

**Moving towards GAP:
Determining the Technical Assistance Needs of
Affected Massachusetts Cranberry Growers**



Sponsored By:

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and in cooperation with

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Presented By:

The University of Massachusetts Dartmouth
Center for Marketing Research

Directed By:

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2008

Executive Summary

- Twenty-eight percent of fresh fruit growers said they are very aware of the food safety standards called GAP, 46% are somewhat aware, 6% are somewhat unaware and 20% are very unaware.
- Fifty-three percent of fresh fruit growers are getting information regarding GAP from the CCCGA, 46% are not and 2% did not respond.
- Twenty-four percent of fresh fruit growers are getting information regarding GAP from other growers, 74% are not and 2% did not respond.
- Eleven percent of fresh fruit growers are getting information regarding GAP from the USDA, 88% are not and 2% did not respond.
- Eight percent of fresh fruit growers are getting information regarding GAP from the media, 91% are not and 2% did not respond.
- Twenty-three percent of fresh fruit growers are getting their information regarding GAP from a handler, 76% are not and 2% did not respond.
- Sixty-two percent of fresh fruit growers indicate they have existing clerical support that can do the record keeping required for GAP, 30% do not have existing clerical support that can, 6% don't know if they do and 2% did not respond.
- Fifteen percent of fresh fruit growers indicated that their handlers will be requiring them to become GAP certified, 5% say they will not be required by their handler to become GAP certified, 77% do not know if they will be required by their handler to become GAP certified, 2% did not respond and 2% said it does not apply to them.
- Twenty-three percent of fresh fruit growers know that annual audits will be required with GAP, 76% did not know and 2% did not respond.
- Forty-seven percent of fresh fruit growers believe that the growers themselves will bear the cost of GAP audits, 35% do not think growers will bear the cost, 17% don't know and 2% did not respond.
- None of the fresh fruit growers believes that CCCGA will bear the cost of the GAP audits, 82% do not believe CCCGA will bear the cost, 17% don't know and 2% did not respond.
- Twenty-six percent of fresh fruit growers believe the government will bear the cost of GAP audits, 56% do not think the government will bear the cost, 17% don't know and 2% did not respond.

- Forty percent of fresh fruit growers think they will need technical assistance to continue in the fresh fruit market if GAP standards are imposed, 52% do not think they will need technical assistance, 6% don't know if they will and 1% did not respond.
- Forty-three percent of fresh fruit growers think they will need financial assistance to continue in the fresh fruit market if GAP standards are imposed, 50% do not think they will need financial assistance, 6% don't know if they will and 1% did not respond
- Seventy-two percent of fresh fruit growers think they will need educational assistance to continue in the fresh fruit market if GAP standards are imposed, 21% do not think they will need educational assistance, 6% don't know if they will and 1% did not respond.
- Twenty-two percent of fresh fruit growers prefer workshops on GAP to run 2 hours, 46% prefer 4 hours, 15% prefer 8 hours, 13% prefer options other than these, 2% say they don't know and 1% did not respond.
- Seven percent of fresh fruit growers are very likely to need on-farm GAP implementation consulting, 28% are somewhat likely to need it, 20% are somewhat unlikely to need it, 39% are very unlikely to need it, 4% don't know and 2% did not respond.
- Seventeen percent of fresh fruit growers feel pressured to implement GAP standards now, 78% do not feel pressured, 1% don't know and 4% did not respond.
- If GAP standards are required, 42% of fresh fruit growers will become GAP certified, 15% will discontinue growing fresh fruit and switch to wet/processed fruit, 1% will sell their farms, 29% are undecided, 10% will do something other than those mentioned and 4% did not respond.
- One percent of fresh fruit growers are 21-35 years old, 15% are 36-49 years old, 44% are 50-64 years old, 34% are 65 and older and 6% did not respond.
- Forty-nine percent of fresh fruit growers report having 1-9 total acres of cranberry bogs, 23% have 10-19 acres, 12% have 20-29 acres, 5% have 30-49 acres, none have 50-74 acres, 1% have 75-99 acres, 5% have 100-249 acres, 1% have 250-499 acres and 4% did not respond.
- Sixty-eight percent of the fresh fruit growers indicate they have less than 10 acres dedicated to growing cranberries for the fresh fruit market, 12% have 10-19 acres, 10% have 20-29 acres, 1% have 30-49 acres, 1% have 50-74 acres, none have 75-99 acres, 1% have 100-249 acres, 1% have 250-499 acres, 1% don't know and 4% did not respond.

- Five percent of fresh fruit growers did not sell any cranberries as fresh fruit this year, 10% sell 1-99 barrels of cranberries as fresh fruit, 24% sell 100-499 barrels of cranberries as fresh fruit, 17% sell 500-999 barrels of cranberries as fresh fruit, 28% sell 1,000-4,999 barrels of cranberries as fresh fruit, 2% sell over 5,000 barrels of cranberries as fresh fruit, 7% don't know and 6% did not respond.
- Seventy-one percent of fresh fruit growers have no full-time employees other than themselves, 12% have 1 employee, 9% have 2-3 employees, 2% have 4 or more employees and 6% did not respond.
- Ninety-four percent of fresh fruit growers indicate that their farm is family owned, 2% are not family owned and 4% did not respond.

Introduction

The purpose of this study is to assess the technical assistance needs of Massachusetts cranberry growers in the fresh fruit segment of the industry who will need to become GAP (Good Agricultural Practices) certified. The goals of this study are to:

- Determine the level of awareness regarding FDA/USDA or other proposed GAP standards among cranberry growers who sell their berries as fresh fruit.
- Determine the needs of those growers for technical, financial or educational assistance to reach compliance with GAP standards.
- Determine the optimal role of Cape Cod Cranberry Growers' Association (CCCGA) in assisting those growers with meeting GAP standards.
- Determine the likelihood that those cranberry growers will continue in the fresh fruit market given the movement towards GAP standards.

To achieve these goals, Nora Ganim Barnes, Ph.D., Chancellor Professor of Marketing and Director of the UMass Dartmouth Center for Marketing Research designed and supervised a survey conducted via telephone. A systematic random sample from a list of cranberry growers and supplied by CCCGA was used. Calls were made to growers beginning in November 2007 from the UMass Dartmouth Center for Marketing Research located in Fairhaven, MA. The data collection ended in December 2007.

All growers were asked about their familiarity with the proposed GAP standards. They were queried regarding their likelihood of remaining in the fresh fruit segment if GAP standards were expected of them and asked what it might take to keep them competitive in light of GAP moving forward. Any information that will help to identify grower needs to achieve GAP standards was collected.

Growers were asked about specific forms of assistance in order to determine the best vehicle(s) for meeting their needs. Data was analyzed using the SPSS (Statistical Program for the Social Sciences) package. Every effort was made to define those growers most likely to become GAP certified. The results will help to develop a marketing assistance plan to help fresh fruit cranberry growers move towards GAP certification.

The extensive analysis of the data helped define the current level of awareness of GAP standards. It also helped to locate those growers most in need. Special attention was paid to size of farm, number of acres of fresh fruit bogs, and demographics of the growers. All of this is instrumental in targeting assistance to those who need and want to compete in this segment of the market given the new standards that appear to be coming soon via handlers.

In the US, it is estimated that 76 million people contract some type of food borne illness each year. Over 325,000 of these people are hospitalized and approximately 5,000 die. These cases have been widely covered in the headlines. Consumers have heard about salmonella on tomatoes and cantaloupes, E. coli on lettuce, spinach and in apple juice, hepatitis A on strawberries and Cyclospora on raspberries. There are many opportunities for bacteria, viruses, and parasites to contaminate produce. (Cornell University, 2000)

Four key events have brought focus and concern for the microbial food safety of fresh fruits, vegetables, nuts and other edible horticultural foods: (USDA self-audit)

1. Recent reoccurring outbreaks linked to consumption of imported and domestic products such as the cases mentioned above.
2. Positive detection and recovery of human pathogens from random survey sampling of both imported and domestically produced produce.
3. Recent reports from several researchers documenting the difficulty of cleaning and disinfecting produce surfaces.
4. Recent reports from several researchers documenting the potential for internalization of pathogens during post-harvest handling.

As with all fruits and vegetables consumed without a cooking step, the best approach to maintaining to wholesome nature and safe consumption of edible horticultural products is to be aware of the potential risks and to systematically identify and establish management practices to minimize contamination.

The concept of Good Agricultural Practices (GAP) has evolved in recent years in the context of a rapidly changing and globalizing food economy and as a result of the concerns and commitments of a wide range of stakeholders. Broadly defined GAP applies available knowledge to addressing environmental, economic and social sustainability for on-farm production and post-production processes resulting in safe and healthy food. The implementation of GAP is generally through a process of assessing critical management choices that are made sequentially throughout the production process.

Currently, the FDA has a guidance document (*Guide to Minimize Microbial Food Safety Hazards for Fresh Fruits and Vegetables*, available at www.cfsam.fda.gov). This document, along with the materials provided at USDA, provide information for passing a GAP audit, and receiving GAP certification. GAP certification is verification that practices are conducted on the farm to minimize microbial contamination in the production of harvested produce.

The FDA guidance document identifies the following areas that participants should demonstrate control of in their operations to minimize microbial hazards in fresh fruits and vegetables: water, manure and municipal bio-solids, worker health and hygiene, sanitary facilities, field sanitation, and transportation. Typically there are 60 or more checkpoints that growers need to address. (CCCGA, Rural Business Enterprise Grant Program, 2007)

One hundred and thirty-three growers in Massachusetts produce 31% of all fresh fruit cranberries in the US. Over 70% of those growers operate on less than 20 acres. Typically these are small, family farms and 1-2 people operation. (CCCGA, Rural Business Enterprise Grant Program, 2007)

While handlers have told growers that they should pursue certification to keep their product competitive, there is no GAP training currently available in MA. Given that 27% of all cranberry sales are exports, there is an expectation that produce abroad meet food safety standards like GAP-Europe and Mexico Supreme Quality-GAP. In order to continue in those markets, MA growers will need to meet that expectation even prior to GAP becoming mandatory in the US.

Two major cranberry growers in the region have privately pursued GAP-Europe accreditation to preserve their place in the market, but only the largest growers have been able to do that. It can cost as much as \$10,000 to hire a firm to assess, plan and help implement GAP standards. Beyond that, there needs to be the ability to perform annual audits and handle the increased documentation that GAP requires.

It is almost certain that there will be some form of mandatory GAP standards. For that reason, MA fresh fruit cranberry growers are getting pressure to adopt the practices now. Grocery chains are telling cranberry handlers that consumers want products that adhere to GAP standards. In response Massachusetts cranberry handlers have said that all growers will need to be GAP education and be able to document their food safety practices.

Being GAP certified is a matter of survival for this segment of the industry. Those growers who wish to continue to sell in this market will have to move towards GAP certification as soon as possible. The consequences for not doing so are clear. At risk is the survival of over 130 fresh fruit cranberry growers and over 1 million pounds of fresh fruit currently sold in the fresh fruit market. This represents a substantial concern for the industry.

Growers are worried about losing their market if they are not GAP certified, and also concerned that if there were a health problem/outbreak associated with cranberries that the negative publicity could result in business collapse. Assisting MA fresh fruit cranberry growers is imperative to preserve the existing market and the livelihood of the growers involved.

Other states have already begun to move in this direction. University of Maine Cooperative Extension is developing training materials and programs to help potato growers fulfill the USDA standard. The state of ME is considering its own form of GAP standards, but training and assistance will still be required to help growers meet whatever standards are implemented (www.umaine.edu/umext/potatoprogram).

Research Design and Methodology

A survey design with a telephone interview method was implemented. According to the American Statistical Association, “Surveys provide an important source of basic scientific knowledge.” This type of research is one of the most important areas of measurement in applied social research. It was selected due to its extensive flexibility and reach. Telephone surveys allow trained researchers to ask specific questions in a standardized way that will facilitate the securing of statistically useful results.

A list of all cranberry growers that sell berries in the fresh fruit market was obtained from CCCGA. Every effort was made to interview as many of those growers as possible. A survey was developed with a research team provided by the UMass Dartmouth Center for Marketing Research in collaboration with representatives of the cranberry industry including CCCGA and other interested parties. This survey investigated specific areas of interest and concern regarding the needs of growers who will be moving towards GAP certification. The survey focused on the growers’ intent to seek certification and what assistance would be necessary to help them succeed.

Additional information that would assist with creating an assistance program was also sought. For those growers who feel that GAP certification is not something they can or want to achieve, the survey attempted to define if they might be influenced to stay in the fresh fruit market given the availability of assistance.

All phone calls were made from the Center for Marketing Research at UMass Dartmouth by trained student interviewers. Calls were monitored for quality purposes. All potential participants who were unavailable were called back at least 3 times before being eliminated. In those cases, the next available name was used. Approximately 80 fresh fruit growers were surveyed over a 2 month period in the fall of 2007.

The analysis of the survey data, using SPSS (Statistical Package for the Social Sciences), includes data segmentation statistics in order to define those most likely to want assistance. Other statistics allow us to determine types of assistance and the extent to which it might be needed. All findings are statistically valid at $\pm 6\%$.

**Moving towards GAP: Determining the Technical Assistance Needs of
Affected Massachusetts Cranberry Growers**
Conducted by the University of Massachusetts Dartmouth Center for Marketing Research

Hi my name is _____ . I'm calling from the University of Massachusetts Dartmouth Center for Marketing Research and we are helping CCCGA gather information on GAP (Good Agricultural Practices). Do you have a couple of minutes to answer some questions?

Are you a fresh fruit grower?

Yes _____

No _____ **(discontinue survey)**

1. How aware are you of food safety standards called GAP (Good Agricultural Practices)?
Very aware _____ Somewhat aware _____ Somewhat unaware _____ Very Unaware _____
(If very unaware skip to question 16)

2. Where are you getting your information from regarding GAP? (check all that apply)
CCCGA _____ Other growers _____ USDA _____ Media _____ Handler _____
Other (please specify) _____

3. What is the goal of GAP as you understand it?

4. GAP standards will require extensive record keeping. Do you have existing clerical support to do that?
Yes _____ No _____ Don't Know _____

5. Do you know if your handler will be requiring you to become GAP certified?
Yes _____ No _____ Don't Know _____ Does not apply _____

6. From what you know now what seems to be the biggest obstacle for you in becoming GAP certified?

7. Did you know that annual audits will be required with GAP?
Yes _____ No _____

8. Who do you believe will bear the cost of these audits?
The grower _____ CCCGA _____ The government _____
Other (please specify) _____

9. If GAP standards are imposed which of the following types of assistance do you think you will need to continue in the fresh fruit market?

Technical assistance (consulting, bookkeeping, document storing, etc.) ____

Financial assistance (low cost loans/grants) ____

Educational assistance (training, seminars, speakers) ____

Other (please specify) _____

10. If CCCGA held workshops on GAP, what form should they take? (choose only 1)

A relatively short, general workshop (2 hours) ____

A half day session with general information and some specifics (4 hours) ____

An all day or multi session workshop covering all specifics and details of GAP requirements (8 hours) ____

Other (please specify) _____

11. How likely is it that you would need on-farm GAP implementation consulting?

Very Likely ____ Somewhat Likely ____ Somewhat Unlikely ____ Very Unlikely ____

12. Specifically what do you think CCCGA can do to assist growers with meeting GAP standards?

13. Do you feel pressured to implement GAP standards now?

Yes ____ Where do you feel the pressure is coming from? _____

No ____ Please explain: _____

14. If GAP standards are required for you to continue selling cranberries as a fresh fruit grower what will you do?

Become GAP certified ____ (**skip to demographics Q.16**)

Discontinue growing fresh and switch to wet/processed fruit ____

Sell the farm ____

Undecided ____

Other (please specify) _____

15. What would be necessary for you to move towards GAP certification?

DEMOGRAPHICS

16. What is your age?

21-35 _____ 50-64 _____ No response _____
36-49 _____ 65 and over _____

17. What is your total acreage of cranberry bogs?

1-9 _____ 75-99 _____
10-19 _____ 100-249 _____
20-29 _____ 250-499 _____
30-49 _____ 500 or more _____
50-74 _____ Don't know _____
No response _____

18. How many acres of bogs are dedicated to growing cranberries for the fresh fruit market?

1-9 _____ 75-99 _____
10-19 _____ 100-249 _____
20-29 _____ 250-499 _____
30-49 _____ 500 or more _____
50-74 _____ Don't know _____
No response _____

19. How many barrels of cranberries do you sell as fresh fruit?

20. How many full-time employees do you have on your farm, other than yourself?

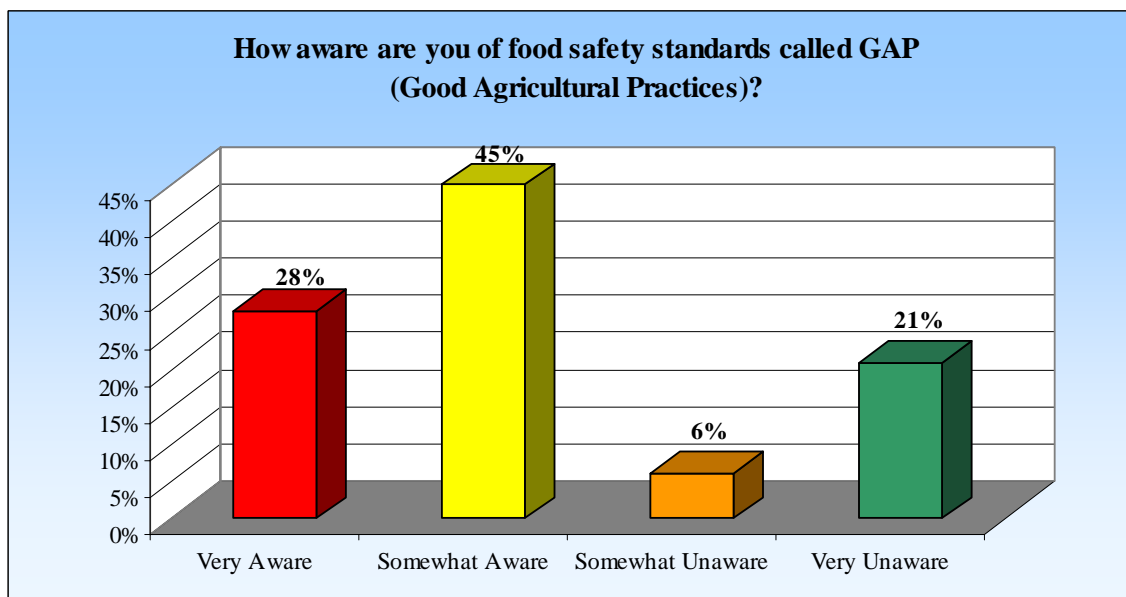
21. Is this a family owned cranberry farm?

Yes _____ No _____

**Question 1: How aware are you of food safety standards called GAP
(Good Agricultural Practices)?**

How aware are you of food safety standards called GAP (Good Agricultural Practices)?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Aware	23	28.0	28.0	28.0
	Somewhat Aware	38	46.3	46.3	74.4
	Somewhat Unaware	5	6.1	6.1	80.5
	Very Unaware	16	19.5	19.5	100.0
	Total	82	100.0	100.0	



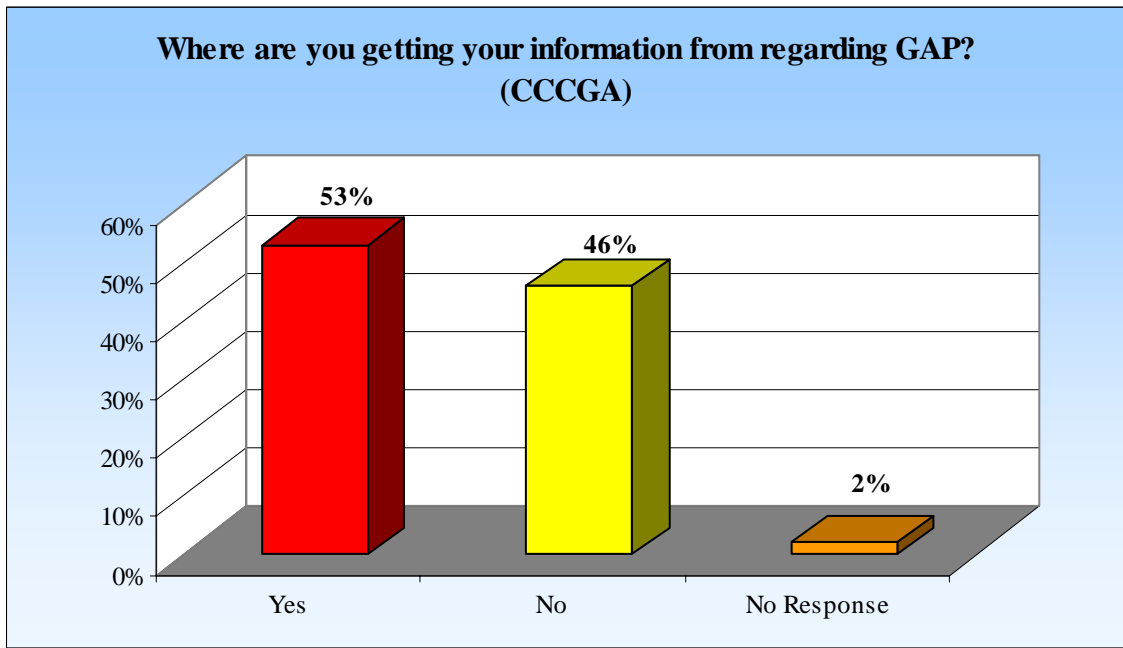
Twenty-eight percent of fresh fruit growers said they are very aware of the food safety standards called GAP, 46% are somewhat aware, 6% are somewhat unaware and 20% are very unaware. *

* Growers who said they were very unaware skipped to question 9.

**Question 2a: Where are you getting your information from regarding GAP?
(CCCGA)**

Where are you getting your information from regarding GAP? (CCCGA)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	35	42.7	53.0	53.0
	No	30	36.6	45.5	98.5
	No Response	1	1.2	1.5	100.0
	Total	66	80.5	100.0	
	N/A	16	19.5		
Total		82	100.0		

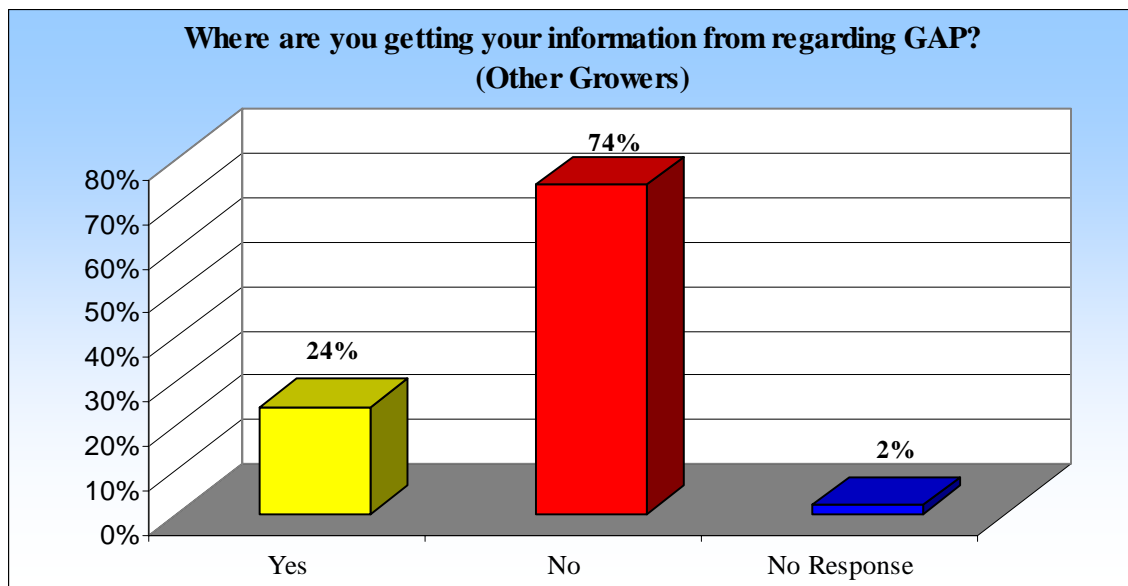


Fifty-three percent of fresh fruit growers are getting information regarding GAP from the CCCGA, 46% are not and 2% did not respond.

**Question 2b: Where are you getting your information from regarding GAP?
(Other Growers)**

Where are you getting your information from regarding GAP? (Other Growers)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	16	19.5	24.2	24.2
	No	49	59.8	74.2	98.5
	No Response	1	1.2	1.5	100.0
	Total	66	80.5	100.0	
	N/A	16	19.5		
Total		82	100.0		

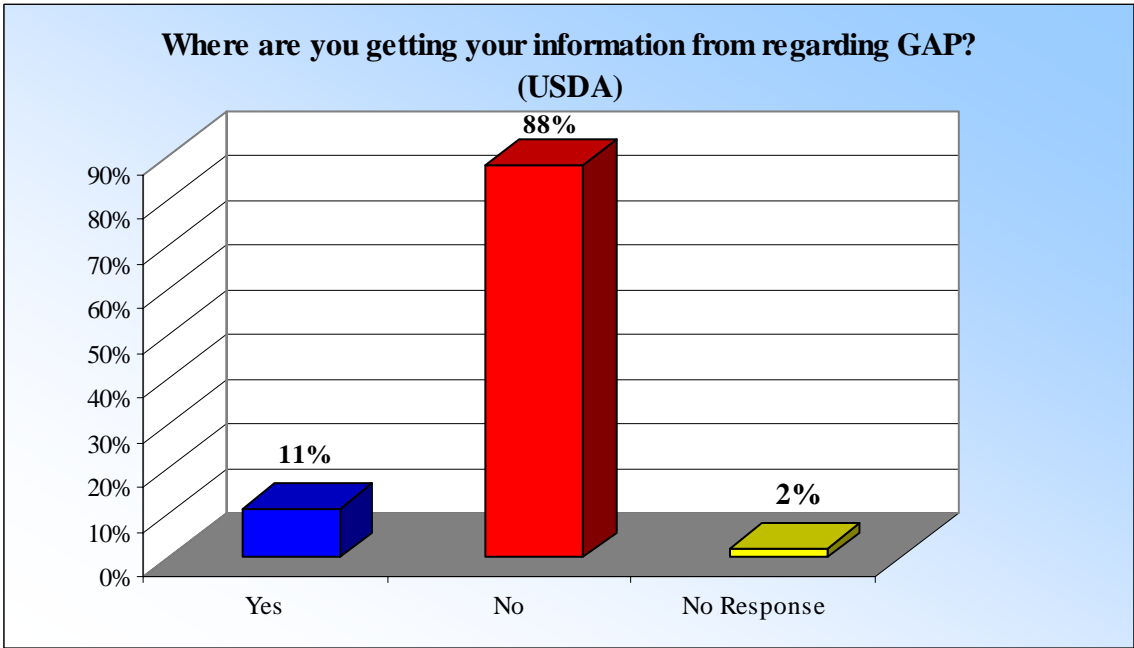


Twenty-four percent of fresh fruit growers are getting information regarding GAP from other growers, 74% are not and 2% did not respond.

**Question 2c: Where are you getting your information from regarding GAP?
(USDA)**

Where are you getting your information from regarding GAP? (USDA)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	7	8.5	10.6	10.6
	No	58	70.7	87.9	98.5
	No Response	1	1.2	1.5	100.0
	Total	66	80.5	100.0	
	N/A	16	19.5		
Total		82	100.0		

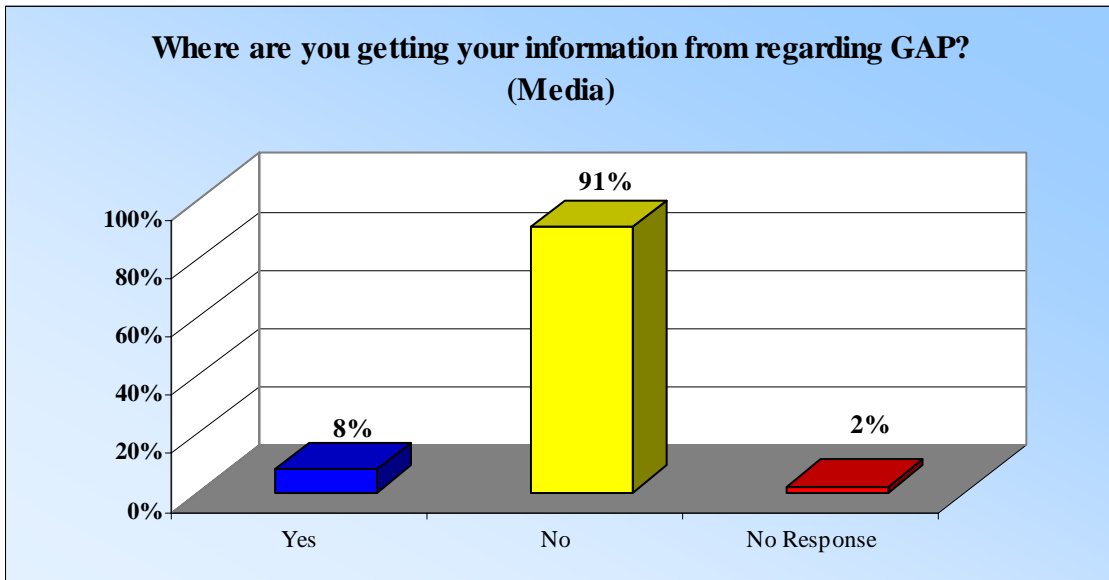


Eleven percent of fresh fruit growers are getting information regarding GAP from the USDA, 88% are not and 2% did not respond.

**Question 2d: Where are you getting your information from regarding GAP?
(Media)**

Where are you getting your information from regarding GAP? (Media)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	5	6.1	7.6	7.6
	No	60	73.2	90.9	98.5
	No Response	1	1.2	1.5	100.0
	Total	66	80.5	100.0	
	N/A	16	19.5		
Total		82	100.0		

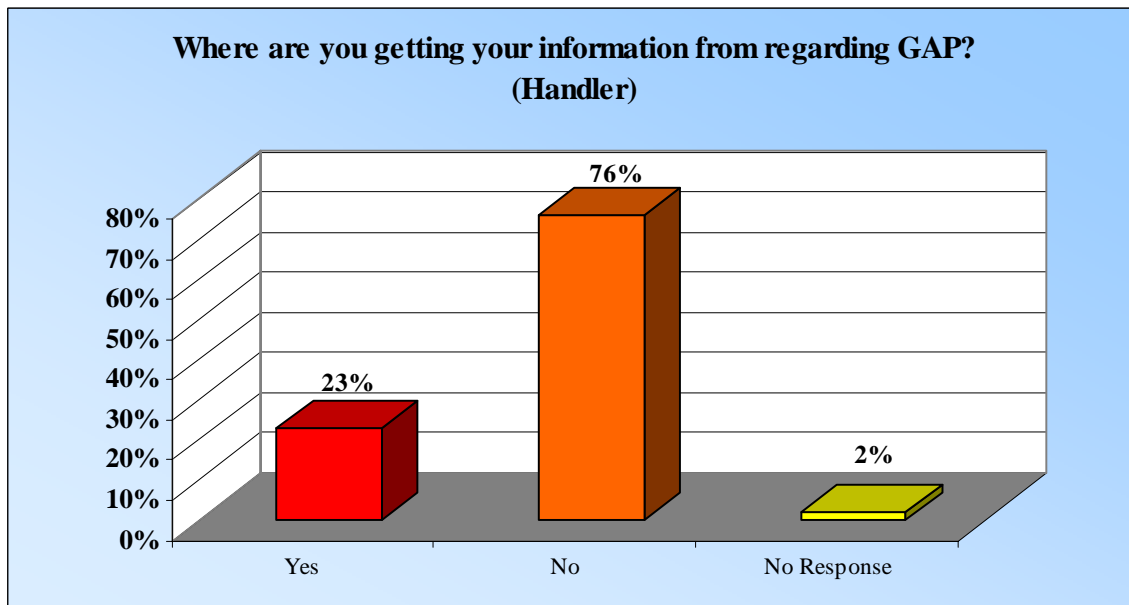


Eight percent of fresh fruit growers are getting information regarding GAP from the media, 91% are not and 2% did not respond.

**Question 2e: Where are you getting your information from regarding GAP?
(Handler)**

Where are you getting your information from regarding GAP? (Handler)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	15	18.3	22.7	22.7
	No	50	61.0	75.8	98.5
	No Response	1	1.2	1.5	100.0
	Total	66	80.5	100.0	
	N/A	16	19.5		
Total		82	100.0		

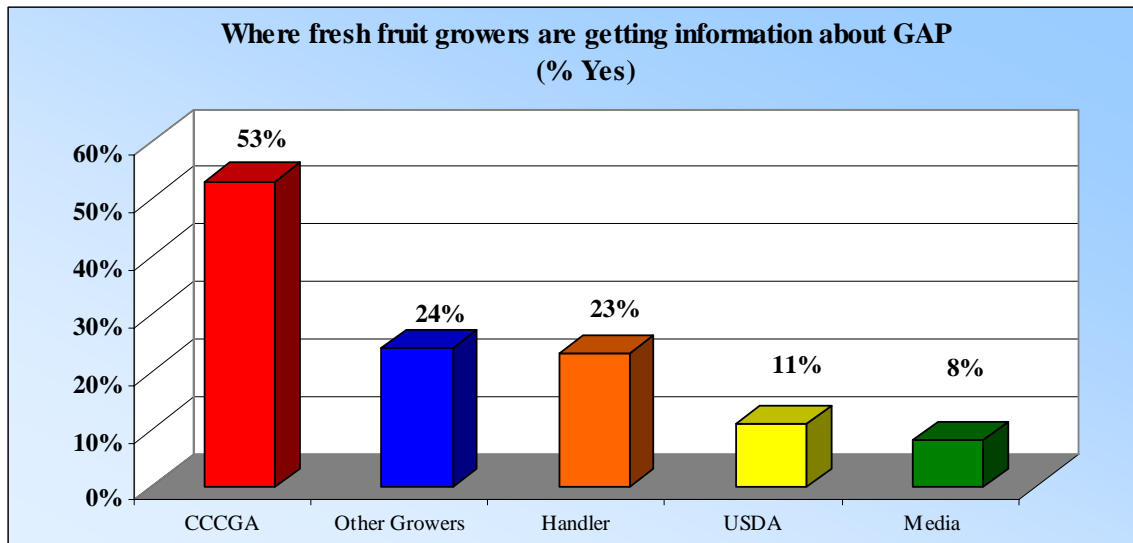


Twenty-three percent of fresh fruit growers are getting their information regarding GAP from a handler, 76% are not and 2% did not respond.

Question 2g: Where are you getting your information from regarding GAP? Other (please specify)

<u>Response</u>	<u>Frequency</u>
Newsletters through Ocean Spray	(11)
Cranberry Experimental Station	(2)
Cranberry organizations	(1)
Extension service	(1)
FDA	(1)
Labels	(1)
Online	(1)
Organic certifier BSOC	(1)
Readers, industry	(1)
State of Massachusetts	(1)
Workshops	(1)
Total Responses	22

Where fresh fruit growers are getting information about GAP
(Check all that apply)



Fifty-three percent of fresh fruit growers get information about GAP from CCCGA, 24% get their information from other growers, 23% get their information from a handler, 11% get their information from the USDA and 8% get their information from the media.

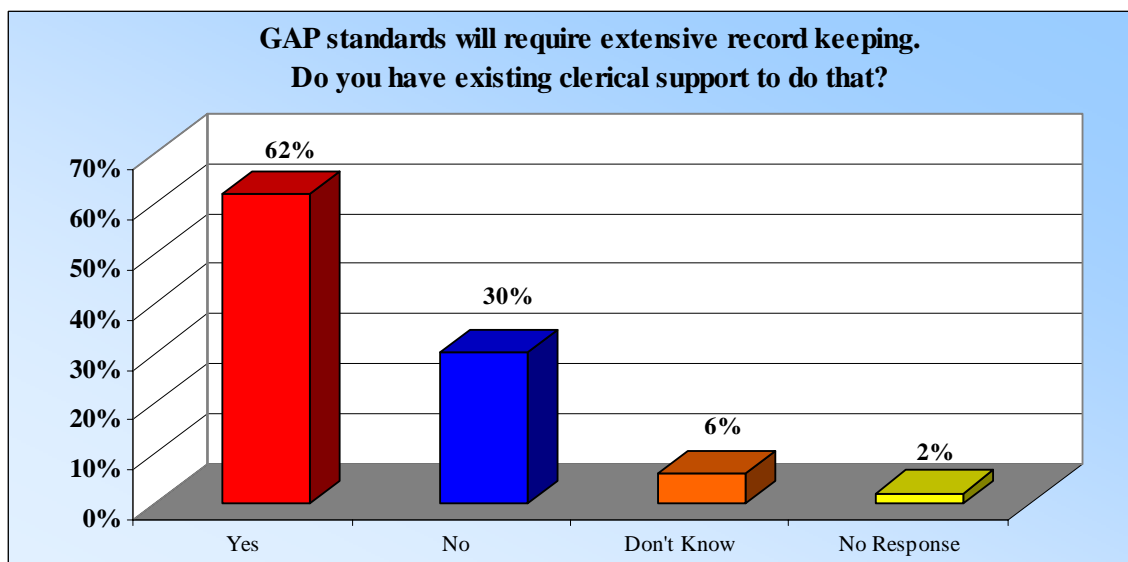
Question 3: What is the goal of GAP as you understand it?
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<u>Response</u>	<u>Frequency</u>
Standardized practices for safety	(15)
Don't know, not sure	(8)
Ensure food quality	(7)
Protect the industry and the people who eat the food	(6)
Clean fruit	(5)
Good environmental practices	(5)
Abide by regulations	(3)
Have universal code in practice for cranberry growers to keep quality of production high so there will be no cranberry scare with pollutants	(3)
None	(2)
To use best management practices, grow fruit in cooperation with keeping clean water	(2)
Keeping bogs clean	(1)
Pesticide free fruit	(1)
Help industry	(1)
Minimize any type of bacteria from getting into the bogs and fruit	(1)
To have a safe working environment	(1)
Try to make people do things better	(1)
Use less chemicals	(1)
Use right chemicals	(1)
Total Responses	64

**Question 4: GAP standards will require extensive record keeping.
Do you have existing clerical support to do that?**

**GAP standards will require extensive record keeping.
Do you have existing clerical support to do that?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	41	50.0	62.1	62.1
	No	20	24.4	30.3	92.4
	Don't Know	4	4.9	6.1	98.5
	No Response	1	1.2	1.5	100.0
	Total	66	80.5	100.0	
	N/A	16	19.5		
Total		82	100.0		

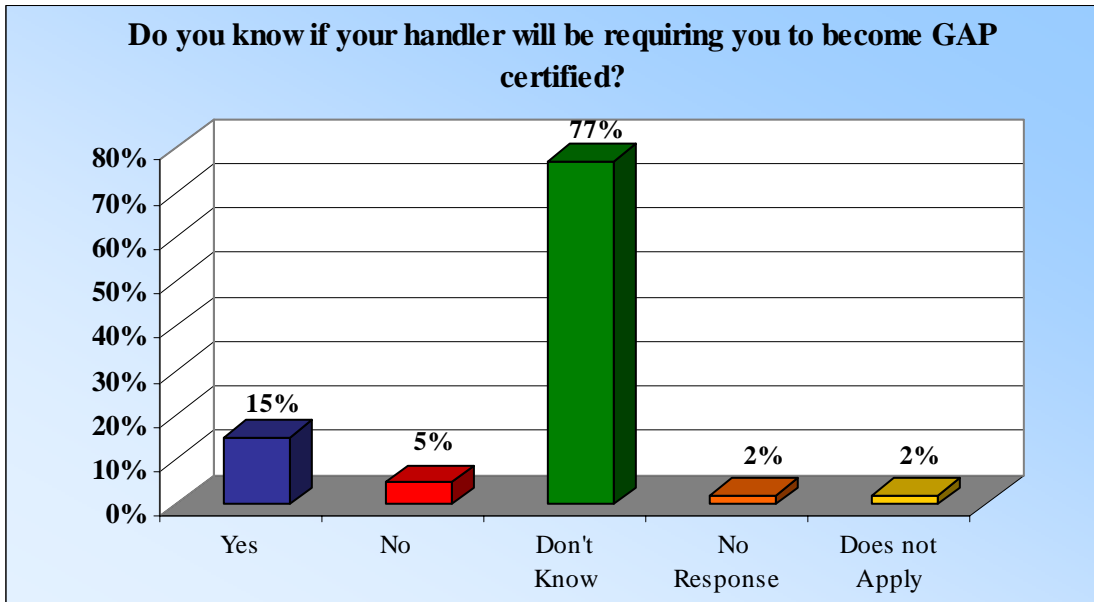


Sixty-two percent of fresh fruit growers indicate they have existing clerical support that can do the record keeping required for GAP, 30% do not have existing clerical support that can, 6% don't know if they do and 2% did not respond.

Question 5: Do you know if your handler will be requiring you to become GAP certified?

Do you know if your handler will be requiring you to become GAP certified?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	10	12.2	15.2	15.2
	No	3	3.7	4.5	19.7
	Don't Know	51	62.2	77.3	97.0
	No Response	1	1.2	1.5	98.5
	Does not Apply	1	1.2	1.5	100.0
	Total	66	80.5	100.0	
	N/A	16	19.5		
Total		82	100.0		



Fifteen percent of fresh fruit growers indicated that their handlers will be requiring them to become GAP certified, 5% say they will not be required by their handler to become GAP certified, 77% do not know if they will be required by their handler to become GAP certified, 2% did not respond and 2% said it does not apply to them.

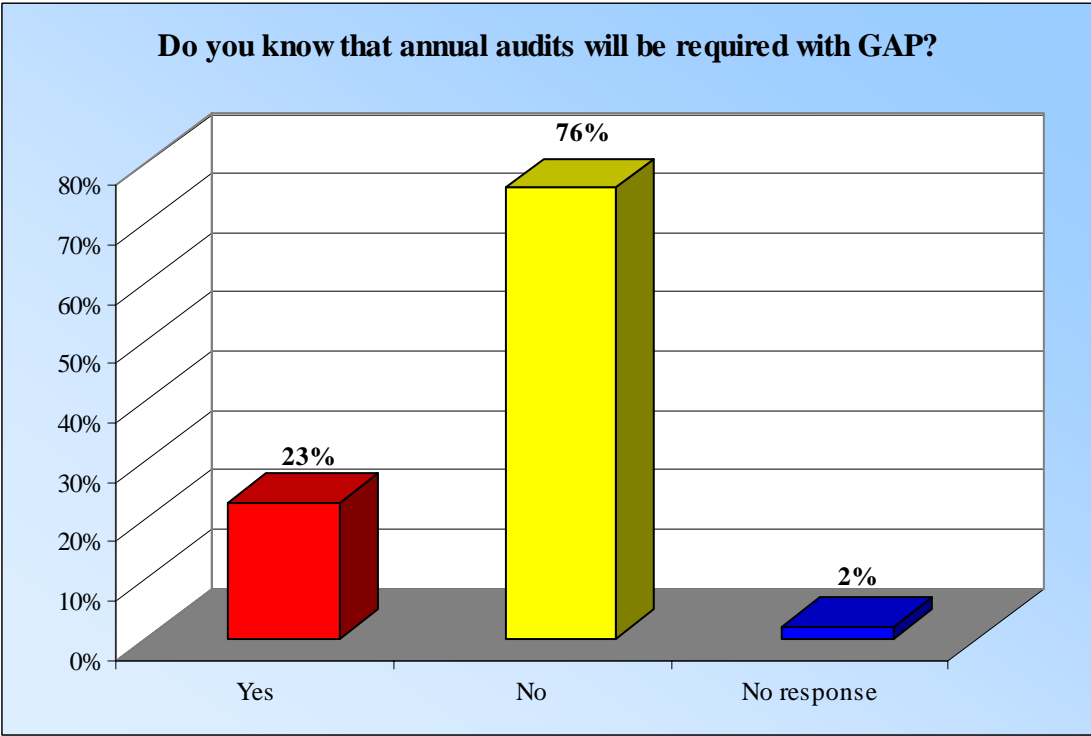
Question 6: From what you know now what seems to be the biggest obstacle for you in becoming GAP certified?
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<u>Response</u>	<u>Frequency</u>
Don't know, not sure	(21)
Getting educated on GAP	(20)
Nothing	(6)
Record keeping	(4)
Time	(4)
Cost	(4)
Age	(2)
Don't know why I need to be GAP certified	(1)
Can't control animals open space	(1)
Hassle of going through procedures	(1)
In the field	(1)
Not making other countries do it	(1)
Notification	(1)
People who do not know about the industry	(1)
Straighten out bogs	(1)
Total Responses	69

Question 7: Did you know that annual audits will be required with GAP?

Do you know that annual audits will be required with GAP?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	15	18.3	22.7	22.7
	No	50	61.0	75.8	98.5
	No Response	1	1.2	1.5	100.0
	Total	66	80.5	100.0	
	N/A	16	19.5		
Total		82	100.0		

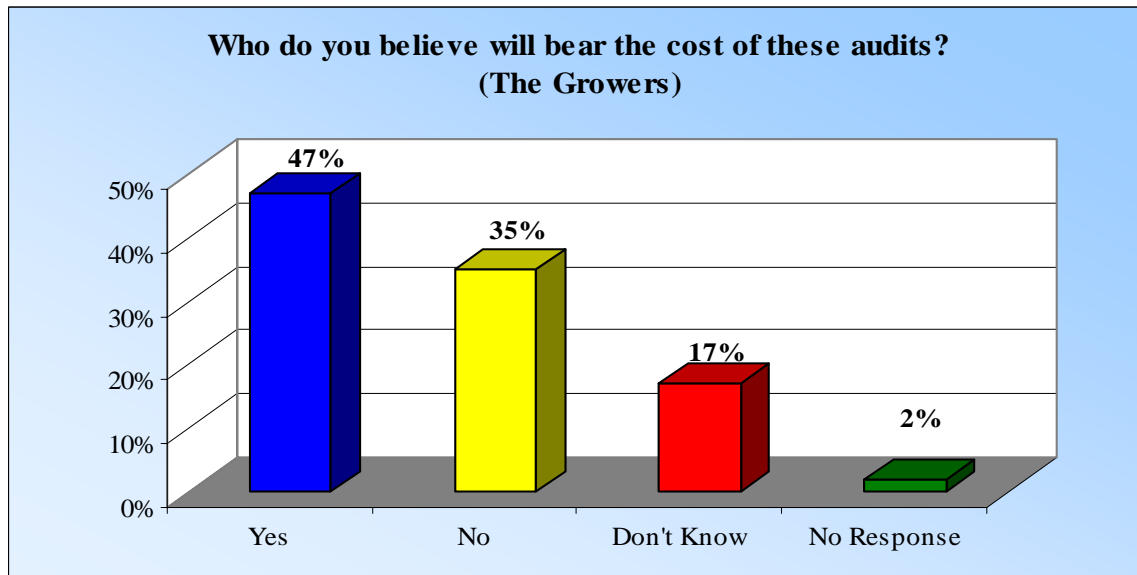


Twenty-three percent of fresh fruit growers know that annual audits will be required with GAP, 76% did not know and 2% did not respond.

**Question 8a: Who do you believe will bear the cost of these audits?
(The Growers)**

Who do you believe will bear the cost of these audits? (The Growers)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	31	37.8	47.0	47.0
	No	23	28.0	34.8	81.8
	Don't Know	11	13.4	16.7	98.5
	No Response	1	1.2	1.5	100.0
	Total	66	80.5	100.0	
	N/A	16	19.5		
Total		82	100.0		

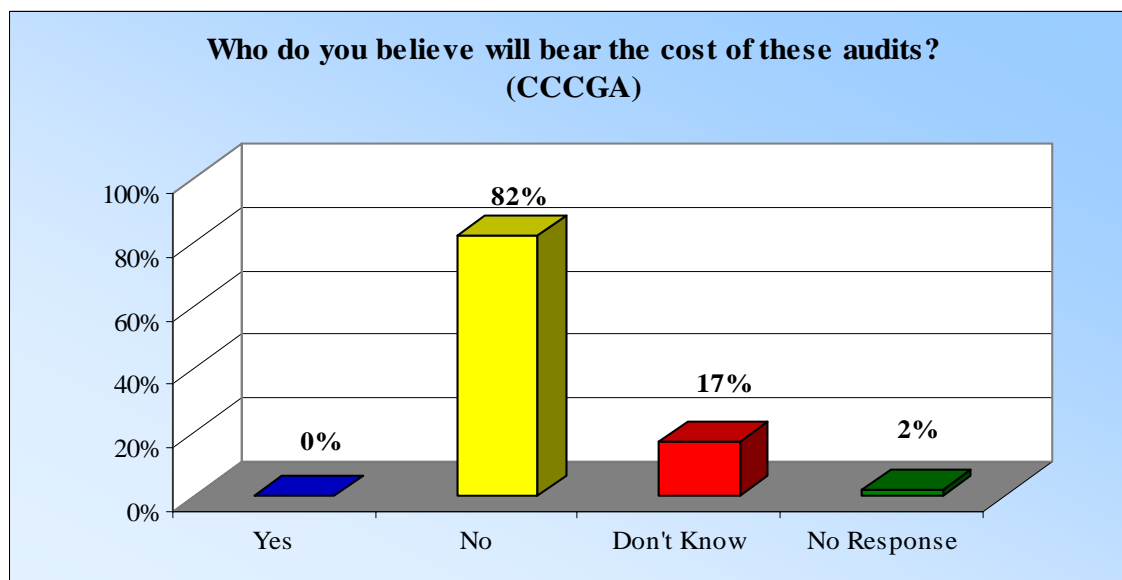


Forty-seven percent of fresh fruit growers believe that the growers themselves will bear the cost of GAP audits, 35% do not think growers will bear the cost, 17% don't know and 2% did not respond.

**Question 8b: Who do you believe will bear the cost of these audits?
(CCCGA)**

Who do you believe will bear the cost of these audits? (CCCGA)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	54	65.9	81.8	81.8
	Don't Know	11	13.4	16.7	98.5
	No Response	1	1.2	1.5	100.0
	Total	66	80.5	100.0	
	N/A	16	19.5		
Total		82	100.0		

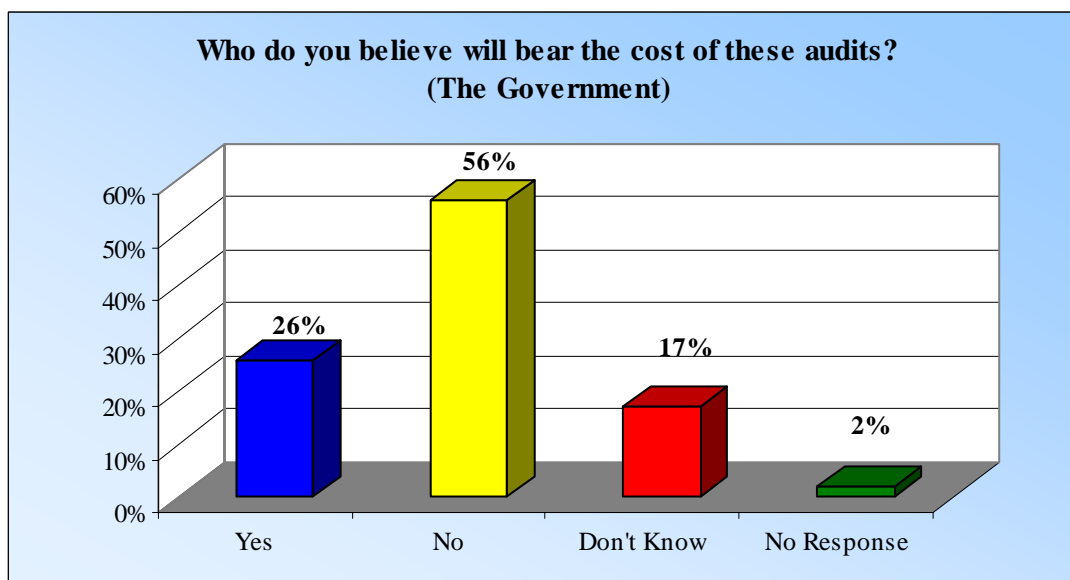


None of the fresh fruit growers believes that CCCGA will bear the cost of the GAP audits, 82% do not believe CCCGA will bear the cost, 17% don't know and 2% did not respond.

**Question 8c: Who do you believe will bear the cost of these audits?
(The Government)**

Who do you believe will bear the cost of these audits? (The Government)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	17	20.7	25.8	25.8
	No	37	45.1	56.1	81.8
	Don't Know	11	13.4	16.7	98.5
	No Response	1	1.2	1.5	100.0
	Total	66	80.5	100.0	
	N/A	16	19.5		
Total		82	100.0		

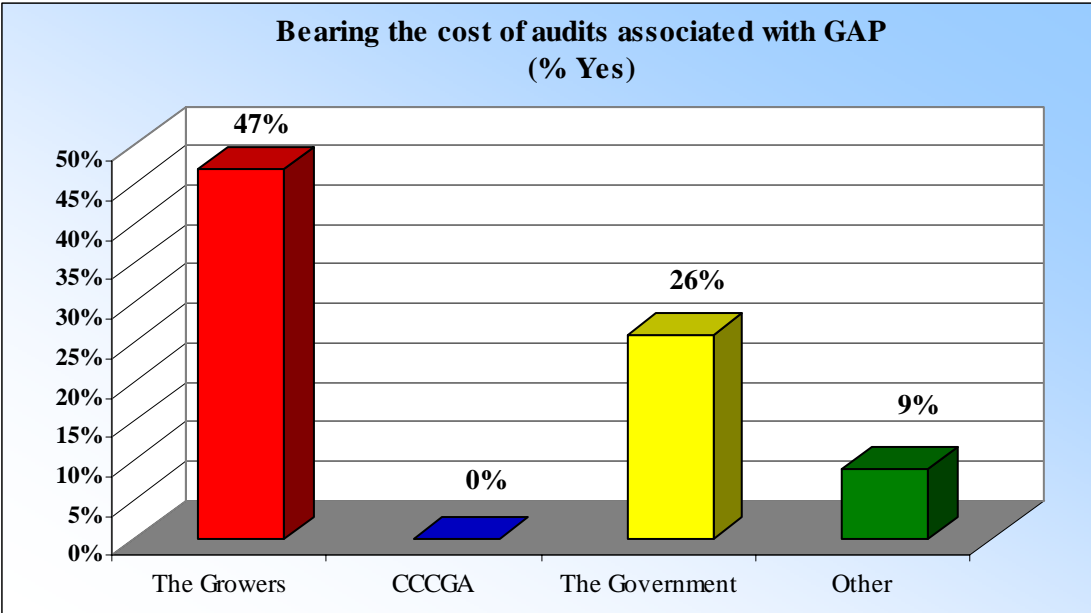


Twenty-six percent of fresh fruit growers believe the government will bear the cost of GAP audits, 56% do not think the government will bear the cost, 17% don't know and 2% did not respond.

**Question 8e: Who do you believe will bear the cost of these audits?
(Other)**

<u>Response</u>	<u>Frequency</u>
Handler	(2)
Taxpayers	(2)
Ocean Spray for GAP-Europe	(1)
USDA	(1)
Total Responses	6

**Bearing the cost of audits associated with GAP
(Check all that apply)**

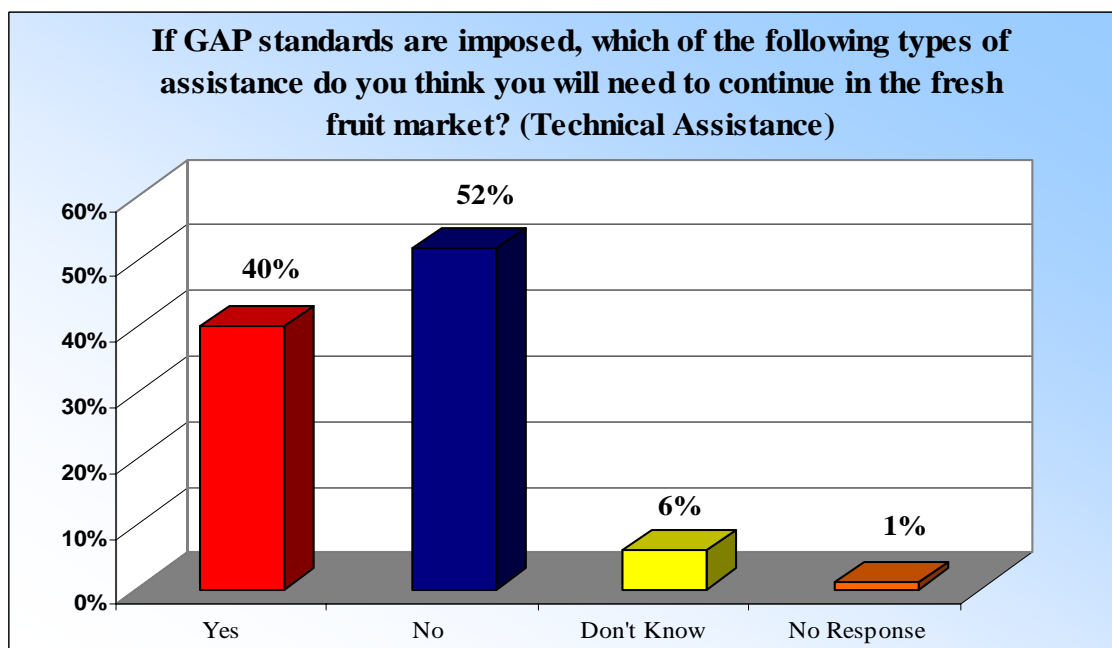


Forty-seven percent of fresh fruit growers believe that the growers themselves will bear the cost of audits associated with GAP, no one believes CCCGA will bear the cost, 26% believe the government will bear the cost and 9% believe various others will bear the cost.

Question 9a: If GAP standards are imposed, which of the following types of assistance do you think you will need to continue in the fresh fruit market? (Technical Assistance)

If GAP standards are imposed, which of the following types of assistance do you think you will need to continue in the fresh fruit market? (Technical Assistance)

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	33	40.2	40.2	40.2
No	43	52.4	52.4	92.7
Don't Know	5	6.1	6.1	98.8
No Response	1	1.2	1.2	100.0
Total	82	100.0	100.0	

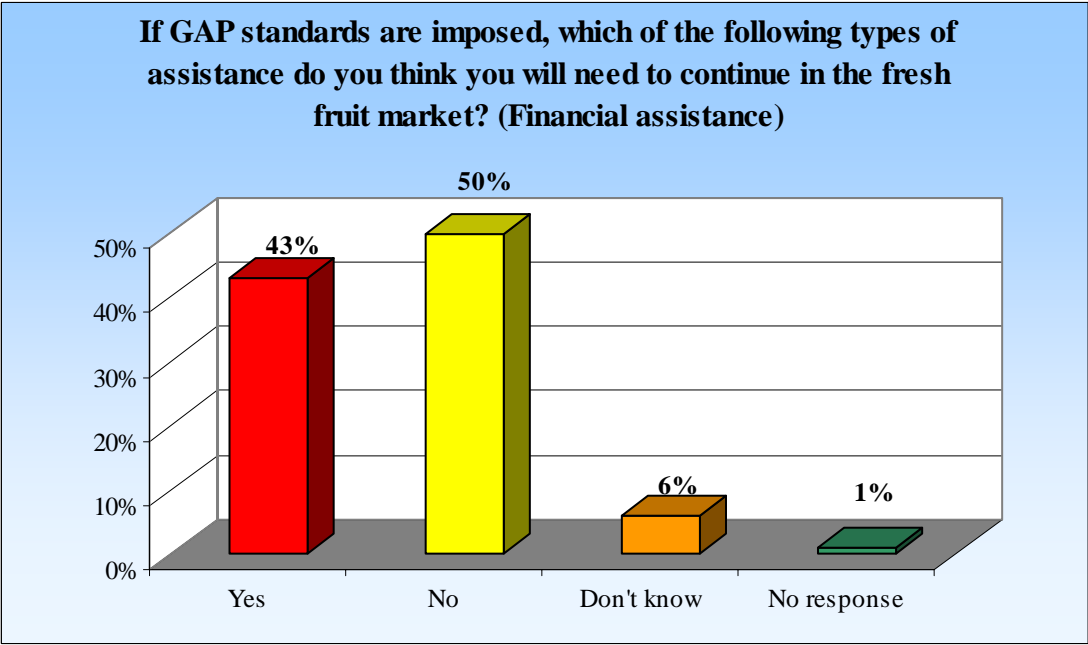


Forty percent of fresh fruit growers think they will need technical assistance to continue in the fresh fruit market if GAP standards are imposed, 52% do not think they will need technical assistance, 6% don't know if they will and 1% did not respond.

Question 9b: If GAP standards are imposed, which of the following types of assistance do you think you will need to continue in the fresh fruit market? (Financial Assistance)

If GAP standards are imposed, which of the following types of assistance do you think you will need to continue in the fresh fruit market? (Financial Assistance)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	35	42.7	42.7	42.7
	No	41	50.0	50.0	92.7
	Don't Know	5	6.1	6.1	98.8
	No Response	1	1.2	1.2	100.0
	Total	82	100.0	100.0	

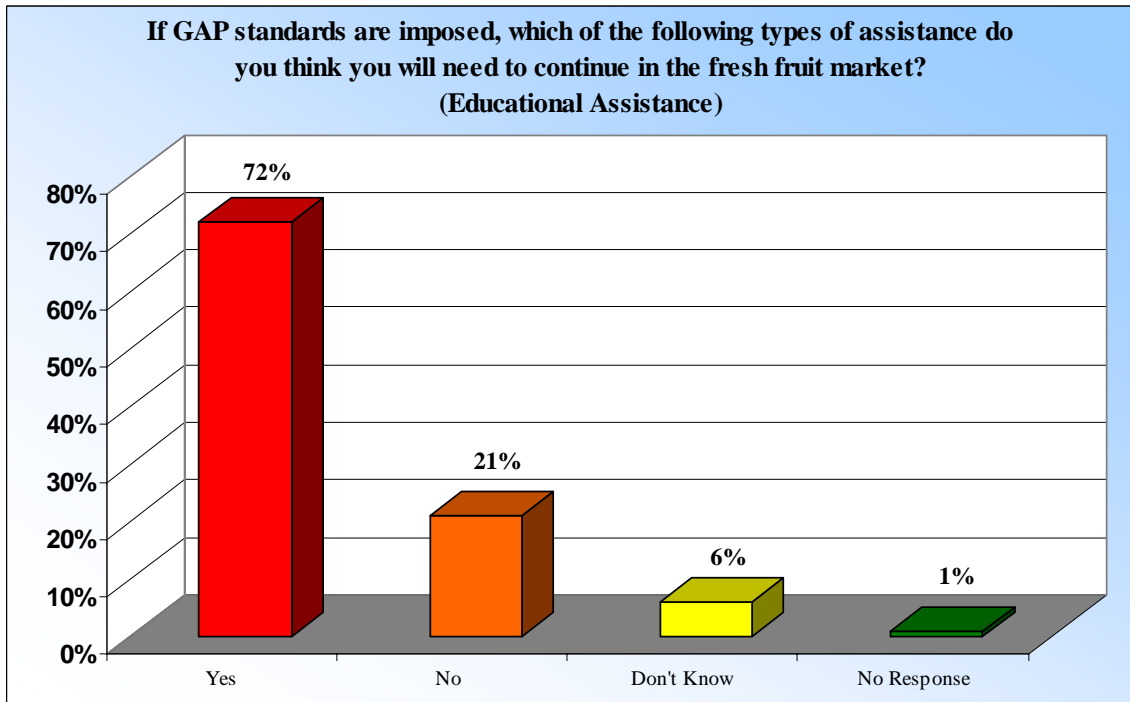


Forty-three percent of fresh fruit growers think they will need financial assistance to continue in the fresh fruit market if GAP standards are imposed, 50% do not think they will need financial assistance, 6% don't know if they will and 1% did not respond.

**Question 9c: If GAP standards are imposed, which of the following types of assistance do you think you will need to continue in the fresh fruit market?
(Educational Assistance)**

**If GAP standards are imposed, which of the following types of assistance do you think you will need to continue in the fresh fruit market?
(Educational Assistance)**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	59	72.0	72.0	72.0
	No	17	20.7	20.7	92.7
	Don't Know	5	6.1	6.1	98.8
	No Response	1	1.2	1.2	100.0
	Total	82	100.0	100.0	

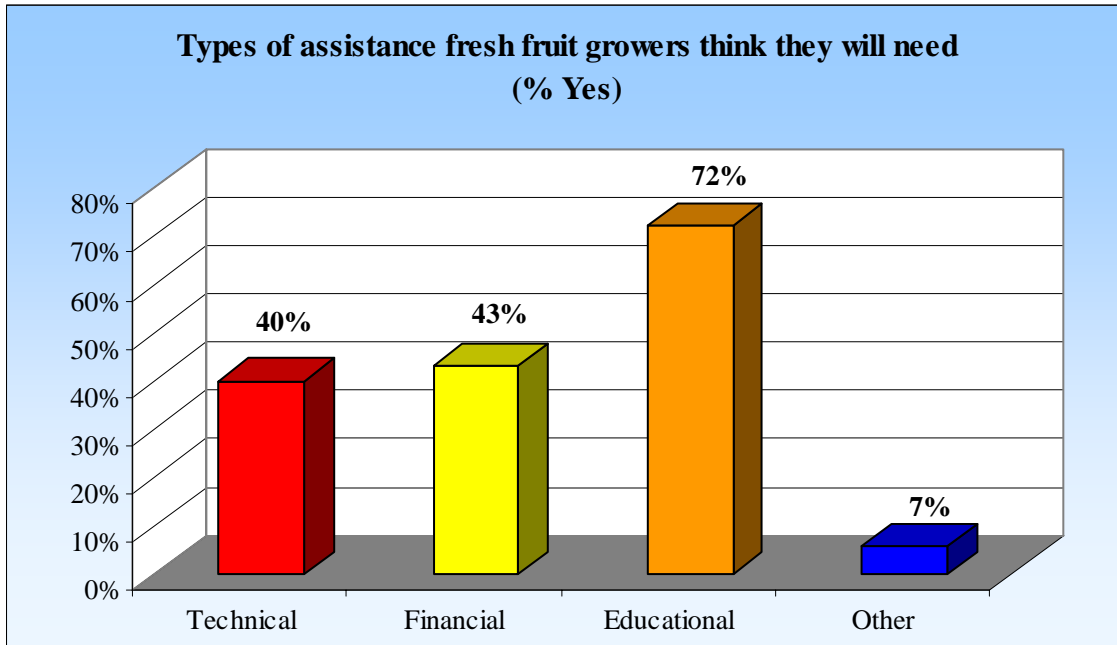


Seventy-two percent of fresh fruit growers think they will need educational assistance to continue in the fresh fruit market if GAP standards are imposed, 21% do not think they will need educational assistance, 6% don't know if they will and 1% did not respond.

**Question 9d: If GAP standards are imposed, which of the following types of assistance do you think you will need to continue in the fresh fruit market?
(Other)**

<u>Response</u>	<u>Frequency</u>
Be aware about what is involved	(1)
Can use any help	(1)
Information through the internet, they need to consolidate all requirements	(1)
IPN Man	(1)
More types of assistance	(1)
Total Responses	5

**Types of assistance fresh fruit growers think they will need
(Check all that apply)**

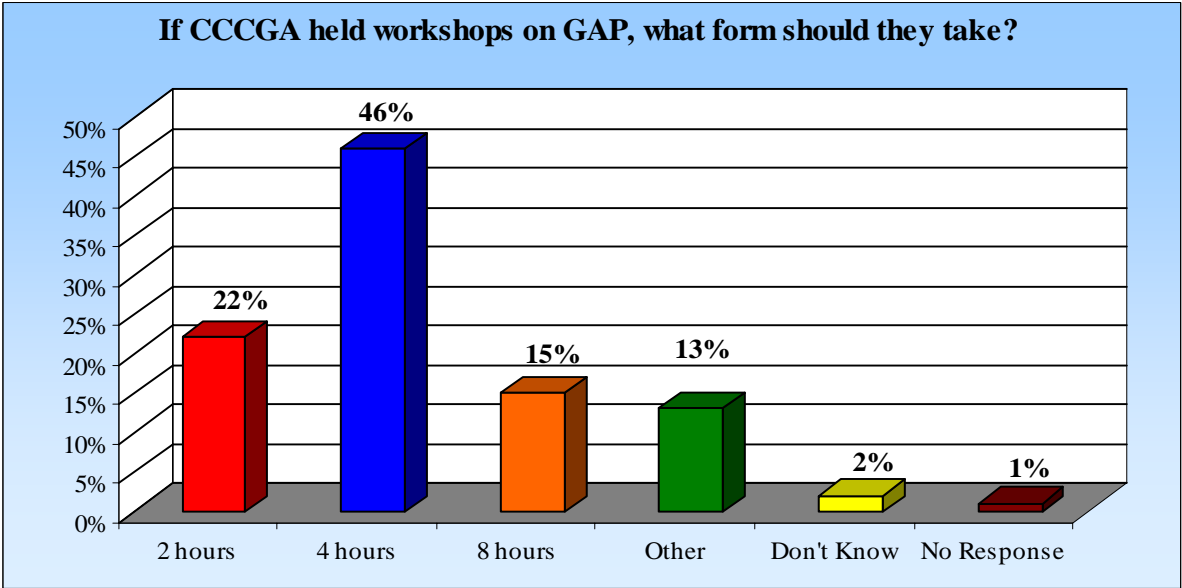


Forty percent of fresh fruit growers think they will need technical assistance, 43% think they will need financial assistance, 72% think they will need educational assistance and 7% think they will need some other form of assistance.

Question 10: If CCCGA held workshops on GAP, what form should they take?

If CCCGA held workshops on GAP, what form should they take?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid A relatively short, general workshop (2 hours)	18	22.0	22.0	22.0
A half day session with general information and some specifics (4 hours)	38	46.3	46.3	68.3
An all day or multi-session workshop covering all specifics of GAP requirements (8 hours)	12	14.6	14.6	82.9
Other	11	13.4	13.4	96.3
Don't Know	2	2.4	2.4	98.8
No Response	1	1.2	1.2	100.0
Total	82	100.0	100.0	



Twenty-two percent of fresh fruit growers prefer workshops on GAP to run 2 hours, 46% prefer 4 hours, 15% prefer 8 hours, 13% prefer options other than these, 2% say they don't know and 1% did not respond.

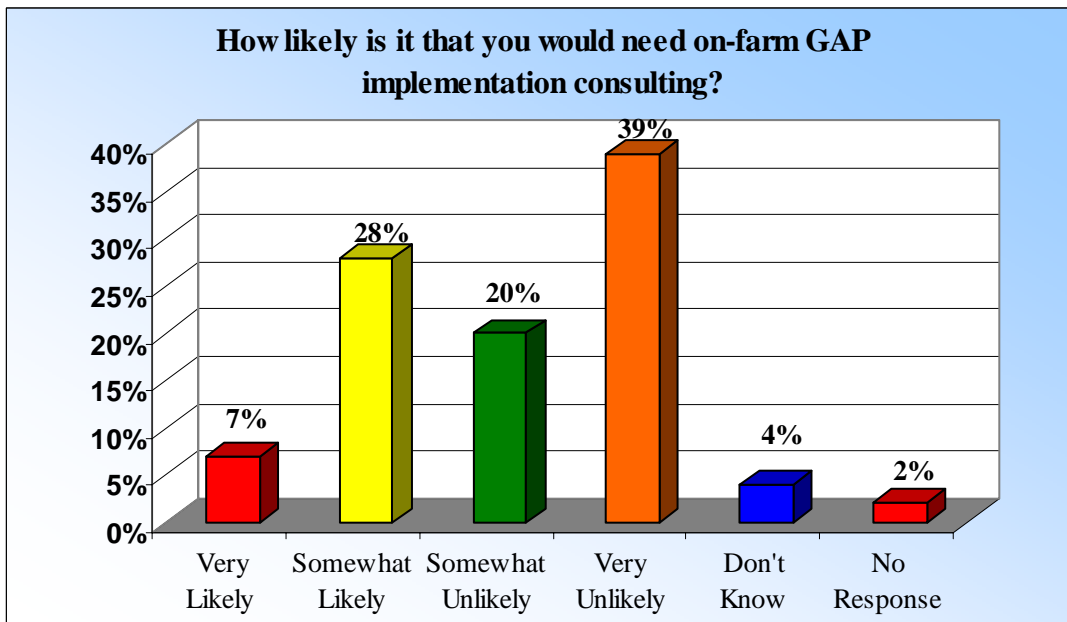
**Question 10: If CCCGA held workshops on GAP, what form should they take?
(Other)**

<u>Response</u>	<u>Frequency</u>
Depends on the information being provided	(2)
Four hours, as long as it is close by	(1)
Evening workshops, as many as needed	(1)
Introduction, then later a more extensive workshop	(1)
Mail a list of rules	(1)
Not sure how much they need to know	(1)
Relatively short general workshop with the ability to provide literature online	(1)
Split up into groups, 8 hours is too long and 4 hours is not enough time	(1)
Would go to a seminar if credits were received towards GAP certification	(1)
Total Responses	10

Question 11: How likely is it that you would need on-farm GAP implementation consulting?

How likely is it that you would need on-farm GAP implementation consulting?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Likely	6	7.3	7.3	7.3
	Somewhat Likely	23	28.0	28.0	35.4
	Somewhat Unlikely	16	19.5	19.5	54.9
	Very Unlikely	32	39.0	39.0	93.9
	Don't Know	3	3.7	3.7	97.6
	No Response	2	2.4	2.4	100.0
	Total	82	100.0	100.0	



Seven percent of fresh fruit growers are very likely to need on-farm GAP implementation consulting, 28% are somewhat likely to need it, 20% are somewhat unlikely to need it, 39% are very unlikely to need it, 4% don't know and 2% did not respond.

Question 12: Specifically what do you think CCCGA can do to assist growers with meeting GAP standards?

<u>Response</u>	<u>Frequency</u>
Education, information, workshops	(32)
Don't know	(16)
Provide and publish information	(4)
Have record keeping forms prepared, provide samples of procedures, offer assistance to those who ask for it	(2)
Education and financial help	(1)
Fix bogs	(1)
Get a hold of the market	(1)
Go and get accredited	(1)
Government money to restore bogs	(1)
Inform growers in clear and easy to read forms	(1)
Information from newsletters	(1)
Keep doing what they are doing. They are always the first to provide the information and are always one step ahead.	(1)
Keep growers informed about what the requirements are going to be	(1)
Keep people aware and up to speed	(1)
Keep them updated	(1)
Less chemicals, more organic	(1)
Let them know what the standards are	(1)
Make it feasible	(1)
Make sure they get the message out there about GAP	(1)

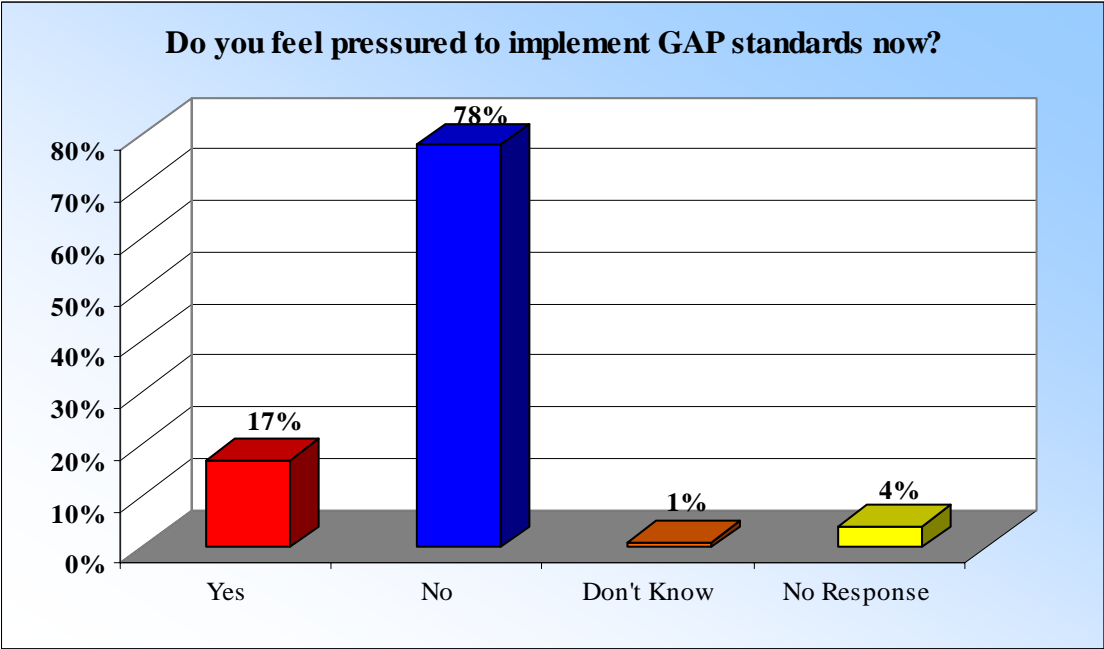
**Question 12: Specifically what do you think CCCGA can do to assist growers with meeting GAP standards?
(continued)**

<u>Response</u>	<u>Frequency</u>
Meetings and finances	(1)
Monitoring the regulations	(1)
Nothing	(1)
Not sure, maybe information regarding others	(1)
Nothing- handler is taking responsibility	(1)
There are already too many standards now; you cannot do anything without consent	(1)
They have done their work with grants and funds; it needs more assistance to keep going	(1)
Training, publications, bulletins	(1)
Wait and see what government says, develop programs and then educate	(1)
Workshops and send written material	(1)
No Response	(3)
Total Responses	82

Question 13: Do you feel pressured to implement GAP standards now?

Do you feel pressured to implement GAP standards now?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	14	17.1	17.1	17.1
	No	64	78.0	78.0	95.1
	Don't Know	1	1.2	1.2	96.3
	No Response	3	3.7	3.7	100.0
	Total	82	100.0	100.0	



Seventeen percent of fresh fruit growers feel pressured to implement GAP standards now, 78% do not feel pressured, 1% don't know and 4% did not respond.

**Question 13: Do you feel pressured to implement GAP standards now?
(If yes, where do you feel the pressure is coming from?)**

<u>Response</u>	<u>Frequency</u>
No Response	(3)
Many other growers	(2)
This survey	(2)
All around	(1)
Government	(1)
Handler	(1)
Internal Pressure	(1)
Not sure	(1)
Ocean Spray	(1)
Too many standards	(1)
Total	14

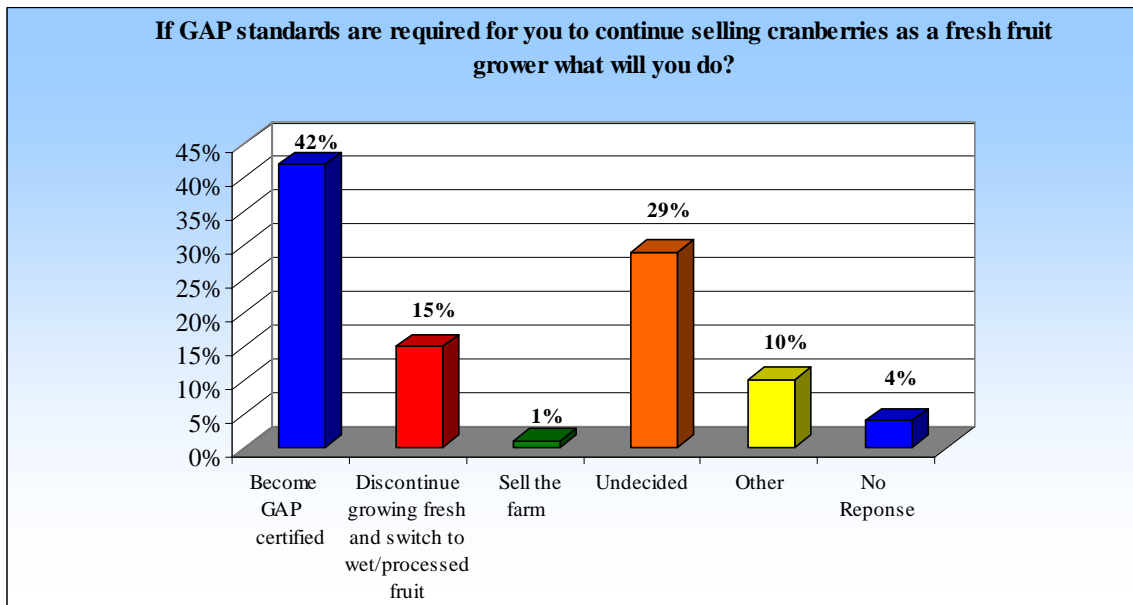
<p>Question 13: Do you feel pressured to implement GAP standards now? (If no, please explain)</p>
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<u>Response</u>	<u>Frequency</u>
Already in compliance, use good practices etc.	(13)
Don't know much about GAP or what it entails	(14)
Will probably feel pressured later	(2)
Have not been pressured, not concerned	(2)
Becoming less of an issue with citizens	(1)
Don't want to be involved	(1)
Don't have any employees	(1)
Have IPM service	(1)
Not worried about quality, worried about cost	(1)
I have multiple offers/alternatives	(1)
<hr/>	
Total Responses	37

Question 14: If GAP standards are required for you to continue selling cranberries as a fresh fruit grower what will you do?

If GAP standards are required for you to continue selling cranberries as a fresh fruit grower, what will you do?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Become GAP certified	34	41.5	41.5	41.5
Discontinue growing fresh and switch to wet/processed fruit	12	14.6	14.6	56.1
Sell the farm	1	1.2	1.2	57.3
Undecided	24	29.3	29.3	86.6
Other	8	9.8	9.8	96.3
No Response	3	3.7	3.7	100.0
Total	82	100.0	100.0	



If GAP standards are required, 42% of fresh fruit growers will become GAP certified, 15% will discontinue growing fresh fruit and switch to wet/processed fruit, 1% will sell their farms, 29% are undecided, 10% will do something other than those mentioned and 4% did not respond.

**Question 14: If GAP standards are required for you to continue selling cranberries
as a fresh fruit grower what will you do?
(Other)**

<u>Response</u>	<u>Frequency</u>
Depends of what will be required	(2)
Become GAP certified then look into organic	(1)
Probably will stop fresh if too much is required	(1)
Do not see GAP coming in near future	(1)
Will try to become GAP certified, but will switch to wet/processed if too difficult	(1)
Total Responses	6

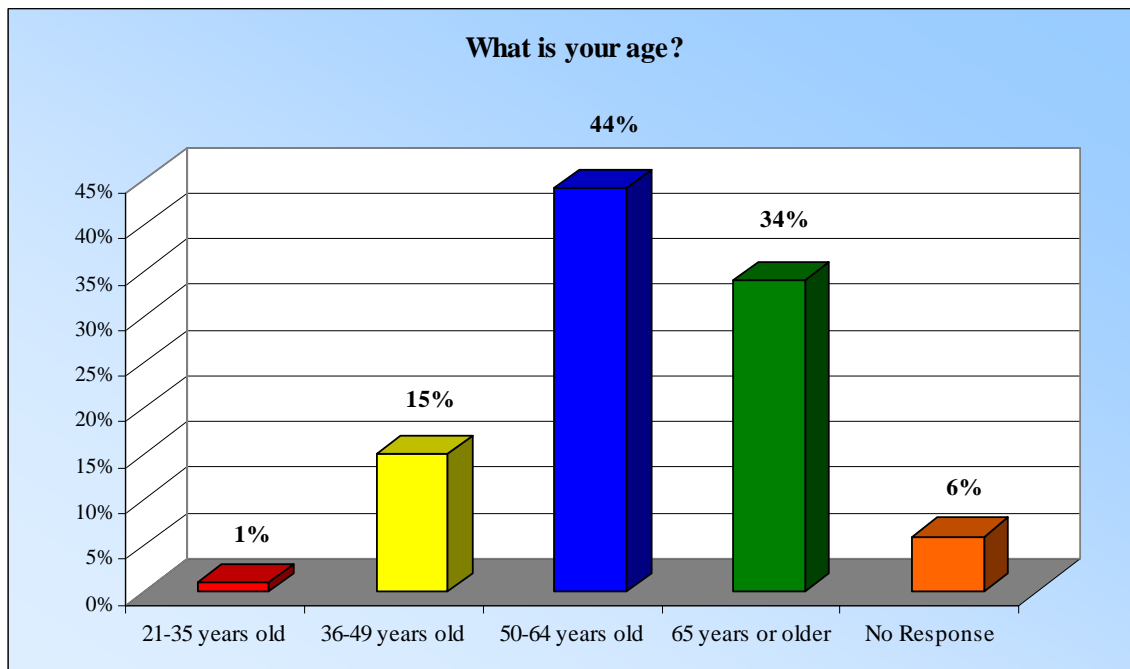
Question 15: What would be necessary for you to move towards GAP certification?

<u>Response</u>	<u>Frequency</u>
More education/information	(13)
When its mandatory/there is pressure to do it	(2)
Will not do it/retiring	(2)
Need overall group effort with government, handlers, UMass	(2)
Don't know	(1)
A clear cut initiative with details	(1)
Being 20 years younger	(1)
Need classes for European markets	(1)
Total Responses	23

Question 16: What is your age?

What is your age?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	21-35	1	1.2	1.2	1.2
	36-49	12	14.6	14.6	15.9
	50-64	36	43.9	43.9	59.8
	65 and over	28	34.1	34.1	93.9
	No Response	5	6.1	6.1	100.0
Total		82	100.0	100.0	

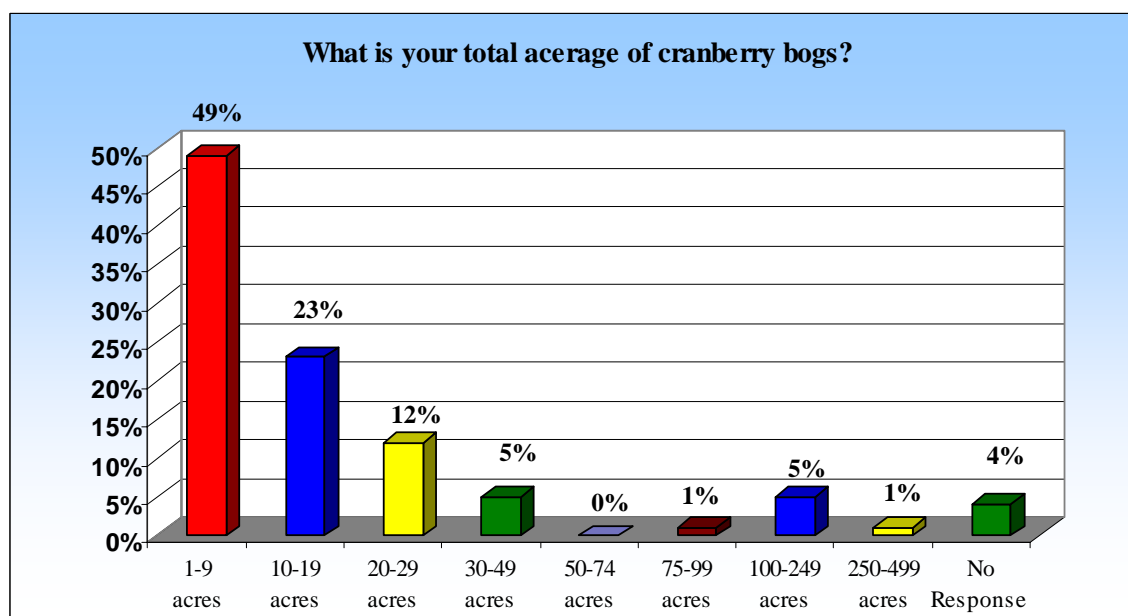


One percent of fresh fruit growers are 21-35 years old, 15% are 36-49 years old, 44% are 50-64 years old, 34% are 65 and older and 6% did not respond.

Question 17: What is your total acreage of cranberry bogs?

What is your total acreage of cranberry bogs?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-9	40	48.8	48.8	48.8
	10-19	19	23.2	23.2	72.0
	20-29	10	12.2	12.2	84.1
	30-49	4	4.9	4.9	89.0
	75-99	1	1.2	1.2	90.2
	100-249	4	4.9	4.9	95.1
	250-499	1	1.2	1.2	96.3
	No Response	3	3.7	3.7	100.0
	Total	82	100.0	100.0	

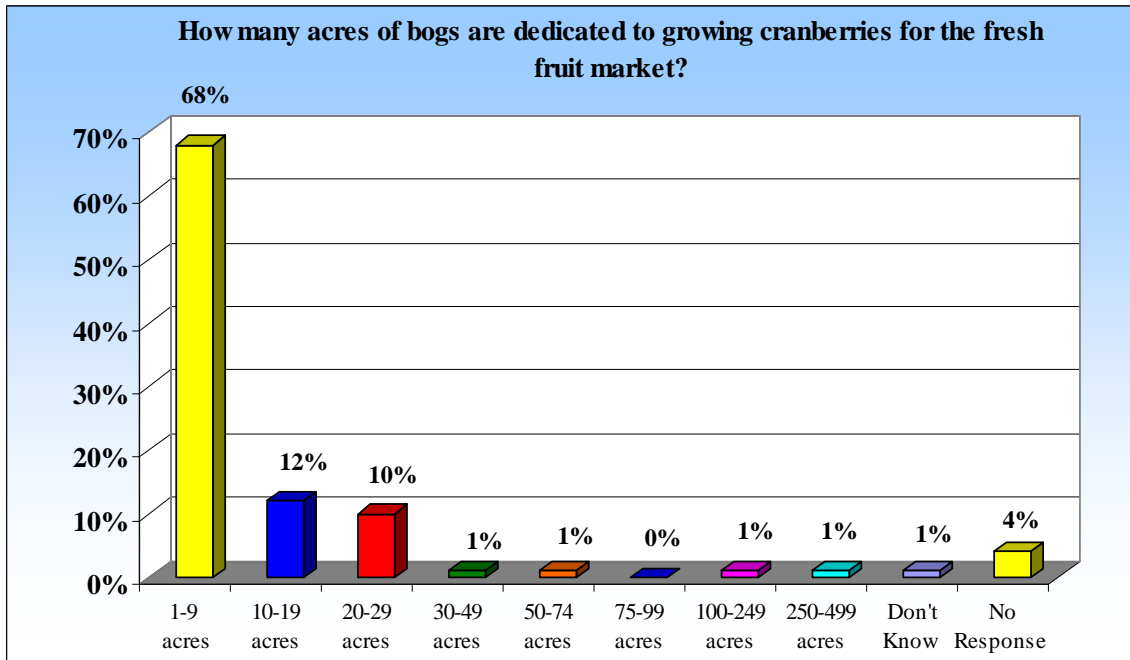


Forty-nine percent of fresh fruit growers report having 1-9 total acres of cranberry bogs, 23% have 10-19 acres, 12% have 20-29 acres, 5% have 30-49 acres, none have 50-74 acres, 1% have 75-99 acres, 5% have 100-249 acres, 1% have 250-499 acres and 4% did not respond.

Question 18: How many acres of bogs are dedicated to growing cranberries for the fresh fruit market?

How many acres of bogs are dedicated to growing cranberries for the fresh fruit market?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1-9	56	68.3	68.3	68.3
10-19	10	12.2	12.2	80.5
20-29	8	9.8	9.8	90.2
30-49	1	1.2	1.2	91.5
50-74	1	1.2	1.2	92.7
100-249	1	1.2	1.2	93.9
250-499	1	1.2	1.2	95.1
Don't Know	1	1.2	1.2	96.3
No Response	3	3.7	3.7	100.0
Total	82	100.0	100.0	

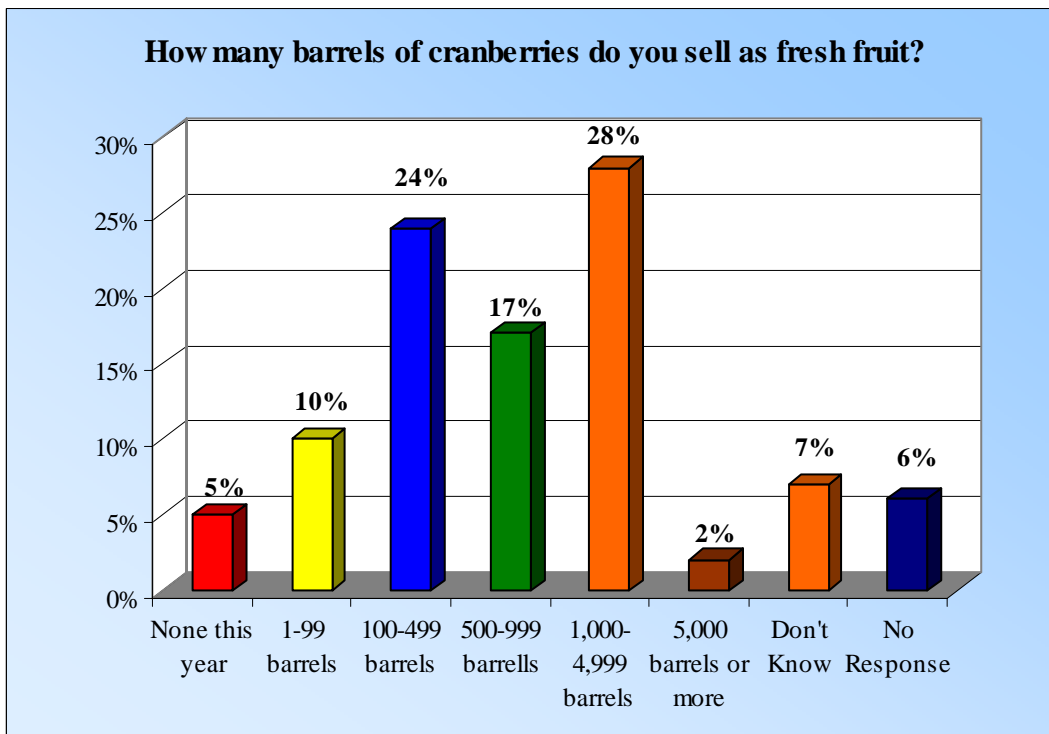


Sixty-eight percent of the fresh fruit growers indicate they have less than 10 acres dedicated to growing cranberries for the fresh fruit market, 12% have 10-19 acres, 10% have 20-29 acres, 1% have 30-49 acres, 1% have 50-74 acres, none have 75-99 acres, 1% have 100-249 acres, 1% have 250-499 acres, 1% don't know and 4% did not respond.

Question 19: How many barrels of cranberries do you sell as fresh fruit?

How many barrels or cranberries do you sell as fresh fruit?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid none this year	4	4.9	4.9	4.9
1-99 barrels	8	9.8	9.8	14.6
100-499 barrels	20	24.4	24.4	39.0
500-999 barrels	14	17.1	17.1	56.1
1,000-4,999 barrels	23	28.0	28.0	84.1
5,000 barrels or more	2	2.4	2.4	86.6
Don't Know	6	7.3	7.3	93.9
No Response	5	6.1	6.1	100.0
Total	82	100.0	100.0	

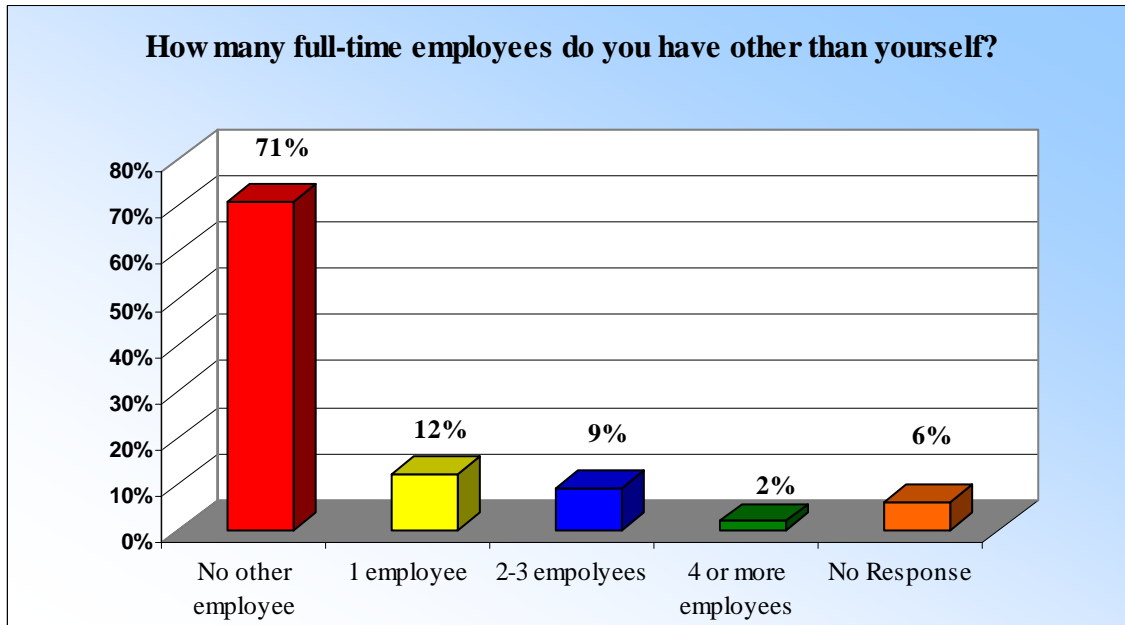


Five percent of fresh fruit growers did not sell any cranberries as fresh fruit this year, 10% sell 1-99 barrels of cranberries as fresh fruit, 24% sell 100-499 barrels of cranberries as fresh fruit, 17% sell 500-999 barrels of cranberries as fresh fruit, 28% sell 1,000-4,999 barrels of cranberries as fresh fruit, 2% sell over 5,000 barrels of cranberries as fresh fruit, 7% don't know and 6% did not respond.

Question 20: How many full-time employees do you have on your farm other than yourself?

How many full-time employees do you have other than yourself?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid only themselves	58	70.7	70.7	70.7
1 employee	10	12.2	12.2	82.9
2-3 employees	7	8.5	8.5	91.5
4 or more	2	2.4	2.4	93.9
No Response	5	6.1	6.1	100.0
Total	82	100.0	100.0	

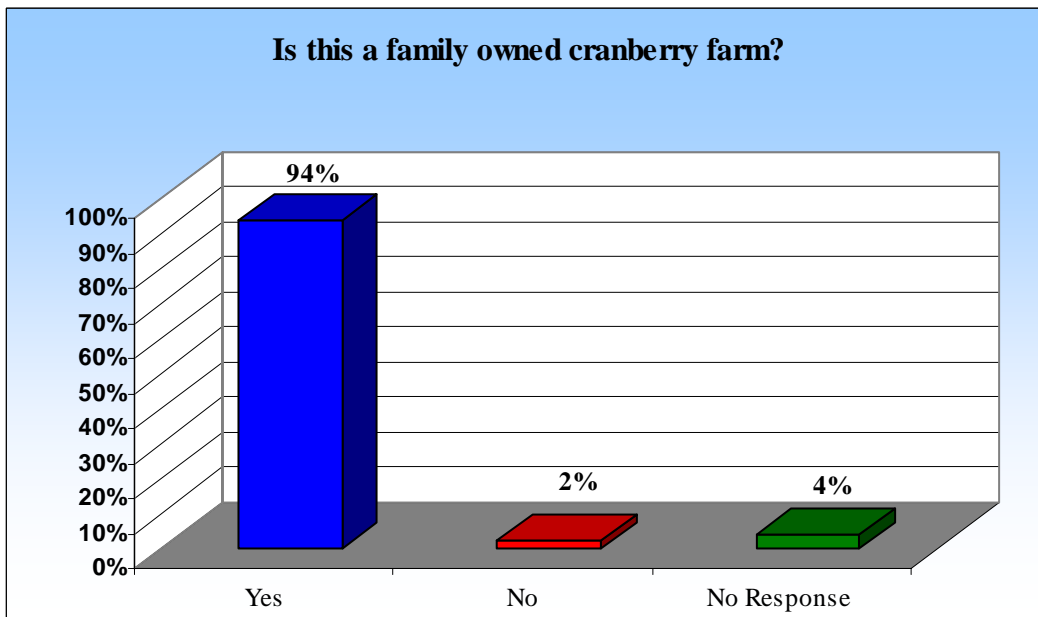


Seventy-one percent of fresh fruit growers have no full-time employees other than themselves, 12% have 1 employee, 9% have 2-3 employees, 2% have 4 or more employees and 6% did not respond.

Question 21: Is this a family owned cranberry farm?

Is this a family owned cranberry farm?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	77	93.9	93.9	93.9
	No	2	2.4	2.4	96.3
	No Response	3	3.7	3.7	100.0
Total		82	100.0	100.0	



Ninety-four percent of fresh fruit growers indicate that their farm is family owned, 2% are not family owned and 4% did not respond.

Conclusion

This research focused on the topic of GAP (Good Agricultural Practices) and the likely implementation of those practices in some form for all farms either by state or federal mandate. Telephone calls were made from the UMass Dartmouth Center for Marketing Research to all cranberry growers currently selling some or all of their berries in the fresh fruit market. Almost two thirds of those growers participated in this study.

The first question in the interview asked if the grower was aware of the food safety standards referred to as GAP. Almost half of the growers (46%) described themselves as “somewhat aware”. While most are relying on CCCGA, other growers, or the USDA for information on GAP, there still appears to be a lack of familiarity with any specific details of what might be required and how and when implementation would be mandated.

It is the uncertainty about GAP implementation and its requirements that overshadowed many of the questions in the survey. Seventy-seven percent of the fresh fruit growers do not know if their handler(s) will be requiring them to become GAP certified. While 47% of growers think that growers themselves will bear the costs associated with GAP, 26% think the government will bear that cost instead.

This theme shows again in questions about the need for assistance or obstacles they face in becoming GAP certified. Growers report that their biggest obstacle is lack of awareness of GAP policies and requirements. They mostly want educational assistance. Growers say they do not feel pressured to implement GAP standards now (78%), either because they believe they already comply or don’t know what it entails.

Over 60% of growers feel they have existing clerical support to keep the extensive records required by GAP. This will be probably be picked up by someone in the family, since almost all the farms are family owned (94%) and most (71%) have no employees outside of the family.

Seventy-two percent say they will need educational assistance. Most feel that a four-hour workshop devoted to the requirements of GAP would best meet their needs. They look to CCCGA to provide that kind of assistance to them. Thirty-five percent of the growers think they may need on-farm GAP implementation consulting.

When asked if they would continue selling cranberries as fresh fruit if GAP standards become required, 42% said they would become certified and continue. Fifteen percent said they would discontinue growing fresh and switch to wet/processed fruit, 29% are undecided about what to do and are waiting for more information, 10% said they may try certification, or that they will wait to see if it is required before deciding what to do. One grower said the farm would be sold.

About three quarters of the fresh fruit growers are over the age of 50, and farm less than 20 acres of bogs total. Almost 70% report less than 10 acres dedicated to fresh fruit berries. Virtually all of them simply want to continue growing cranberries.

Clearly, we continue to see growers that are dedicated, persistent, and willing to learn and innovate as is necessary for them to compete in the marketplace. Growers need and want educational assistance as it applies to GAP standards. They may need technical and financial assistance depending on the scope of the requirements, but they will stay the course. If GAP standards are required in Massachusetts, the growers here will be ready and will move forward, just as they have met every other challenge over the years.