Food Safety

Best Practices for...

Muscadines
Who We Are…

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.
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

Muscadine Facts

- Naturally low in calories
- Medium to light-bodied and fruity
- Medium-high acidity
- 11-12% alcohol by volume (CLV)

Did you know that the Muscadine Grape is...

- One single vine can produce up to fifty pounds of grapes per year, making them incredibly efficient.

Muscadine wine served up with soul food. Try it with sweet, slow cooked meats like smoked pork rib, brisket, and slow cooked BBQ. nc muscadine grape.org

Superfruit with high levels of antioxidants and ellagic acid.

North Carolina Muscadine GRAPE Association

Learn more at ncmuscadinegrape.org

NC Wine Guys

We’re attending the #NCMuscadineTasting for #NCGrapeMonth hosted by the North Carolina Muscadine Grape Association! It’s a great experience tasting through these fresh market and wine grapes! #NCMuscadine #NCWine #GotToBeNC
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

- Pick Your Own: 12 (54.5%)
- Direct to Consumers: 4 (18.2%)
- Wholesale (smaller buyers): 9 (40.9%)
- Wholesale (large buyers): 4 (18.2%)
- For wine or processing: 9 (40.9%)
- I am not interested in expanding my market: 1 (4.5%)
What is the GAPs (food safety) status of your farm for muscadines?

- We have GAPs certification: 4 (19%)
- We would like to become GAPs certified to reach more buyers: 3 (14.3%)
- We are not certified but have a food safety plan for our farm: 6 (28.6%)
- We pay attention to food safety but manage it informally: 9 (42.9%)
- We would like to learn more about what we should be doing: 6 (28.6%)
- We are not concerned about food safety: 0 (0%)
- We do not have a need for GAP with our processed grapes: 1 (4.8%)
- Working on requirements for GAP: 1 (4.8%)
Farm Food Safety

Is this Important?
The threat of contamination from your farm is real and it is an important concern for everyone!

Growers  Consumers
Wholesalers  Government
Retailers
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
Safe Handling

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.
Food Safe U-Pick

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

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

DON'T 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.
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
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
### Title: Agricultural Water Testing Record

<table>
<thead>
<tr>
<th>Date</th>
<th>Water Source Location</th>
<th>Sample ID</th>
<th>Date Delivered to Lab</th>
<th>Lab ID # (Certificate #)</th>
<th>Date Results Received</th>
<th>Result (MPN/CFU)</th>
<th>Corrective Action</th>
<th>Date Corrective Action Closed</th>
<th>Initials</th>
</tr>
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<tbody>
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### Site Security and Response Risk Assessment

- Conduct annually and any time there is a change that opportunity to contaminate the system

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

<table>
<thead>
<tr>
<th>Area of Potential Risk with Food Security</th>
<th>Yes</th>
<th>No</th>
<th>NA</th>
<th>What is the potential risk identified?</th>
<th>Likelihood (Circle One)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td></td>
<td></td>
<td></td>
<td>Low</td>
<td>High</td>
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<tr>
<td>Access to the Stalking Areas</td>
<td></td>
<td></td>
<td></td>
<td>Low</td>
<td>Medium</td>
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<tr>
<td>Access by Visitor and Delivery Drivers</td>
<td></td>
<td></td>
<td></td>
<td>Low</td>
<td>Medium</td>
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<tr>
<td>Water Storage Tanks</td>
<td></td>
<td></td>
<td></td>
<td>Low</td>
<td>Medium</td>
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</tbody>
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### Title: Mock Recall Record

Please use the Food Safety Plan for overall recall procedures.

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Scenario</th>
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<tbody>
<tr>
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</table>

- Conducted By:
- Product Name/Shipping Units:
- 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:

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

<table>
<thead>
<tr>
<th>Date</th>
<th>Restroom/Handwashing Unit Location</th>
<th>Checked (✔️)</th>
<th>Cleaned (✔️)</th>
<th>Supplies Stocked (✔️)</th>
<th>Disposal Containers Emptied (✔️)</th>
<th>Comments</th>
<th>Initials</th>
</tr>
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FSMA
Produce Safety Rule

Food Safety Modernization Act
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
Thank You!

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