



# Food Safety

*Best Practices for...*

*Muscadines*





## Who We Are...

carolina farm   
stewardship association

CFSA is a farmer-driven, membership-based non-profit that supports farming that is good for consumers, good for our farmers and farmworkers, and good for the land.



## What We Do...

Advocate

Provide Technical Assistance

Support Food Systems

Educate



# CFSA FARM SERVICES



Food  
Safety



Organic  
Certification



Food  
Councils



Conservation  
Activity Plans



High  
Tunnels



## Today's Workshop...

Best practices for direct to consumer and wholesale.

Best practices for U-Pick operations.

Overview of GAP certification, cost, and increase market access.

North Carolina  
*Muscadine*  
**GRAPE**  
Association



[www.ncmuscadinegrape.org](http://www.ncmuscadinegrape.org)

[ncmgasec@gmail.com](mailto:ncmgasec@gmail.com)



# Directory



WINERIES



PICK-YOUR-OWN



GRAPES: To Consumers



WHOLESALE: Processing



WHOLESALE: Fresh Market



PRODUCTS



SUPPLIERS for GROWERS



INFO & SERVICES



# Marvelous Muscadines

## Muscadine grapes are

Sweet and delicious

Fat free

High in fiber

High in antioxidant polyphenols such as

- Ellagic acid
- Resveratrol
- Anthocyanins
- Quercetin



**Recent research** at Wake Forest University Medical Center on a concentrated muscadine extract has found that it may:

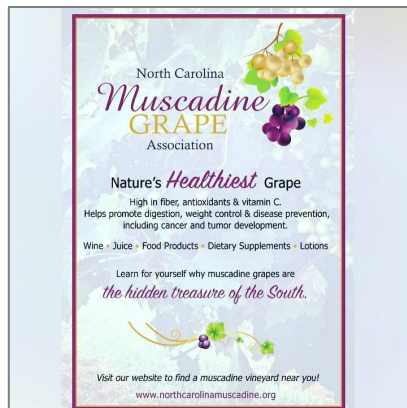
- Effectively reduce cancer metastasis
- Help prevent heart damage caused by cancer treatments
- Improve quality of life issues due to disease or therapy

## There are lots of ways to experience muscadines

- As fresh grapes -- pick your own or buy them in season
- In pies, cobblers, smoothies, and other recipes
- As wine and juice
- As nutritional supplements



North Carolina  
**Muscadine  
GRAPE**  
Association  
Learn more at  
[ncmuscadinegrape.org](http://ncmuscadinegrape.org)





# Upcoming Events from NCMGA

## Upcoming Events from NCMGA

---

### **Wednesday, July 27 - Muscadine Vineyard Tour, Hinnant Family Vineyards**

- Located in Pine Level, NC
- Over 100 acres of muscadines of multiple varieties
- Sell wholesale locally and internationally
- Sell PYO and direct to consumers
- On-site winery and store

### **Date TBD (July or August) - PYO Muscadines Virtual Roundtable**

A panel of experienced PYO marketers discuss how they manage their PYO crop, customers, sales, and marketing, plus questions and discussion.

**Others are being planned!**

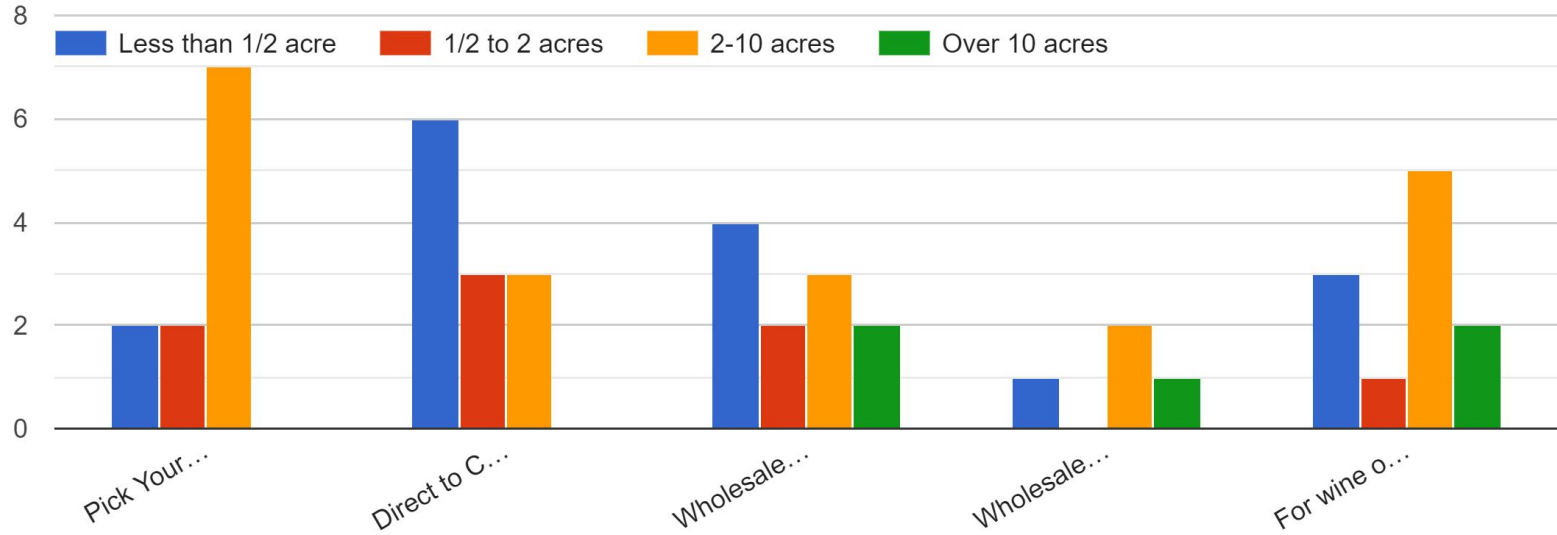
# Recent Survey Results

---

North Carolina  
*Muscadine*  
GRAPE  
Association

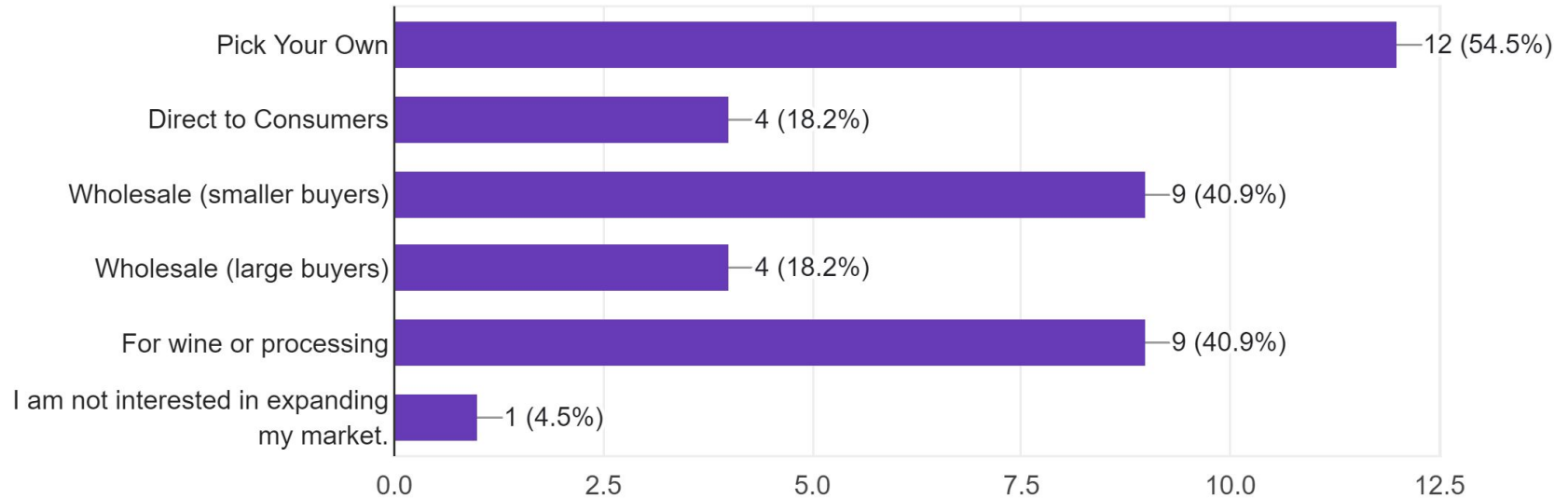


How do you sell your grapes? Please estimate the quantities that go to each method you use as a portion of your total muscadine acreage.

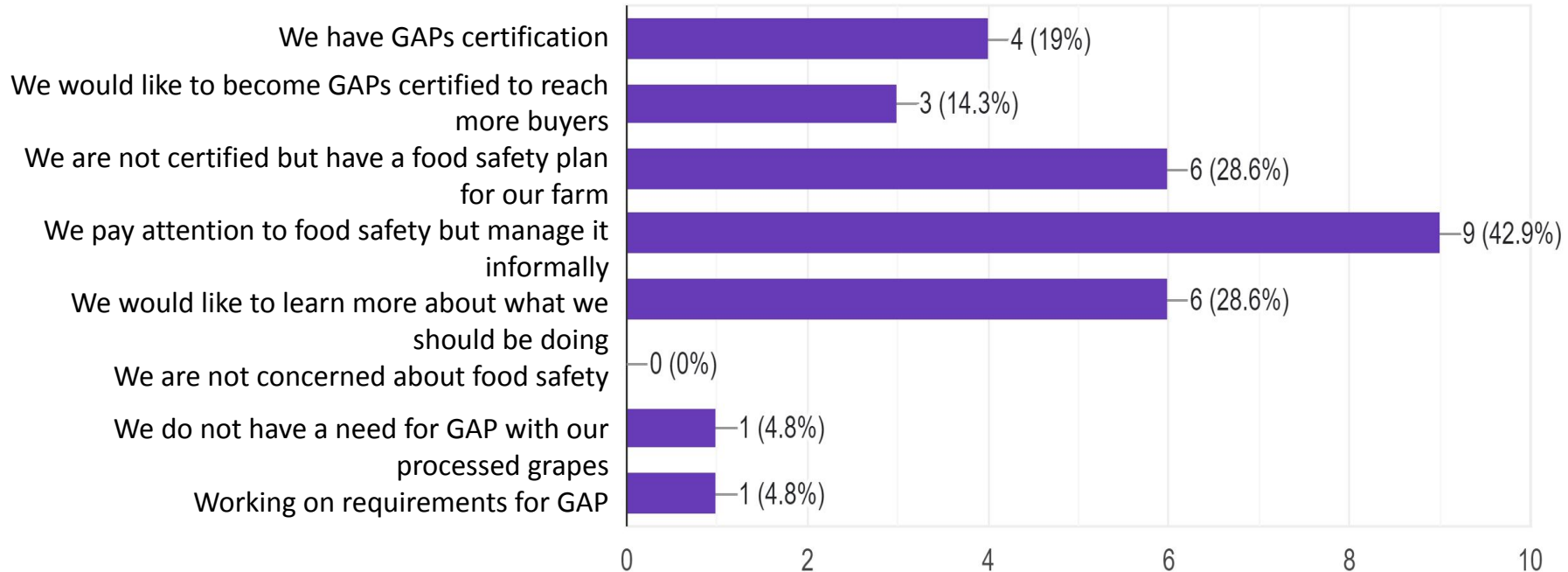


## Would you like to expand or add sales in any of these areas?

22 responses



# What is the GAPs (food safety) status of your farm for muscadines?





# FARM FOOD SAFETY

## IS THIS IMPORTANT?





**The threat of contamination from your farm is real and it is an important concern for everyone!**

**Growers**

**Wholesalers**

**Retailers**



**Consumers**

**Government**

# MILLIONS OF PEOPLE WORLDWIDE ARE AFFECTED BY FOODBORNE ILLNESS EVERY YEAR



**48 million get sick**  
**128,000 are**  
**hospitalized**  
**3,000 die**



# Safe Picking

Inspect clusters before harvesting and don't harvest clusters that are damaged by or contaminated with animal or bird feces.

Do not harvest grapes that have fallen on the ground.

Ensure all harvest bins, totes, equipment and surfaces that contact grapes are inspected, cleaned, and sanitized.





# Safe Picking

No harvest containers directly on the ground.

Harvested produce cannot sit out in the open field.

Good health and hygiene must be practiced by anyone who handles the grapes.

Eating, smoking, urinating/defecating must all take place in designated areas only.



# Safe Handling

Exclude domesticated animals from u-pick and production areas in use for post-harvest handling of fruit.

Provide pest control within the post-harvest facilities.

Ensure irrigation and the pre and post harvest water supply is tested and safe.

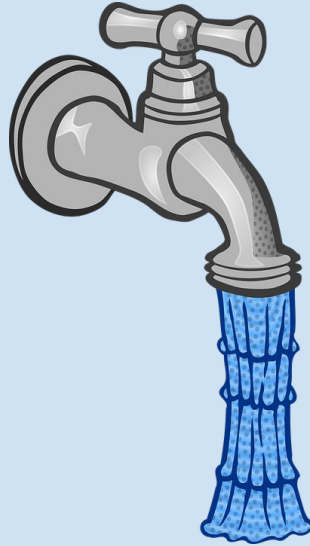


# TEST YOUR WATER

Surface Water

Well Water

Municipal Water



Sterilize

Sample

Pack it on Ice

Ship it Overnight

Clean and sanitize surfaces that directly touch the fruit.

Ensure all of the harvest tools, equipment and containers are inspected, cleaned, and remain in good repair.

Have toilet facilities and hand washing stations for employees.



# TOILETS AND HANDWASHING

## Bathrooms

Easily accessible

Appropriate number

Clean, well stocked

Cleaning logs

Signage posted



## Handwashing

Available

20 seconds

Soap - unscented

Single-use paper towels

Lidded garbage can

Grey water bucket





# Safe Storage

Muscadine grapes should be refrigerated to 32°F after harvest

Relative humidity should be kept high for longer shelf life

They do best in closed containers, open and ventilated storage will allow for gradual dehydration



# Safe Storage

Store all the harvest bins at least 12-18 inches away from walls and up on pallets.

Have a waste management plan and pest control in place



# Safe Transport

Ensure that equipment used for harvest is in good repair.

Vehicles and equipment used to transport grapes should be inspected prior to loading.



# TRANSPORT



**Clean**  
**Allergen Free**  
**Cooled**  
**Covered**



Contamination can occur at any point and at any time during growing, harvesting, or packing of table grapes from your vineyard.

The best approach to maintaining fresh table grapes for safe consumption is to be aware of potential risks and establish management practices to minimize these risks at each step in the production and sales process.







## Communication with the Customer is Key!

- ❑ Make visitors aware of your food safety policies and procedures on your farm.
- ❑ Signs should be large and visible
- ❑ Use short, easy to read messages.
- ❑ Signage should easily direct customers to designated picking areas.
- ❑ Parking should be located in an area that will prevent contamination from vehicles to harvest areas.



## Keep track of your guests!

- ❑ Restrict guest access to production and storage areas.
- ❑ Discourage guests from eating grapes in the vineyard
- ❑ Guests should be encouraged to leave all pets at home.
- ❑ Service animals need to be leashed.

## Handwashing Stations

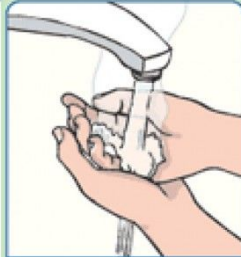
- ❑ Handwashing stations must be available to visitors.
- ❑ Post proper handwashing signs
- ❑ Stocked with potable water, soap, paper towels, a catch basin for the wastewater, and a trash can



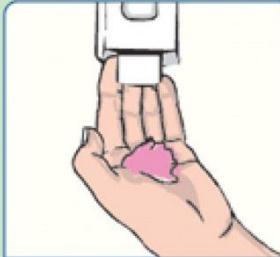
# Proper Handwashing

carolina farm  
stewardship association

## FIGHT GERMS BY WASHING YOUR HANDS!



**1** Wet your hands



**2** Soap



**3** Lather and scrub - 20 sec



**4** Rinse - 10 sec



**5** Turn off tap



**6** Dry your hands

### DONT FORGET TO WASH:

- between your fingers
- under your nails
- the tops of your hands

## More Tips for U-Picks

- ❑ Provide clean picking containers. Reusable, plastic containers can be easily cleaned with potable water, detergent and then sanitized.
- ❑ Store the containers in a protected, clean and covered area off the ground.





# Food Safe U-Pick

## More Tips for U-Picks

- ❑ Workers must wash hands in between direct handling of money and grapes.
- ❑ Visitors and employees experiencing diarrhea, jaundice, vomiting, or any other illness should not participate in on-farm activities.





# GAP

## Good Agricultural Practices

# What are GAPs?

- ❑ Guidance that produce growers can use to prevent on-farm contamination of fruits and vegetables.
- ❑ Developed by the USDA in 1985.
- ❑ **Voluntary**, although most buyers are now requiring GAP.
- ❑ Can protect your farm business from the economic consequences of food contamination.

**GAP is focused on prevention of contamination rather than remediation.**

# WHY GET GAP CERTIFIED?

Marketing Tool

Opens Doors

Provides Customer Reassurance

Shows Good Intent

Important for Food Safety



# Cost?

## **Audit Costs: \$900 - \$1400 per year**

Pays for travel, audit time on farm, and administrative time for certification.

## **Cost Share Dollars are available:**

### **South Carolina**

Cost Share Dollars - 90% of total costs

### **North Carolina**

Cost Share Dollars - \$900 for year one, \$300 year two



# Where to Start?

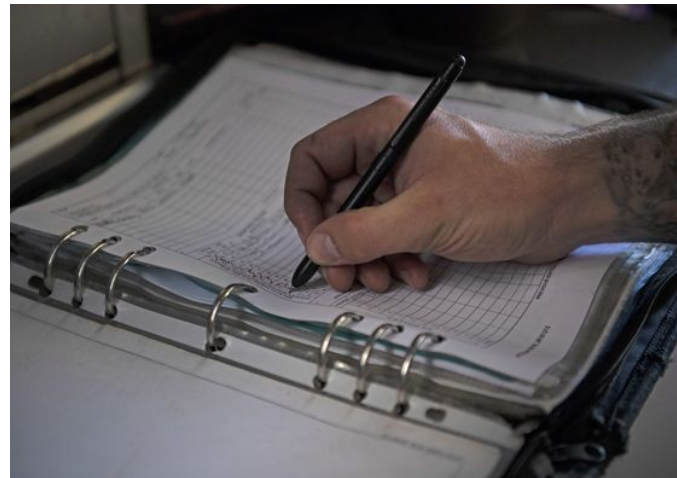
## Begin with a Food Safety Plan

Most farmers already practice many levels of food safety. A food safety plan can just be an extension of this commitment to food safety.

## How to Build a Food Safety Plan

Create an organized binder that has the following:

- ☐ All of your SOPs - Standard Operating Procedures
- ☐ Records
- ☐ Risk Assessments
- ☐ Foods Safety Training Certificates
- ☐ Self Audit
- ☐ SDS Sheets



# Records, Risk Assessments, and SOPs

## Title: Agricultural Water Testing Record

Date	Water Source Location	Sample ID	Date Delivered to Lab	Lab ID # (Certificate #)	Date Results Received	Result (MPN/CFU)	Corrective Action	Date Corrective Action Closed	Initials

Site Security and Response Risk Assessment Conduct annually and any time there is a change made opportunity to contaminate the system

If your answer to a question indicates a risk of a food safety hazard, then further understanding, c Action(s) are needed to minimize possible contamination.

Area of Potential Risk with Food Security	Yes	No	NA	What is the potential risk identified?	Likelihood (Circle One)
Location					Low Medium High
Access to the SHandling Areas					Low Medium High
Access by Visitor and Delivery Drivers					Low Medium High
Water Storage Tanks					Low Medium High

## Title: Mock Recall Record

Please see the Food Safety Plan for overall traceability procedures.

Date:		Time:		Scenario:	
Conducted By:					
Product Name/Shipping Unit:					
Buyer Name:		Buyer Contact Information:		Phone:	Email:
Lot #:					
Total Time to Locate Product:					
Harvest Date:	Packing Date:	Shipping Date:	Amount Shipped:	Amount of Product Remaining at Buyer Site:	
Corrective Action(s):					
Lessons Learned:					

## Title: Restroom/Handwashing Unit Monitoring and Cleaning Record

Date	Restroom/Handwashing Unit Location	Checked (✓)	Cleaned (✓)	Supplies Stocked (✓)	Disposal Containers Emptied (✓)	Comments	Initials



# FSMA PRODUCE SAFETY RULE



The FSMA Produce Safety Rule provides guidance to growers on standards for the safe growing, harvesting, packing, and holding of fruits and vegetables grown for human consumption.

The Food Safety Modernization Act (FSMA), signed into law in 2011, focuses on the reduction and prevention of food safety risks, and encompasses the entire food chain.

Fresh table grapes are considered covered produce within the FSMA Produce Safety Rule.

Although some farms are eligible for exemption from the FSMA Produce Safety Rule based on commodities grown, size of operation, or processing activities, food safety is a shared responsibility.



# COVERED? NOT COVERED? NEED SOME HELP?

## USE OUR INTERACTIVE TOOL



<https://www.carolinafarmstewards.org/interactive-fsma-flowchart/>

# What's Next?

**Contact Carolina Farm Stewardship Association**  
for One-on-One Technical Assistance.

## **Continue with Food Safety Training**

Ongoing refresher trainings are frequently available and recommended every two years.

- ☐ Produce Safety Alliance Grower Training
- ☐ GAP Training
- ☐ Online Food Safety Webinars

## **Start Keeping Records**

Document your food safe procedures.

## **Begin Water Quality Tests**

Order supplies from a GLP Water Testing Lab.



# Workshop Resources

[Ensuring Food Safety in the Vineyard: Table Grapes](#)

[Ensuring Food Safety in the Vineyard: Wine Grapes](#)

[Food Safety Modernization Act Produce Safety Rule](#)

[Ksre.k-state.edu/ Food Safety for U-Pick](https://ksre.k-state.edu/Food_Safety_for_U-Pick)



Thank You!

**Kim Butz - Local Food Program Director**

**[kim@carolinafarmstewards.org](mailto:kim@carolinafarmstewards.org)**

**484-695-9394**