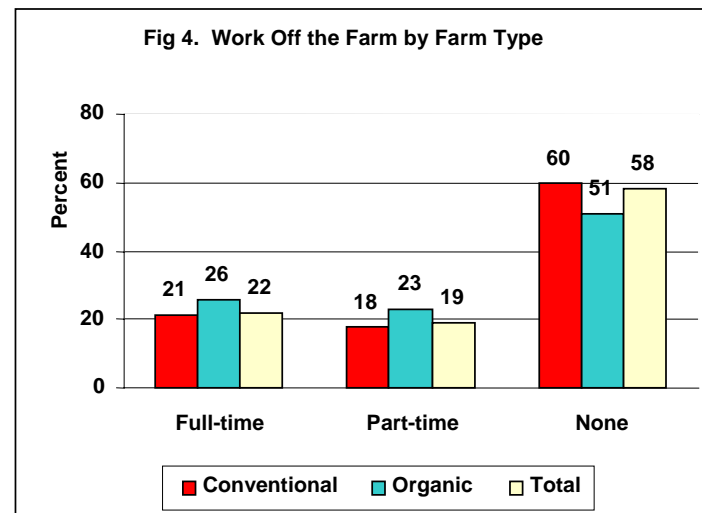


**Exploitation vs. restraint (expre).**  
**Specialization vs. diversity (specdiv)**  
**Domination vs. harmony with nature (domhar)**  
**Competition vs. community (cptcom)**  
**Dependence vs. independence (depend)**  
**Centralization vs. decentralization (cendec)**



## Farm Characteristics

**Off-Farm Work.** Twenty-two percent of the farmers interviewed worked off the farm full-time in 2005; 19% worked off the farm part-time. Sixty percent of conventional producers did not work off the farm in 2005, compared to 51% of organic producers. These differences, however, are not statistically significant. Overall, the reasons mentioned most often for working off the farm are for personal interest, as a secondary income source and for health insurance or other benefits. The difference by type of operation for two of the reasons listed are statistically significant: conventional producers are more likely to work as a primary source of income; and conventional growers are more likely to work for personal interest



### Reasons for Off Farm Work by Farm Type

Reason	Conventional	Organic	Total
For personal interest*	77	60	73
As a secondary income Source	51	60	53
For health insurance Or other benefits	29	44	33
To subsidize farm and Capital investments	26	26	26
As a primary income source*	26	6	21
As a primary career	21	10	19
Don't work off farm	5	10	6



## Number of Employees by Type of Operation

The number of persons employed on a full-time or part-time basis ranges from 1 to 30. Organic farmers employ more full-time, year round employees. Conventional farms employ more full-time, seasonal and part-time employees, both year round and seasonal. The analysis of variance determined that there was no significant difference by type of operation on the mean number of employees employed.

### Mean Number of Employees by Farm Type

	Full-time Year Round	Full-time Seasonal	Part-time Year Round	Part-time Seasonal
Conventional	2.07	2.97	2.46	2.53
Organic	2.89	2.30	1.89	2.50
Total	2.16	2.88	2.35	2.50



## Farm Size

The largest acreage farmed is 10,000 acres, the largest acreage leased is 6,000 acres, the largest acreage owned is 10,000 acres and the largest acreage farmed organically is 5,000 acres. In terms of acres farmed, acres leased and acres owned, the conventional farms tend to be larger. Organic farms, on the average, are smaller, although they farm larger acreages organically. An analysis of variance of the differences between sample means indicate the average acres farmed, acres leased, and acres owned are significantly different by type of operation.

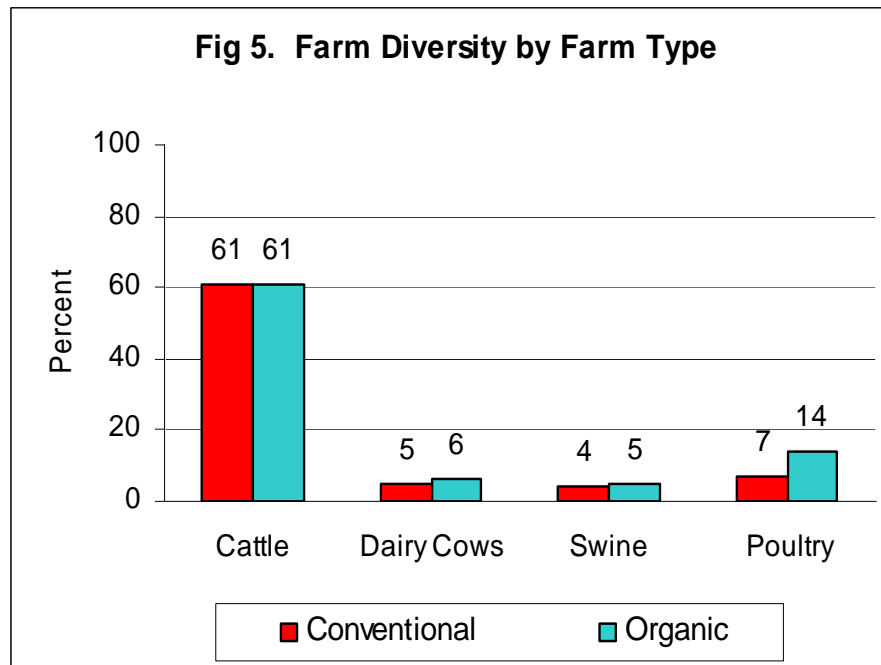
### Average Size of Farms by Farm Type

<u>Operation</u>	<u>Farmed*</u>	<u>Organically</u>	<u>Leased*</u>	<u>Owned*</u>
Conventional	2021	579	1248	1351
Organic	1300	1034	725	1033
Total	1872	965	1152	1284



## Farm Diversification

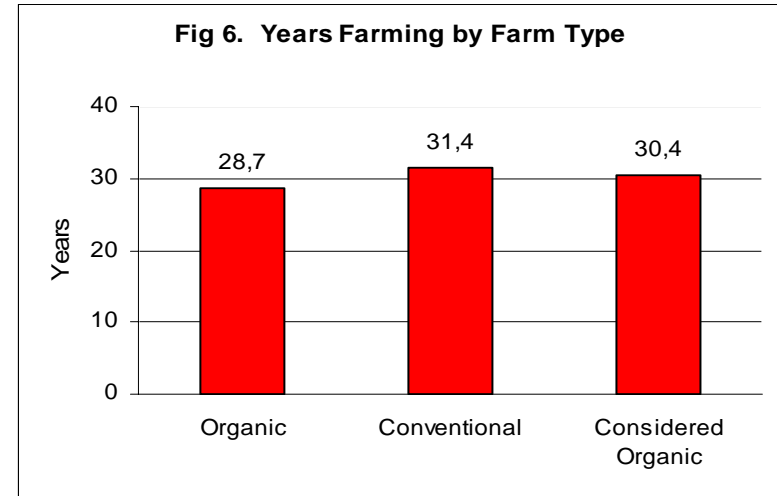
Sixty-one percent of farmers interviewed raise cattle, 5% have dairy cows, 4% raise swine and 8% raise poultry. Larger percentages of organic farmers raise cattle, dairy cows and swine; lower percentages of conventional farmers raise poultry. These differences are significant only for the percentage of farmers raising poultry. Organic producers are significantly more likely to have poultry.





## Number of Years Spent Farming, Gross Farm Income

The average farmer has spent 30.7 years in the business. Conventional farmers have farmed an average of 31.3 years, compared to 28.7 years for organic farmers. The analysis of variance test indicates that these mean differences by farming type are not significantly different.



Two hundred eighty-one of the individuals interviewed (58%) provided information on gross farm income in 2005. The chi square test indicated that the responses for gross farm income are independent of the responses for farm type categories.

### Gross Farm Income, 2005 by Farm Type

<u>Income</u>	<u>Conventional</u>	<u>Organic</u>	<u>Total</u>
No income,loss		4	3
Less than \$5000	3	8	4
\$5000-\$9999	4	7	4
\$10000-\$19999	6	7	6
\$20000-\$24999	4	2	4
\$25000-\$39999	7	8	7
\$40000-\$49999	4	7	5
\$50000-\$99999	13	17	14
\$100000-\$249999	27	32	28
\$250000-\$499999	16	8	14
\$500000 or more	13	3	11



## Total Household Income

Two hundred and fifty-four of the farm producers interviewed provided information on total household income in 2005. The chi-square analysis indicated that the responses for household income are dependent on the responses for farm type categories.

<b>Household Income, 2005 by Farm Type</b>			
<b>Income</b>	<b>Conventional</b>	<b>Organic</b>	<b>Total</b>
<b>Less than \$10000</b>	<b>5.0</b>		<b>3.9</b>
<b>\$10000-\$14999</b>	<b>4.5</b>	<b>5.7</b>	<b>4.7</b>
<b>\$15000-\$24999</b>	<b>9.0</b>	<b>15.1</b>	<b>10.2</b>
<b>\$25000-\$34999</b>	<b>11.4</b>	<b>7.5</b>	<b>10.6</b>
<b>\$35000-\$49999</b>	<b>16.4</b>	<b>9.4</b>	<b>15.0</b>
<b>\$50000-\$74999</b>	<b>18.9</b>	<b>17.0</b>	<b>18.5</b>
<b>\$75000-\$99999</b>	<b>10.0</b>	<b>13.2</b>	<b>10.6</b>
<b>\$100000-\$149999</b>	<b>9.0</b>	<b>26.4</b>	<b>12.6</b>
<b>\$150000-\$199,999</b>	<b>5.0</b>	<b>1.9</b>	<b>4.3</b>
<b>\$200,000 and more</b>	<b>10.9</b>	<b>3.8</b>	<b>9.4</b>



## Education

More conventional farmers have less than a high school education, more organic farmers have completed high school, have some college, or completed junior college or trade school, but more conventional farmers have some graduate study or a graduate degree. The chi-square statistic indicates that the responses for education are dependent on the responses for education.

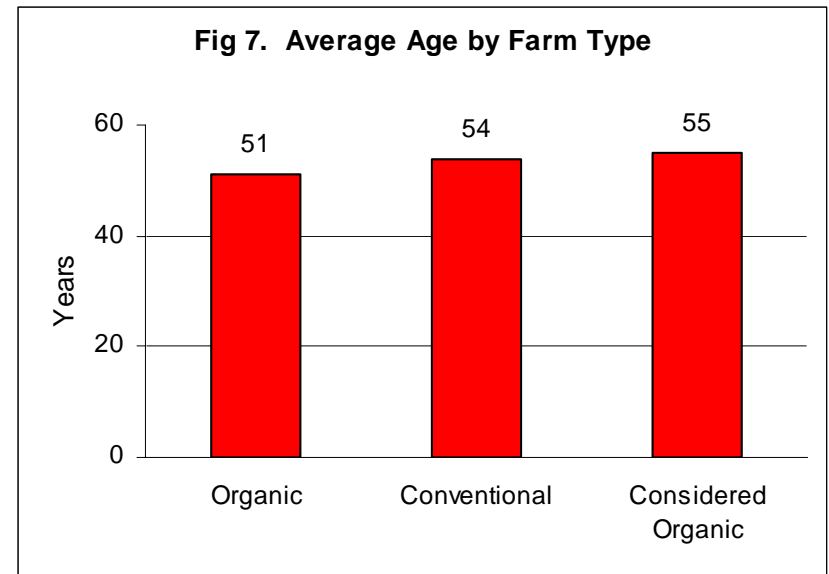
### Education by Farm Type

<u>Educational level</u>	<u>Conventional</u>	<u>Organic</u>	<u>Total</u>
No formal education	5.8	5.1	5.7
Some high school	32.9	19.2	30.0
Completed high school	21.2	28.3	22.7
Some college	10.3	19.2	12.2
Completed junior college/trade school	20.7	24.2	21.4
Completed bachelor's degree	2.1	2.0	2.1
Some graduate study	6.6	2.0	5.7
Graduate degree	.3		.2



## Age

The average age of the farm producers interviewed is 54. The average age of conventional farmers is 54, compared to 51 for organic farmers. The largest age group is age 45 to 54 (34%), and most (63%) are between the ages of 44 and 65. An analysis of variance of the differences between means indicate the average age is significantly different by type of operation.



### Age by Farm Type

<u>Age</u>	<u>Conventional</u>	<u>Organic</u>	<u>Total</u>
18--24	1.3	1.0	1.3
25--34	4.5	3.0	4.2
35--44	14.6	14.1	14.5
45--54	30.0	48.5	33.8
55--64	29.7	25.3	28.8
65 & older	19.9	8.1	17.4



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