Non-Traditional Farming:

Who Does It and Why

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TABLE OF CONTENTS

INTRODUCTION

How to increase profits is of major concern to farmers. Non-traditional farm enterprises,[1] which have been attracting much attention in recent years, may be a solution for some farmers. Analyzing the characteristics of those producers already involved in non-traditional enterprises leads to an understanding of how these enterprises might be used to increase income and which producers might be interested in adopting the enterprises. Problems that have been encountered by producers as they adopt non-traditional enterprises are identified. Those interested in promoting non-traditional enterprises will be able to use this information to develop effective educational and support programs. The specific objectives of this study were to:

- identify the characteristics of farmers who have adopted non-traditional enterprises;
- determine the reasons for adoption;
- explore the adoption process;
- examine the role of non-traditional enterprises in providing additional income opportunities for traditional farmers and for non-farmers interested in becoming farmers;
- identify problems encountered in the adoption and management of non-traditional enterprises; and
- determine farmers' needs for supporting information and services.

The selection of enterprises to be studied depended upon the availability of mailing lists and the type of operation. Two different enterprises were selected: Angora goat, a non-traditional livestock enterprise; and biological and organic farming,[2] non-traditional methods used to produce a variety of crops and livestock. Biological farmers/farms and organic farmers/farms in Virginia often overlap in production methods; consequently, the term "biological/organic" will be used to describe either or both practices.

In order to provide the necessary data to meet the objectives of the study, two separate mail surveys were developed, one for each enterprise to be studied. Although the surveys differed by enterprise, they were designed to obtain similar information. Both questionnaires consisted of four parts. Part I was a general description of the non-traditional enterprise. Part II contained questions on marketing of non-traditional products. Part III asked for information on the adoption reasons and procedures for the non-traditional enterprise. Part IV obtained general descriptive information regarding characteristics of farm operators and farm households. A copy of the survey sent to biological and organic farmers is found in Appendix A. A discussion of survey procedures and response rates is given in Appendix B.

This report focuses on the survey results from biological/organic farmers since these results were very similar to those from the Angora goat producer survey and the number of respondents was greater. Appendix C gives a summary and analysis of the results of the Angora goat producers' survey.

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[1] In this study, "non-traditional enterprise" means any agriculturally based activity or production method not typical for the region.

[2] According to the Virginia Association for Biological Farming, a *biological farm* is a farm where the operator concentrates on developing a living soil, rich in organisms and nutrients, and producing healthy plants. These farms use natural fertilization such as crop rotation, compost, and organic fertilizers, and environmentally safe pest control such as beneficial insects, timely cultivation, dormant oils, soap sprays, and botanical resins. An *organic farm* has been certified by an independent agency that inspects the growing practices and records. In order to sell food in Virginia that is labeled "organic," the products must be certified to conform to the standards of the Virginia Food Act by an agency approved by the State of Virginia.

CHARACTERISTICS OF PRINCIPAL OPERATORS

To better understand the characteristics of biological/organic farmers, seven attributes of the principal operators were examined: (1) age; (2) gender; (3) the formal educational level; (4) primary occupation; (5) childhood background; (6) number of years using biological/organic methods; and (7) 1993 household and on-farm income. Farm size and production information were also obtained. The production information is summarized in Appendix D.

The seven characteristics and farm size were used to compare biological/organic farmers with all farmers in Virginia. The comparison data for Virginia farmers were obtained from the *1987 and 1992 Census of Agriculture* (Department of Commerce) and a 1988 survey of Virginia farmers (Stallmann and Pease).

Age: The average age of the biological/organic farmers was 48, very close to the 51 years for all Virginia farmers. However, 47 percent of all the biological/organic farmers were under 44 years of age, compared to 27 percent of all Virginia farmers.

Gender: Twenty-seven percent of the principal operators were female, compared to 9 percent for the state as a whole. The finding of a higher percentage of female managers in non-traditional farm businesses is consistent with the results reported in *Farming Alternatives Survey in New York State* by Miller et al.

The formal educational level: There was a marked difference in the highest level of formal education attained by the biological/organic farmers compared to all farmers in Virginia (Figure 1). Over three-quarters of the farmers sampled had at least a college degree. Only 17 percent of all farmers had a similar level of education. More education and the younger age of the biological/organic farmers are characteristics of innovators as described by Batte et al.

Childhood background: Less than 50 percent of Virginia's biological/organic farmers spent their childhood, up to age 18, in a rural area (Figure 2). This result would suggest that a rural background is not necessarily a pre-requisite for starting a non-traditional enterprise. Miller et al. found a larger percent, 57 percent, of the non-traditional farmers they surveyed spent a significant part of their childhood, up to age 18, in rural areas.

Years using biological/organic methods: Biological/organic producers appear to have some experience with farming. They have been using the biological/ organic techniques for an average of 13 years. However, 26 percent of the respondents had used these techniques for 5 years or less, which suggests an increasing rate of adoption.

Primary occupation: Only 18 percent of respondents indicated that their primary occupation, before becoming biological/organic farmers, was farming. However, once respondents initiated their biological/organic enterprises, 45 percent indicated farming was their primary occupation. In comparison, farming was the primary occupation of 51 percent of all Virginia farmers.

Figure 1. Educational level of biological/ organic farmers compared to all Virginia farmers.

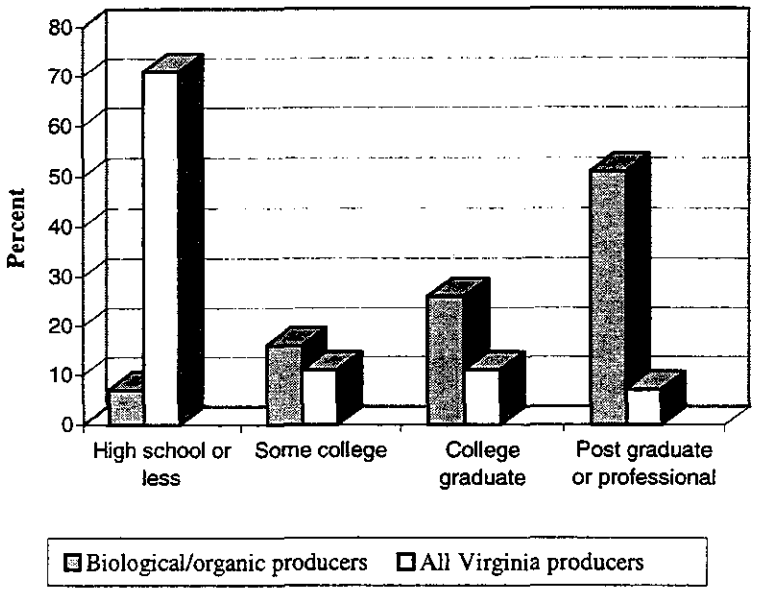
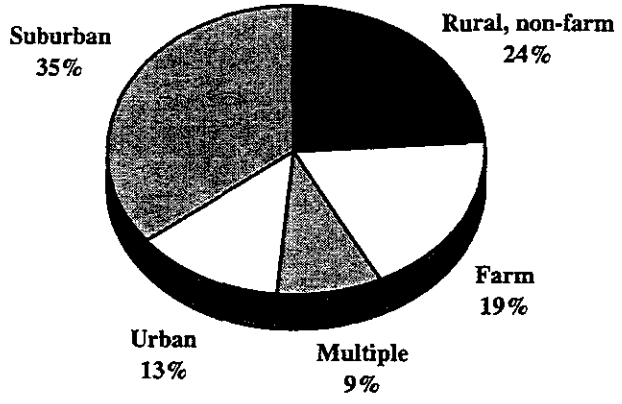


Figure 2. Childhood background of principal operator.

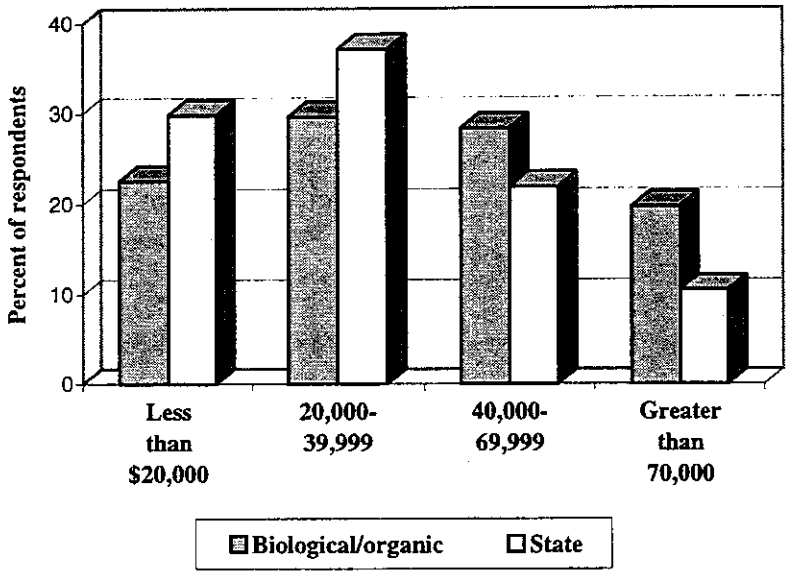


Household and on-farm income: Household income was defined as before-tax income from all sources in the household. In general, the annual household income of biological/organic farmers was higher than that of all Virginia farmers. Forty-eight percent of biological/organic farmers reported that their annual household income was $40,000 or more, while only 32 percent of all Virginia farmers were in this category (Figure 3).

The respondents were asked what percentage of their household income was from the farm operation. While 45 percent of the biological/organic farmers claimed farming as their principal occupation, they

estimated that only 28 percent of their household income was from the farm operation. In contrast, for all Virginia farmers, farm income accounted for 62 percent of household income, with 51 percent reporting farming as their principal occupation. While these results suggest that, currently, non-traditional enterprises only serve as a way to supplement household income, the results should not be construed to imply that biological/organic enterprises do not produce returns comparable to traditional enterprises. It is more likely that off-farm income from spouses of non-traditional producers is higher than off-farm income from the spouses of all Virginia farmers. Consequently, farm income for non-traditional producers is a smaller percentage of the total household income. Some of these differences may also be explained by tax incentives leading one household member to claim farming as his/her principal occupation.

Figure 3. Household income of biological/organic farmers compared to state average.



Farm size: The average acreage of the biological/organic farms in 1993 was 73.6 acres, while the average farm size in Virginia in 1992 was 196 acres. The average size of the biological/organic farms may be smaller because these farms tend to be more intensively managed vegetable operations (Appendix D).

ADOPTION OF NON-TRADITIONAL ENTERPRISES

What motivates someone to enter a non-traditional farming enterprise? How does he/she learn about these enterprises? Does he/she do any kind of planning prior to entering production?

Reasons for adopting non-traditional enterprises

Participants were asked to rate the importance of each of 16 factors in their adoption decision (Table 1). Respondents were also asked to indicate which factor was the most important of all the factors listed. The first 13 factors are economic; the remaining 3 are non-economic and related to philosophical,

health, or environmental concerns. More than 90 percent of the farmers rated the non-economic factors as very important.

Seven of these 16 factors were selected as the *single most important* factor influencing adoption by at least one respondent. Again, the results indicate that economic considerations were not the primary motivation for the majority of farmers who adopted biological/organic activities: only 11 percent chose economic reasons as the most important reason for adopting biological/organic farming practices.

Table 1. Importance of various factors in determining Virginia farmers' decisions to adopt biological/organic activities.

Factor	Percent of farmers declaring factor was: Not important	Somewhat important	Very important	Most important
Good opportunity for increasing profit	59	34	7	3
Lower initial investment costs	54	33	14	--[a]
Lower fertilizer costs	56	28	16	--
Lower costs of insecticides or pesticides	72	16	12	--
Convenient location of market	64	23	13	--
Dependable price	62	33	6	--
Significant demand for biological/organic products	44	36	20	3
To use underutilized labor	86	9	5	--
To use underutilized land	69	14	17	4
To use underutilized buildings or equipment	87	9	4	--
Ease of production	76	16	8	--
More reliable production over time	46	30	23	1
Success of other farmers producing biological/ organic products	63	29	8	--
More in tune with my philosophy of life	2	1	96	48
Concern for environment	2	2	95	20
Concern for health	2	4	94	22

[a] -- Not applicable

Financial stress as a factor in the adoption decision

Detailed information about the importance of financial stress as an adoption motivation is limited; therefore, respondents were asked if financial stress influenced their decisions to choose biological/organic farming. For most producers, financial stress was not a reason for their choice of biological/organic farming. Seventy-seven percent of the respondents reported that financial stress did not enter into their decision at all. For the remaining 23 percent who indicated financial stress was a factor in their decision, an analysis was made to determine whether their characteristics were different from those not motivated by financial stress. Forty percent of those farmers motivated by financial stress farmed traditionally prior to initiating their biological/organic enterprises while only 29 percent of the "non-stressed" group farmed previously. As expected, those motivated by financial stress were also more likely to indicate that economic factors, such as the opportunity for profit and significant demand

for biological/organic products, were very important in the decision to initiate their biological/organic enterprise. Surprisingly, only 10 percent of this group selected an economic factor as the most important consideration for entry. Despite this finding, those individuals indicating financial stress did rely more heavily on the farm for income: farm income accounted for 31 percent of the household income for this group, but only accounted for 14 percent for the "non-stressed" group. Thus, it appears that economic factors play a significant role in the decision to shift to biological/organic enterprises, and the importance of the success or failure of the non-traditional enterprise (in terms of percentage of household income generated) is significant for these families.

Sources of the original idea for planning and developing the enterprise

Multiple sources were used for both the original idea as well as for planning and developing the biological/organic enterprise. Most respondents reported that the original source of the idea, as well as the planning for and developing of the biological/organic enterprise, came from magazines, books, or newsletters. This result was expected since these farmers are well-educated: 77 percent have college degrees. Other sources of the idea came from producers thinking of it for themselves or from seeing other producers using biological/organic methods. For planning and developing their farming operations, they also looked to the Virginia Association of Biological Farming (VABF) members or its activities, other people in the business, and the Virginia Sustainable Agricultural Conference. County Extension agents, Virginia Tech, and Virginia State University played a less significant role in helping biological/organic farmers conceive of or plan and develop their farm activities than have some other sources (Table 2).

Table 2. Information sources used for original idea, planning, and development of the biological/organic farming enterprise.

Information source	Original idea	Planning and developing
	Percent of respondents[a]	
Books, magazines, newsletters	61	81
VABF members or activities	--[b]	60
Other people in the business	--	55
Virginia sustainable agricultural conference	--	45
Virginia Tech or Va. State University faculty/staff	--	23
County Extension agents	--	16
Paid consultant	--	9
Other farmers	22	--
Other	26	30

[a] Multiple sources used.

[b] -- indicates no response

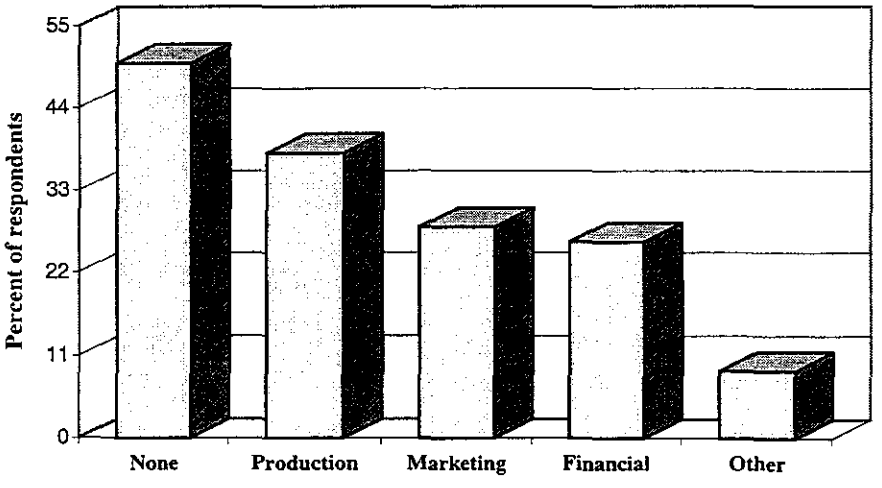
Feasibility planning

Feasibility analysis is used to determine if an enterprise will be viable within specified parameters. Typically, a thorough feasibility analysis would include production, marketing, and finance. Feasibility analyses are time consuming and can require the use of computer programs. They can, however, help determine which crops or livestock or mixture of the two can be profitable, given the specifications of the proposed operation. Half of the respondents did no feasibility analysis at all, which was not unexpected, given that the majority entered biological/organic farming for philosophical reasons. Those

individuals who did a feasibility study frequently looked at all three areas, but not always (Figure 4). It is hypothesized that the lack of any feasibility study or of a comprehensive one, is the result of not being able to commit the time, not having access to the assistance needed for the analyses, or not fully understanding the value of such a study or a combination of these reasons.

The responses to the question of preparing a plan prior to entering biological/organic farming were re-examined along with the responses to financial stress as a motivation for entry. As in the earlier analysis, the responses were split into two groups: (1) those indicating no financial stress, and (2) those indicating at least some financial stress as a motivation for entry. Prior planning was done by 45 percent of the "non-stressed" group. The second group, those indicating at least some financial stress as a motivation for entry, had a different attitude toward planning – 65 percent of them allocated the time to some type of feasibility study. The difference in responses implies that those people facing financial difficulties are more likely to plan before entering a new enterprise than those people who are not facing financial constraints.

Figure 4. Types of plans prepared prior to start-up.



ROLE OF NON-TRADITIONAL ENTERPRISES

The current and potential future role of non-traditional enterprises was investigated by asking respondents about the profitability of their biological/organic enterprises and about their perceptions of the future for non-traditional enterprise markets.

Profitability

Twenty-seven percent of the biological/organic producers made a profit in 1993. With 32 percent losing money and 41 percent only breaking even, it would appear that biological/organic production is not necessarily a financial help. However, 1993 was a drought year, so that some of the reported losses may be due to weather and the resulting smaller yields.

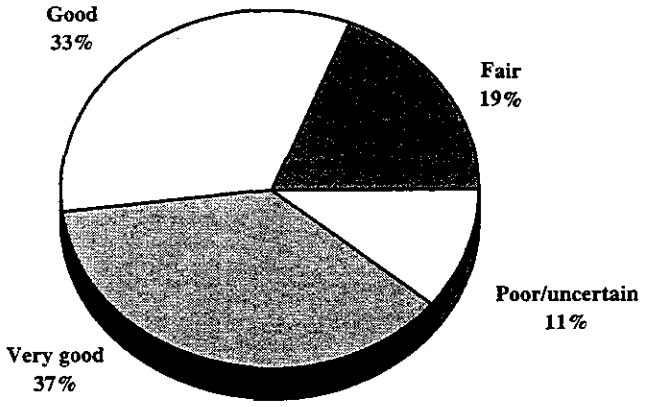
The profitability of the enterprises for those respondents acknowledging financial stress as a motivation for entry was examined to determine if they were more likely to make a profit than the "non-stressed"

group. Only 15 percent of the farmers who reported at least some financial stress as a reason for initiating their biological/organic farming enterprises lost money from these activities. Whereas, more than twice that percentage, 38 percent, of the "non-stressed" farmers lost money. Together with the previous results regarding the financially motivated group, the conclusion suggested is that biological/organic production may be an effective method for producers to increase household incomes.

Future prospects for non-traditional enterprises

Seventy percent of the respondents indicated that they thought the future of markets for biological/organic products was good or very good. Nineteen percent perceived a fair future (Figure 5). Despite the fact that just over one-quarter of farmers made a profit in 1993, they were very optimistic about the future for biological/ organic products. Their optimism may well be tied to feeling that drought was a significant factor in their losses.

Figure 5. Prospects for the future of biological/organic products.



SUPPORT FOR NON-TRADITIONAL ENTERPRISES

Overall management ability of an individual is a key to the success or failure of an operation. An individual can be a good producer, but a poor financial or marketing manager, and the end result will be failure. Or, he/she can be good in marketing, but poor in finance or production, or both, and the final result will also be failure. The problems that non-traditional producers faced were investigated with the expectation that the effects of these problems, once identified, could be mitigated. Two broad areas were examined: (1) marketing channels used, and (2) problems, and research, training, and regulation needs. Additionally, respondents were asked what they considered to be the most important factors in determining the success of the non-traditional operation.

Marketing channels used

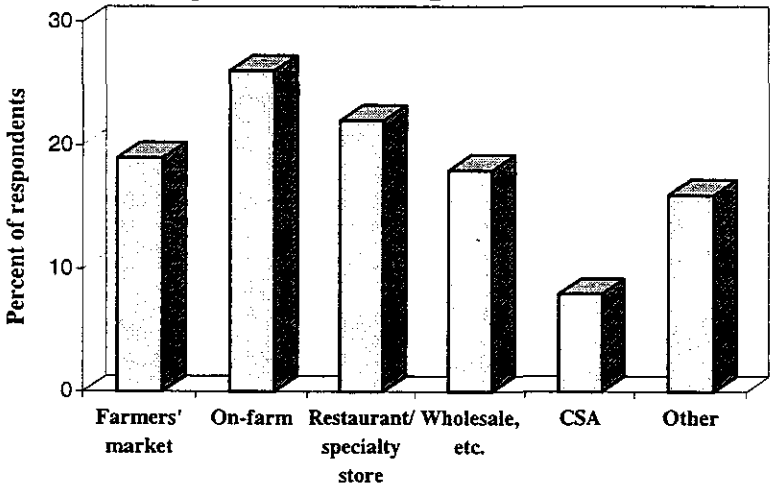
Direct marketing, accounting for 68 percent of the sales, was the most commonly used marketing channel for biological/organic producers (Figure 6). Direct marketing included: on-farm sales, farmers' markets, restaurants and specialty shops, and community supported agriculture/subscription farming

(CSA).[3] In contrast, only 17 percent of the sales were marketed through a wholesaler, processor, or marketing cooperative.

Problems and research, training, and regulation needs

There was a wide range of responses to the questions related to problems, regulations, and research and training needs. Consequently, only the three top problems and support needs have been summarized (Table 3). Many farmers experienced problems with biological/organic production techniques and the marketing of their products. Support and research needs were very closely related to these problems. Insect control was the top research priority, followed by the need for effective marketing assistance and weed and disease control. Training needs also reflected the problems farmers reported. The key need farmers cited was for training in biological methods. While not many farmers cited regulations, 17 percent suggested government subsidies such as a tax credit or lower interest rate loans for biological/organic farmers. An almost equal number of farmers requested no government intervention for their businesses. Reducing the required paper work in the process of organic production certification and lowering the expense of certification were also cited as needed changes in regulations.

Figure 6. Marketing channels.



Most important factor in determining success

There was a diversity of opinion as to the most important factor for success. Production skills (24 percent) were perceived to be the most important factor for success, followed by marketing skills and access to marketing information (20 percent). Location of market and land quality were ranked with almost equal importance (13 and 14 percent, respectively). Only 10 percent said that financial resources were the most important factor determining success. The ranking of the most important factor for

[3] CSA is a marketing method that spreads the production risk by selling shares of stock in the farm corporation. "Dividends" are paid in produce. If the corporation has a crop failure, everyone shares in the loss. Conversely, if there is a bountiful crop, everyone shares in the surplus. The gains or losses are based on the amount of stock the buyer has purchased.

determining success is closely related to the importance of the problems listed by the producers: production and marketing.

Table 3. Top three problems, and needs for research, training, and regulation.

	Percent of respondents
Problems	
Biological production	35
Marketing	14
Government intervention	8
Research needs	
Insect control	34
Weed and disease control	13
Marketing	21
Training needs	
Biological farming methods/information	21
Insect, disease, and weed control/identification	12
Marketing	6
Regulation needs	
Subsidize to encourage biological/organic farming	17
No government intervention	15
Discourage chemical farming	6

CONCLUSIONS

This study investigated the role of non-traditional enterprises in the farm economy and farmers' decisions to adopt non-traditional enterprises. The findings suggest that there are two distinct groups who are using non-traditional farming techniques. The first group, not expressing financial stress as a motivation for entry, was more concerned with the environment and a way of life than with the need to be a viable, self-sustaining farming operation. The second group considered their financial position to be less than favorable and chose to try non-traditional methods as a possible means of changing that financial situation. While this group still cited philosophical, rather than economic reasons, as the single most important reason in the adoption decision, they more often cited economic reasons as important in the decision-making process. They felt profit potential, lower costs, and a significant demand for their products were important considerations. The financially motivated group was more likely to breakeven or make a profit and more often planned before undertaking the enterprise, than did those for whom financial stress was not a motivating factor in the adoption decision. A greater percentage of the financially motivated group had also been traditional farmers before changing to biological/organic production, compared to the "non-stressed" group where the majority had not previously farmed.

The following conclusions can be drawn. Non-traditional enterprises may play an important role in the economic survival of farmers with financial difficulties. In addition, biological/organic production has the potential to play an important role in the future of Virginia agriculture. The future development of research and educational programs should be based on the areas of concern expressed by non-traditional farmers as highlighted in this study.

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APPENDIX A: BIOLOGICAL/ORGANIC PRODUCERS SURVEY

A. DESCRIPTION OF BIOLOGICAL AND CERTIFIED ORGANIC FARM ACTIVITIES

For your reference, we define Certified Organic and Biological Farms as follows:

Certified Organic Farm: The farm has been certified by an independent certifying agency that inspects the growing practices and records. In Virginia, to sell food labeled as organic, the farm must be certified by a certification agency approved by the State of Virginia that the products conform to the standards of the Virginia Food Act.

Biologically Grown Farm: The farm concentrates on developing a living soil, rich in organisms and nutrients producing healthy plants and humanely treated livestock. These farms use natural fertilization such as crop rotation, compost, and organic fertilizers, and environmentally safe pest control such as using beneficial insects, timely cultivation, dormant oils, soap sprays, and botanical resins.

*In the questions below, **Biological/Organic** should be interpreted to mean **Biological Or Organic.***

A-1. How many years have you been using Biological/Organic farming methods? _____ **Years**

A-2. In what county is your Biological/Certified Organic operation located? _____ **County**

A-3. Who was in charge of managing your Biological/Certified Organic Farming activities in 1993? (Circle one number)
1- Myself
2- Others, please specify (e.g., spouse, etc.): _____

A-4. How many people worked for your Biological/Certified Organic Farm activities in 1993?
_____ **Full-time year-round people,** _____ **Full-time seasonal people**
_____ **Part-time year-round people,** _____ **Part-time seasonal people**

A-5. On average, what percentage of ***total farm*** labor hours are spent in the Biological/Certified Organic farm activities? (Circle one number)
1- Less than 25%
2- 26% to 50%
3- 51% to 75%
4- 75% to 99%
5- 100%

A-6. Please indicate the acreage or square feet of each crop you planted in 1993 (not including your *personal* garden). If there are not enough blank spaces, feel free to continue in the margins!

Acres/Square Feet in 1993
(Please indicate which measurement you are using)

	Certified Organic	Biological	Conventional
Field Crops:			
Corn			
Soybeans			
Wheat			
_____			
_____			
Vegetables:			
Beans			
Broccoli			
Cabbage			
Carrots			
Corn, Sweet			
Cucumbers			
Greens			
Onions			
Peppers			
Tomatoes			
Squash			
_____			
_____			
_____			
Fruit:			
Apples			
Blueberries			
Raspberries			
Strawberries			
_____			
_____			
_____			

A-7. Please indicate the number of animals of the following types you had last year.

Number of Animals

	Certified Organic	Biologically Raised	Conventionally Raised
Dairy (milk cows)			
Beef Cattle			
Hogs			
Chickens			
_____			
_____			

A-8. Which of the following best describes the profitability of your Biological/Certified Organic farm activities in 1993? (Circle one number)

1- We probably lost money on these activities in 1993.
2- We probably broke even in 1993.
3- We made a profit in 1993.

A-9. If you also farm conventionally, which of the following best describes the profitability of your conventional farm activities in 1993? (Circle one number)

1- We probably lost money on these activities in 1993.
2- We probably broke even in 1993.
3- We made a profit in 1993.

A-10 What are the most critical problems you are facing or have faced with your Biological/Certified Organic activities? (List up to three problems, if any, and put A STAR to the left of the MOST CRITICAL PROBLEM)

1- _____
2- _____
3- _____

B. MARKETING BIOLOGICAL/CERTIFIED ORGANIC PRODUCTS

B-1. Of the Biological/Certified Organic products you sold in 1993, approximately what percentage was sold in each of the following types of markets? (Write in a percentage for each type of market you sold. Sales for all markets should sum to 100%)

1- _____% Pick your own
2- _____% Roadside stands
3- _____% Mail order
4- _____% Farmer's market sales
5- _____% Direct sales to restaurants or specialty stores
6- _____% Sales through a marketing cooperative
7- _____% Sales to wholesalers or processors
8- _____% Community supported agricultural/subscription
9- _____% Other sales, please specify:_____
100%

B-2. Of the Biological/Certified Organic products you sold in 1993, approximately what percentage was sold in large metropolitan areas such as Washington, DC, Richmond, Norfolk. _____%

B-3. How would you describe the future prospect of the Biological/Certified Organic product market for you? (Circle one number)

1- Very Good
2- Good
3- Fair
4- Poor

C. BIOLOGICAL/CERTIFIED ORGANIC FARM ACTIVITY DEVELOPMENT PROCESS

C-1. Please think back to when you first began Biological/Organic farming. Try to recall factors that were important to this decision. Please rate each factor listed below in terms of its importance in your decision to produce Biological/Organic products by circling the appropriate number: 1-Not Important; 2- Somewhat Important; 3- Very Important (circle only one number for each factor).

		Not Important	Somewhat Important	Very Important
a.	**Good Opportunity for Increasing Profit**	1	2	3
b.	**Initial Investment Costs for Organic Production were Relatively Low**	1	2	3
c.	**Lower Fertilizer Costs**	1	2	3
d.	**Lower Cost of Insecticides or Other Pesticides**	1	2	3
e.	**Convenient Location of Market**	1	2	3
f.	**Dependable Price**	1	2	3
g.	**Significant Demand for Organic Products**	1	2	3
h.	**To Put Underutilized Labor to Use**	1	2	3
i.	**To Put Underutilized Land to Use**	1	2	3
j.	**To Put Underutilized Buildings and Equipment etc. to Use**	1	2	3
k.	**Ease of Production**	1	2	3
l.	**More Reliable Production Over Time**	1	2	3
m.	**Success of Other Farmers Producing Organic Products**	1	2	3
n.	**More in Tune with My Philosophy of Life**	1	2	3
o.	**Concern for Environment**	1	2	3
p.	**Concern for Health**	1	2	3

C-2. Of the 16 factors you have rated above, please **put a star** next to the **most important factor**.

C-3. What was the original source of the idea to farm Biologically/Organically? (Circle all numbers that apply)

1- Read about it in a magazine or book
2- Heard of it from a farm related educational meeting
3- Saw other farmers using Biological/Organic methods
4- Thought of it independently
5- Other, please specify:_____

C-4. What sources of information have you found useful in planning and developing Biological/Certified Organic farm activities? (Circle all numbers that apply, put A STAR to the left of the ONE resource that has been MOST USEFUL)

1- VABF members or activities
2- County extension agents
3- Virginia Tech or Virginia State University faculty/staff
4- Virginia Department of Agriculture & Consumer Service
5- Paid consultant
6- Other people in the business
7- Books, magazines, or newsletters
8- TV or radio broadcasts
9- Virginia Sustainable Agricultural Conference
10- Other, please specify:_____

C-5. Which member(s) of your household took the initiative and got your Biological/Certified Organic activities started? (Circle all numbers that apply)

1- Principal farm operator
2- Spouse
3- Children
4- Other, please specify:_____

C-6. Did you obtain a loan to help establish your Biological/Certified Organic farm activities? (Circle one number)

1- No
2- Yes → If Yes, from whom did you obtain a loan? (Circle all numbers that apply)
1- Local bank
2- Federal agricultural bank
3- Friends or relatives
4- Employer

C-7. Was financial stress a factor in your decision to develop your Biological/Certified Organic farm activities? (Circle one number)

1- Not a factor
2- Somewhat of a factor
3- A major factor

C-8. Which of the following plans did you prepare (or have prepared by an accountant or other person) **before** actually starting up or converting to Biological/Certified Organic farm activities? (Circle all numbers that apply)

1 Financial plan (Cash flow, Income statement, or Balance sheet)
2 Production plan
3 Marketing plan
4 Other, please specify:_____
5 We did not prepare any plans before starting these activities

C-9. What are the techniques or sources of information you have used to analyze or understand the MARKET for your Biological/Certified Organic farm activities? (Circle all numbers that apply; put A STAR to the left of the ONE source or technique that has been MOST IMPORTANT)

1- Customer or buyer survey (written)
2- Customer or buyer interviews (personal and/or informal)
3- Published reports and statistics
4- Professional market analysis
5- Information from other producers
6- Specialists (Virginia Tech, Virginia State University, Extension, or other agencies)
7- Other, please specify:_____
8- We do not analyze the market for these activities

C-10 What types of institutional support would be helpful to you in improving the profitability of your Biological/Certified Organic farm activities? (List your most important need(s), if any, in each of the categories below.)

Research needed:_____

Training needed:_____

Regulations, policies needed:_____

Other support needed:_____

C-11 What do you think are the three most important factors that determine the success or failure of these kinds of activities? (Circle up to three numbers, put A STAR to the left of the MOST IMPORTANT FACTOR)

1- Location of the market
2- Land quality
3- Available equipment
4- Financial resources
5- Available labor
6- Production skills
7- Production information
8- Marketing skills
9- Marketing information
10- Business management skills
11- Human relations skills
12- Other, please specify: _____

D. GENERAL CHARACTERISTICS OF FARM OPERATION AND FARM HOUSEHOLD

D-1. How many acres did you farm in 1993? _____ **Total Acres**

D-2. Of these, how many acres were: **Owned**_____ **Leased**_____

D-3. What is the ownership arrangement of your farm? (Circle one number)

1- Individual owner(s)
2- Partnership
3- Family corporation
4- I am the hired farm manager for a farming business owned by others
5- Other, please specify:_____

D-4. How many years have you been farming? _____ **Years**

D-5. How many years have you farmed on the **present** farm? _____ **Years**

D-6. Including yourself, how many people worked full time or part time on the farm (all activities) in 1993?

_____ **Full-time year-round people,** _____**Full-time seasonal people**
_____ **Part-time year-round people,** _____**Part-time seasonal people**

D-7. In which of the following situations did you spend the most significant part of your childhood, up to age 18? (Circle numbers that apply)

1- On a commercial farm
2- In a rural area but not on a commercial farm
3- In a suburban area
4- In an urban area

D-8. Which of the following best describes your situation? (Circle numbers that apply)

1- I have always lived in the county in which I now reside
2- I have always lived in Virginia but in other counties, as well
3- I am a native of Virginia but have lived outside the state for some period of time
4- I am not a native of Virginia

D-9 Did you farm conventionally **before** you started Biological/Certified Organic farming? (Circle one number)

1- No
2- Yes → If Yes, please specify the major crop(s) you produced:_____

D-10 What was your principal occupation **before** you started Biological/Certified Organic farming?
Please specify:_____

D-11 Please fill in the chart below. (Write in your own information on the first line, then list the applicable information for all members of your household; e.g., spouse, children, etc.).

Relationship to You (spouse, child, etc.)	Gender	Age at the end of 1993	Type of Non-Farm Jobs Held in 1993	Avg. Hrs. Working Per Week in 1993	
				Off-Farm	On-Farm
Self					

D-12 Which of the following best describes you? (Circle one number)

1- Black/African American
2- Hispanic
3- Native American
4- White/Caucasian--not Hispanic
5- Asian
6- Other, please specify:_____

D-13 What is the highest level of education you have completed? (Circle one number)

1- No formal education
2- Elementary school
3- Some high school
4- High school graduate
5- Post-high school technical training
6- Some college
7- College graduate
8- Some post-graduate education
9- Graduate or professional degree

D-14 How often do you attend educational or association/informational meetings about Biological/Organic farming? _____ **Number of times a year**

D-15 Considering all sources of income from all members of the household, in what category was your total household income (before tax) for 1993? (Circle one number)

1- $0 to $9,999
2- $10,000 to $19,999
3- $20,000 to $29,999
4- $30,000 to $39,999
5- $40,000 to $49,999
6- $50,000 to $59,999
7- $60,000 to $69,999
8- $70,000 to $79,999
9- Over $80,000

D-16 What percent of your household's total 1993 income was provided by the following sources? (Write in a percentage for each income source that applies. Income from all income sources should sum to 100%)

1- _____% Off-farm employment
2- _____% On-farm source
3- _____% Other sources, please specify:_____
100% Total

D-17 What proportion of on-farm income would you attribute to the Biological/Certified Organic farm activities? (Circle one number)

1- Less than 20%
2- 21% to 40%
3- 41% to 60%
4- 61% to 80%
5- 80% to 99%
6- 100%
7- We had no on-farm income

If you have any additional comments that you feel are important for this study, please write them in this space.

APPENDIX B: SURVEY PROCEDURES AND RESPONSE RATES

Several steps were taken to ensure the quality of the survey instrument. First, a draft of the survey was sent to professors in the Department of Agricultural and Applied Economics at Virginia Tech and to a Virginia Cooperative Extension Alternative Agriculture Specialist to get their input on the survey design and implementation. Second, a revised draft of the survey was presented to the director of the executive board of Virginia Association of Biological Farming (VABF) and to additional professors at Virginia Tech from the Departments of Sociology, Horticulture, and Agricultural and Applied Economics for further suggestions. Finally, a pretest of the survey was conducted a week ahead of the first mailing to the biological/organic farmers. Three farmers were personally interviewed and asked for comments on the survey. Based on the pretest, the survey was modified slightly.

A total of 440 farmers were identified as engaging in one of the non-traditional enterprises and sent questionnaires. Of those farmers, 383 were biological or organic farmers and 57 were Angora goat producers. To obtain adequate responses to the survey, the questionnaire, a cover letter emphasizing the importance of the survey, and a booklet describing the Rural Economic Analysis Program (REAP) at Virginia Tech, which sponsored the research, were sent to each farmer in the sample. Those who had not responded within one week were sent a postcard as a reminder. Finally, a second letter and another copy of the survey were sent two weeks after the mailing of the postcard reminder.

In the survey of biological/organic farmers, the final sample size was 361 because 22 were returned by the post office as undeliverable. The response rate, obtained through two mailings, was 73 percent, or 264 respondents. Because the primary purpose of this research was to investigate those biological/organic farmers who farmed *commercially* in 1993, a returned questionnaire from any respondent who did not meet this requirement was considered unusable. The result was 86 usable responses from this survey.

All of the surveys to Angora goat producers were deliverable. The response rate, also attained through two mailings, was a credible 79 percent, with 45 respondents. However, only 23 respondents raised Angora goats commercially.

APPENDIX C: ANALYSIS OF SURVEY RESULTS OF ANGORA GOAT PRODUCERS

Characteristics of the principal operators and farms (Table C.1)

Age: Angora goat producers, whose average age was 44, were younger than both biological/organic farmers and all Virginia farmers collectively.

Gender: Sixty-five percent of the principal operators in the Angora goat survey were women, whereas woman made up only 9 percent of all Virginia farmers and 27 percent of the biological/organic farmers.

The formal educational level: Over 82 percent of the Angora goat farmers had at least a college degree, while 77 percent of the biological/organic producers and 18 percent of all farmers had a similar level of education.

Childhood background: Of the Angora goat producers, 4 percent came from a farm background, 30 percent from a rural non-farm setting, 48 percent from a suburban environment, 13 percent from an urban area, and 4 percent from a mixed background. In comparison to Virginia's biological/organic farmers, even fewer Angora goat producers had a rural childhood background. This fact again indicates that the absence of a farm background is not necessarily a significant obstacle to the adoption of non-traditional enterprises.

Years raising Angora goats: Angora goat enterprises are relatively new, and none of the farmers have raised Angora goats for more than ten years. The majority of farmers (65 percent) have produced Angora goats for 1 to 5 years.

The principal occupation: Nine percent of the respondents indicated that their principal occupation before starting Angora goat production was farming. Switching to Angora goat production allowed 27 percent to claim farming as their principal occupation. It must be noted, however, that still leaves 73 percent with a present principal occupation other than farming. In comparison, 55 percent of the biological/organic farmers and 49 percent of all Virginia farmers stated that their principal occupation was other than farming.

Household income and on-farm income: Seventy-three percent of Angora goat producers claimed that their annual household income was $40,000 or more, while 48 percent of all biological/organic farmers and 32 percent of all Virginia farmers were in this category. These differences in household income reflect the percentage of each group for which farming was the principal occupation.

Comparing income from the farming operation to total household income showed that, on average for the Angora goat producers, only 3 percent came from the farm operation. In contrast, biological/organic producers obtained 28 percent of their household income from farming, and all Virginia farmers obtained 62 percent of their household income from farming.

Farm size: The average acreage of the Angora goat farms was 75.6 acres, which is almost the same as the average farm size of biological/organic farms (73.6 acres), but smaller than the average farm in Virginia (196 acres).

Table C.1. Comparison of general characteristics of Angora goat producers and farms, biological/organic farmers and farms, and all farmers and farms in Virginia[a].

Characteristics	Percent of respondents		
	Angora goat producers	Biological/ organic	State
Age:			
under 35	5	7	9
35-44	59	40	18
45-54	23	21	22
55-64	9	19	24
over 65	5	13	27
Gender:			
Female	65	27	9
Male	35	74	92
Education			
High school or less	4	7	71
Some college	13	16	12
College graduate	22	26	11
Post graduate/professional	61	51	7
Current principal occupation			
Farming	27	45	49
Non-farming	73	55	51
Previous principal occupation[b]			
Farming	9	18	--
Non-farming	91	82	--
Annual household income			
$20,000 or less	0	22	30
$20,000 - $39,999	27	30	37
$40,000 - $69,999	55	28	22
$70,000 or Over	18	20	11
Farm size (acres)	76	74	196

[a] Source of information for all farmers: 1987 Census of Agriculture and 1988 survey of Virginia farmers (Stallmann and Pease).

[b] Principal occupation of farm operator prior to Angora goat production or biological/organic farming.

Why farmers adopt Angora goat enterprises (Table C.2)

Factors affecting the adoption of Angora goat enterprises: Only 12 factors potentially influencing the adoption decision were listed in the survey to Angora goat producers. As in the biological/organic farmer survey, the respondents were asked to rate these factors in terms of their influence on the adoption decision and to indicate which of these 12 factors were the most important. The results indicate that, in comparison to biological/organic farmers, Angora goat producers were more concerned with economic factors, the first 11 items in Table C.2. Over half of the farmers chose profit, cost, location of market, price, demand, using available land, and so forth as somewhat important or important reasons for adoption. But, "I enjoy raising goats," a non-economic reason, was also selected as a very important reason by almost 80 percent of the respondents.

As with the biological/organic producers, the *single most important* reason for starting to raise Angora goats was not economic. Almost 44 percent selected "I enjoy raising goats" as their primary motivation for adoption of the enterprise.

Financial stress as motivation for entering Angora goat production: Seventy-five percent of farmers reported that financial stress was not a major factor in their decision to enter Angora goat production, while 25 percent of the farmers reported that difficulty with finances was something of a factor in their decision to enter production. No one indicated major financial problems as a reason for entering Angora goat production. The sample was not divided further into income groups due to the limited number of observations.

Table C.2. Importance of each factor determining Virginia farmers' decisions to adopt the Angora goat enterprise.

Factors	Percent of farmers declaring factor was			
	Not important	Somewhat important	Very important	Most important single reason
Good opportunity for increasing profit	8.7	65.2	26.1	--[a]
Lower start-up lower costs	13.0	52.2	34.8	--
Convenient location of market	39.1	34.8	26.1	4.3
Dependable price	30.4	34.8	34.8	8.7
Significant demand for mohair	21.7	21.7	56.5	8.7
To put underutilized labor to use	78.3	13.0	8.7	26.1
To use underutilized land	26.1	21.7	52.2	--
To use underutilized buildings, equipment, etc.	73.9	8.7	17.4	--
Ease of production	26.1	21.7	52.2	4.3
More reliable production over time	17.4	26.1	56.5	4.3
Success of other farmers raising goats	30.4	34.8	34.8	--
Enjoy raising goats	4.3	17.4	78.3	43.5

[a] Not applicable.

Deciding to adopt Angora goat enterprises (Table C.3)

Original source of the idea to raise Angora goats: The idea to raise Angora goats came from multiple sources. Thirty-one percent of the farmers stated that the original source of the idea came from a magazine or book, 56 percent saw other farmers raising Angora goats, 17 percent thought of the idea independently of other resources, and 9 percent heard about this non-traditional enterprise at a farm related, educational meeting.

Information sources used for planning and developing the Angora goat enterprise: The most common sources used for planning and developing the Angora goat enterprise were books, magazines, or newsletters. Other frequently used information sources were other people in the business and county extension agents (48 percent, a larger percentage than for biological/organic producers). Unlike VABF for biological/ organic farmers, Virginia Angora Goat and Mohair Association (VAGMA) played a relatively small role in helping farmers plan and develop their Angora goat enterprises. The percentage of respondents indicating Virginia Tech or Virginia State University faculty or staff (22 percent) as a resource is nearly the same as that for the biological/organic farmers.

Type of plan prepared prior to starting the Angora goat enterprise: Over three-quarters of the respondents did not perform a feasibility analysis prior to adopting their Angora goat enterprise. This proportion is much higher than for the biological/organic farmers. As seen in the comparison of characteristics of biological/organic farmers and Angora goat producers (Table C.1), Angora goat producers have higher annual income and a larger portion of them hold non-farm jobs. Time constraints and a feeling of the lack of necessity could explain why such a high proportion of the farmers did not do a feasibility study. Also, since the primary goal of starting an Angora goat business among survey respondents was to pursue enjoyment rather than to make money, it is understandable that they did not make any formal plans for this enterprise.

Table C.3. Information sources used for planning and developing Angora goat enterprises.

Information source	Percent of respondents[a]
Books, magazines, or newsletters	87.0
Other people in the business	82.6
County extension agents	47.8
Virginia Tech or Va. State University faculty/staff	21.7
Virginia Department of Agriculture & Consumer Service	17.4
VAGMA[b] members or activities	13.0
Paid consultant	8.7

[a] Multiple sources used by many farmers.

[b] Virginia Angora Goat and Mohair Association.

Role of Angora goat enterprises

Profitability: In general, a higher percentage of farmers claimed a business loss than reported a gain in 1993. The percentage of Angora goat producers losing money from their enterprises (65 percent) is twice as high as that of biological/organic farmers, while the percentage of Angora goat producers making a profit (13 percent) is only half as much as that of biological/organic farmers. Twenty-two percent of Angora goat producers reported that they broke even in 1993, substantially lower than the 41 percent of biological/organic farmers who broke even.

There are several possible explanations why such a high proportion of Angora goat enterprises failed to breakeven or make a profit. First, off-farm employment provides a substantial proportion of the household income for the group, and they entered the enterprise for enjoyment. Second, over three-quarters of the farmers did not do any feasibility study prior to starting their business. Third, the majority of Angora goat producers have just started their businesses (1 to 5 years), and it may take time for them to establish reputations as producers and, therefore, to earn a profit.

Perceptions of future prospects for the mohair market: Although, in general, Angora goat producers were optimistic about the future, this group of farmers was less optimistic than the biological/organic farmers. Forty-nine percent of the respondents believed there is a very good or good future for the mohair market. Nine percent saw a fair future, and 42 percent saw an uncertain or poor future. The relatively large degree of negativism might reflect the financial losses for the majority of Angora goat farms and concern about the elimination of the Federal Mohair Program.

Management issues facing Angora goat enterprises (Table C.4)

Marketing channels used: Unlike biological/organic farming activities, the most common marketing channel used by Angora goat producers was indirect marketing via marketing cooperatives (38 percent) and mohair warehouses (24 percent). The direct marketing channels used were direct sales to spinners (22 percent), on-farm sales (12 percent), sales to specialty stores (1 percent), and "other" marketing channels (3 percent).

Problems and research, training, and regulation needs of Angora goat producers: Many of the farmers had problems with marketing, production, and input availability. Their support needs were similar. Among research needs, marketing information was most frequently mentioned, followed by breeding methods, and predator, parasite, and disease control. Shearing was cited as a priority for training needs. Like the biological/organic farmers, a very small portion of Angora goat producers had regulation needs or requests. Thirteen percent of the Angora goat producers requested government subsidies, such as a tax credit or lower interest rate loans. Another 9 percent suggested marketing help from the state, such as a local market pool so that farmers could sell mohair locally rather than ship it to wholesalers in other states.

Most important factor determining the success of Angora goat enterprise: Fifty-five percent selected marketing skills and information as the most important factors for success. Fifteen percent chose production and management skills as the most important factors for success. The Angora goat producers expressed less concern with such factors as location of market, availability of financial resources, and availability of labor than did the biological/organic farmers.

Table C.4. Top three problems and research, training, and regulation needs.

	Percent of respondents
Problems	
Marketing	38.9
Angora goat production	22.2
Input availability	16.7
Research needs	
Marketing	26.1
Breeding methods	21.7
Predator, parasite, and disease control	21.7
Training needs	
Shearing	26.1
Breeding methods/ predator control	26.0
Marketing	17.4
Regulation needs	
Subsidize to encourage Angora goat production	13.0
Marketing	8.7

APPENDIX D: SUMMARY OF BIOLOGICAL AND ORGANIC FARM PRODUCTION INFORMATION (1993)

The respondents to the biological/organic and Angora goat surveys were asked to answer several questions regarding the production aspects of these non-traditional enterprises. This information is summarized in the following tables.

Table D.1. Biological farm production information.

Crops and Animals	Number of farms[a]	Minimum acreage	Maximum acreage	Mean acreage
Field crops[b]	22	0.10	250.00	52.97
Hay	11	10.00	125.00	41.05
Grass	7	10.00	126.00	48.68
Vegetables[c]	41	0.001	135.00	5.13
Tomatoes	32	0.001	12.27	0.67
Greens	26	0.001	12.27	0.81
Beans	26	0.001	12.27	0.73
Fruits[d]	29	0.004	225.00	10.61
Apples	12	0.004	225.00	21.57
Strawberries	12	0.005	20.00	2.16

		Number of animals		
		Minimum	Maximum	Average
Animals	42	1	8,877	317
Milk cows	5	1	15	5
Beef cattle	25	2	400	47
Hogs	4	3	45	15
Chickens	27	11	8,500	415
Goats	6	2	60	22
Angora goats	23	3	120	20
Sheep	8	3	34	16
Other	10	1	300	61

[a] Number of farms producing biologically in 1993.
[b] Top two field crops in terms of total acreage.
[c] Top three vegetables in terms of total acreage.
[d] Top two fruit crops in terms of total acreage.

Table D.2. Certified organic farm production information.

Crops and Animals	Number of farms[a]	Minimum acreage	Maximum acreage	Mean acreage	Total acreage
Field Crops[b]	4	12.00	300.0	115.50	462.0
Soybeans	1	300.00	300.0	300.00	300.0
Hay	3	12.00	100.0	52.33	157.0
Vegetables[c]	13	0.008	4.5	0.98	12.7
Beans	6	0.007	2.0	0.37	2.2
Peppers	8	0.001	0.5	0.12	1.0
Tomatoes	11	0.001	4.0	0.42	4.6
Fruits[d]	7	0.03	34.0	6.37	44.6
Apples	2	0.50	34.0	17.25	34.5
Blueberries	4	0.01	8.0	2.17	8.7
Animals	1	15	15	15	15

[a] Actual numbers of farms producing organically in 1993.
[b] Top two field crops in terms of total acreage.
[c] Top three vegetables crops in terms of total acreage.
[d] Top fruit crops in terms of total acreage.

Notes

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