



Backyard Vineyards for Muscadines

by

Chuck Blethen (Mountain methods)

&

Mack Johnson (East/Coastal Plains methods)

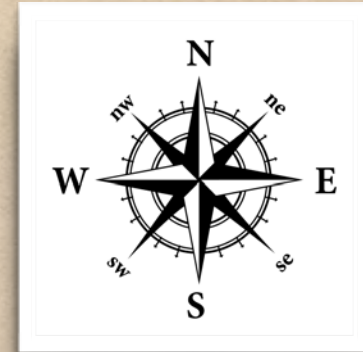
August 14, 2021



Presentation Overview

- Grape selection
- Planting
- Trellising
- Training
- Pruning
- Harvesting

Vineyard Location Basics

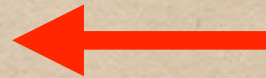


- 1 – South-facing slopes are best**
- 2 – Well drained soil**
- 3 – No shade during the day**
- 4 – No walnut trees or cedar trees within 150 feet**
- 5 – Fences**
- 6 - Horizontal vs vertical rows?**

Vertical



Contour



Why do you want to grow grapes?

Table grapes

Pies

Jam

Juice

Wine

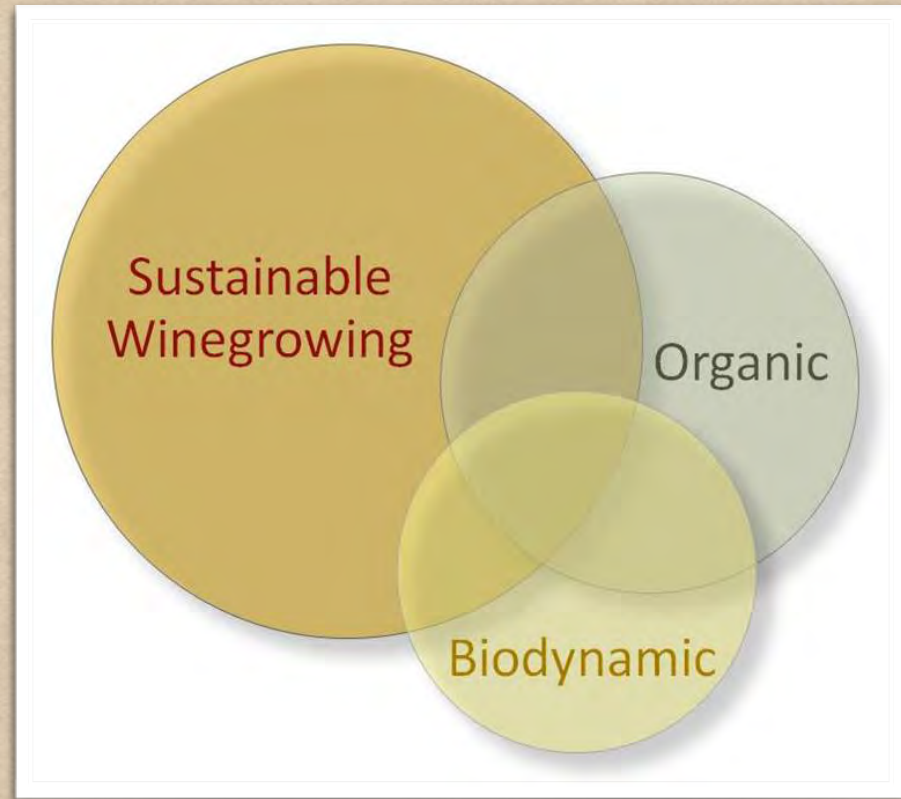
Method of growing:

Traditional

Natural

Organic

Biodynamic



How many vines do I want to grow?

Traditional
Grape
Production
Per Vine



15-16 pounds/vine

16#/gallon of wine

Muscadine
Production
Per Vine



50-60 pounds/vine

20#/gallon of wine

Vineyard layout:

Number and direction of rows

Post locations

Clearance between rows for working

Vineyard Decisions

Vineyard plot preparation:

Soil analysis

Plow

Till

Soil amendments



Perfect Vineyard Top Soil

Healthy soil = 23% water,
25% oxygen, 7% organic matter, 45% minerals

Quick test

12" x 12" x 6" hole - 15 or more earthworms



Five steps to preparing soil for a vineyard

1: Evaluate soil through test pits, soil samples and laboratory soil analysis

Dig several holes in vineyard site or use soil bore sampler

Send soil samples to NCSU co-op extension

Also find out if nematode worms, phylloxera in soil

Five steps to preparing soil for a vineyard

2: Amend soil with lime, nitrogen, compost or or additives to make it pH balanced and to add any necessary nutrients

Teach yourself nutrients vines need

Check soil sample test results to see what needs added, amended

Five steps to preparing soil for vineyard

3: Holes

Dig your holes for planting vines about 1 1/2 feet deep - use 8" or 10" auger or a manual post-hole digger

Add your amendments to holes

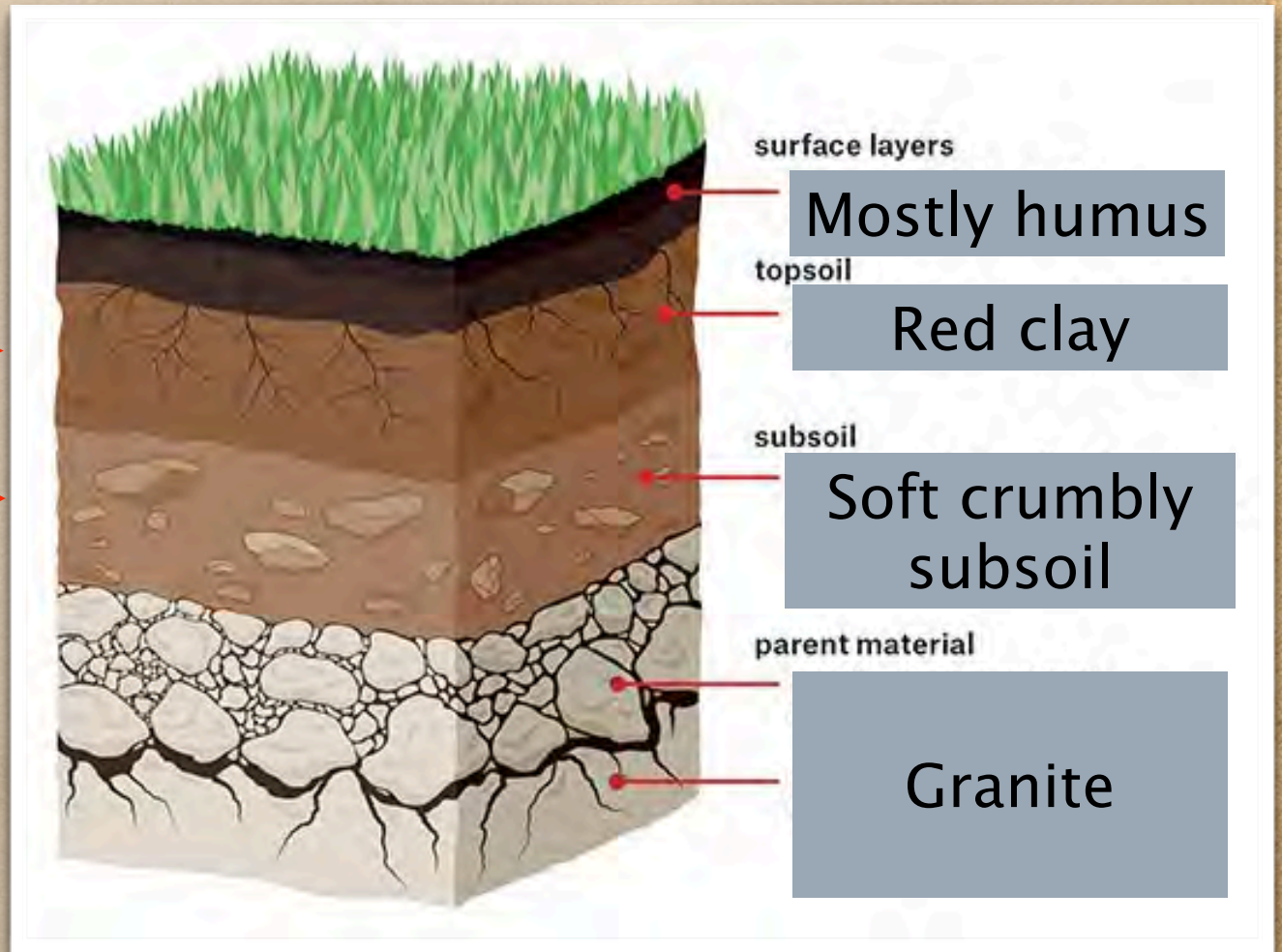


In the Mountains

No drainage

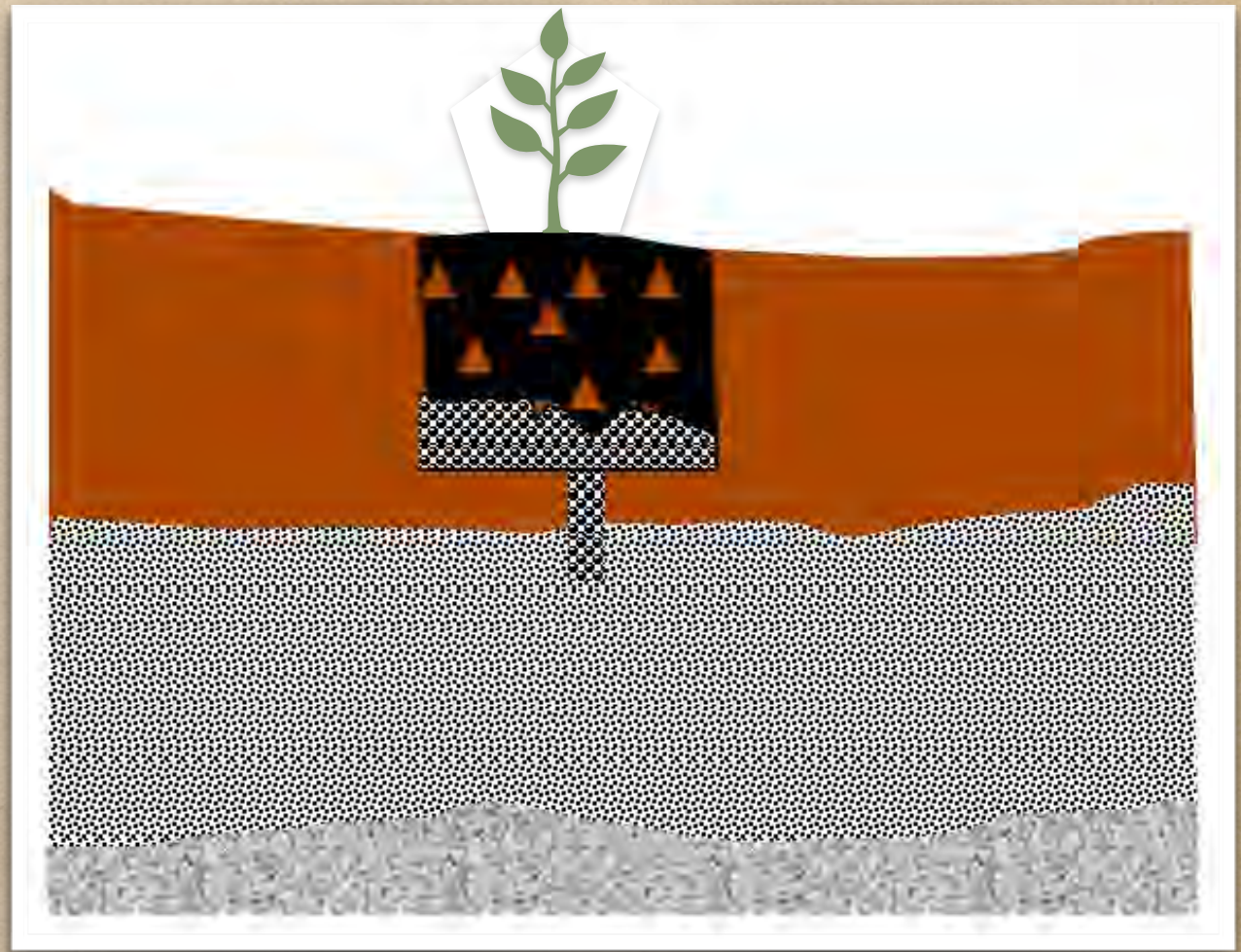


Excellent
drainage



In the Mountains

Clay pot method
of planting



Fill hole around roots with 50–50
mixture of compost & local soil

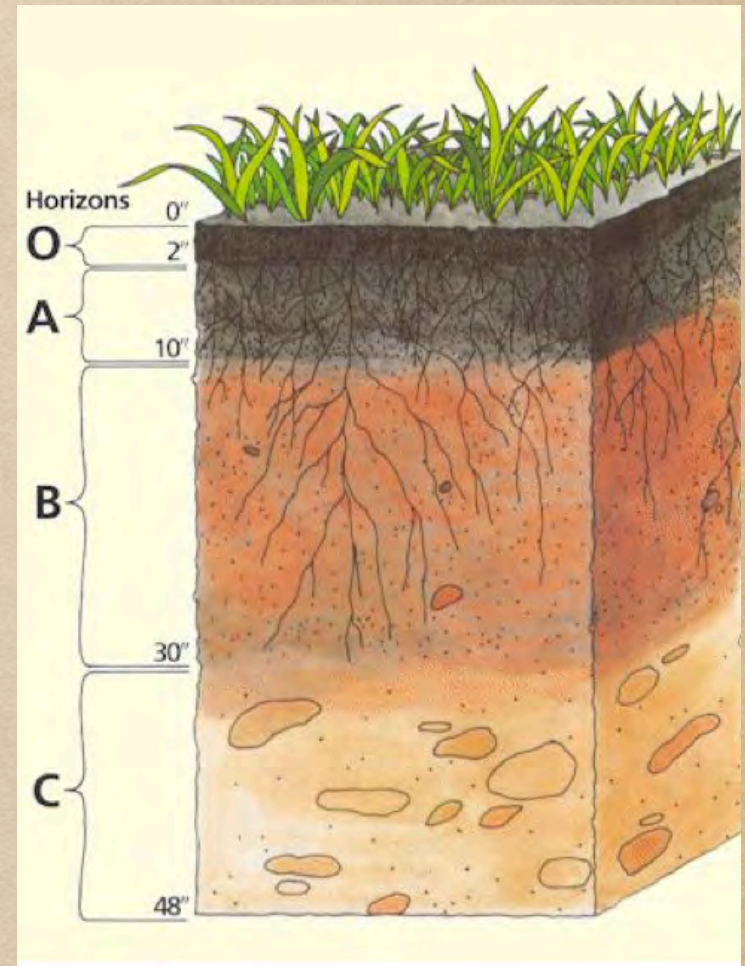
In the East/Coastal Plains

O - Dark organic layer with leaves and grass

A - Top soil with some organic matter mixed with minerals

B - Subsoil, rich in minerals

C - Deposited sediments from which soil is formed (parent material)



Sandy Loam



Five steps to preparing soil for a vineyard

4: Mulch

Mulch around grapevines 12 inches out from trunk
(mountains)

Mound soil in the lower elevations

Five steps to preparing soil for a vineyard

5: Irrigation

Mainly first year

Most backyard vineyards on flat ground

If vineyard contains less than 100 vines, hand water vines with hose, giving enough water every week to grow

If you don't need it, save money

Vine Spacing

Muscadine grapes

20 feet between vines

Plant close to posts for support of cordon

Considerations for Determining Vine-Row Spacing

Training-trellising system:

Low-vigor sites for vertical shoot positioning systems more adaptable for higher density grapevines plantings

Steep slopes can accomodate closer row spacing

8 to 10 foot spacing between rows

Practical questions to ask before deciding on a vine-row spacing layout

Muscadines

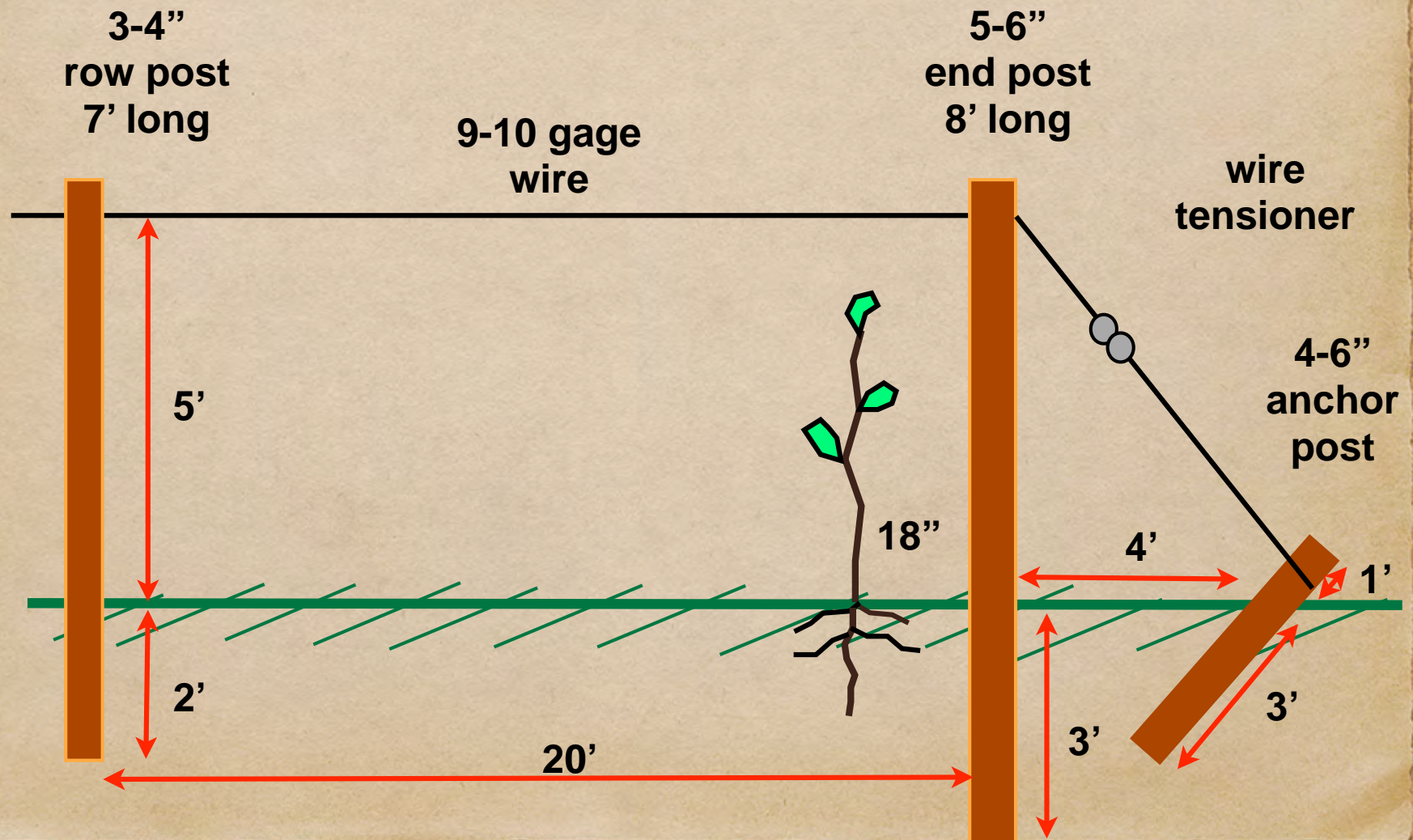
Native, cold-hardy Katuah Muscadines medium vigor

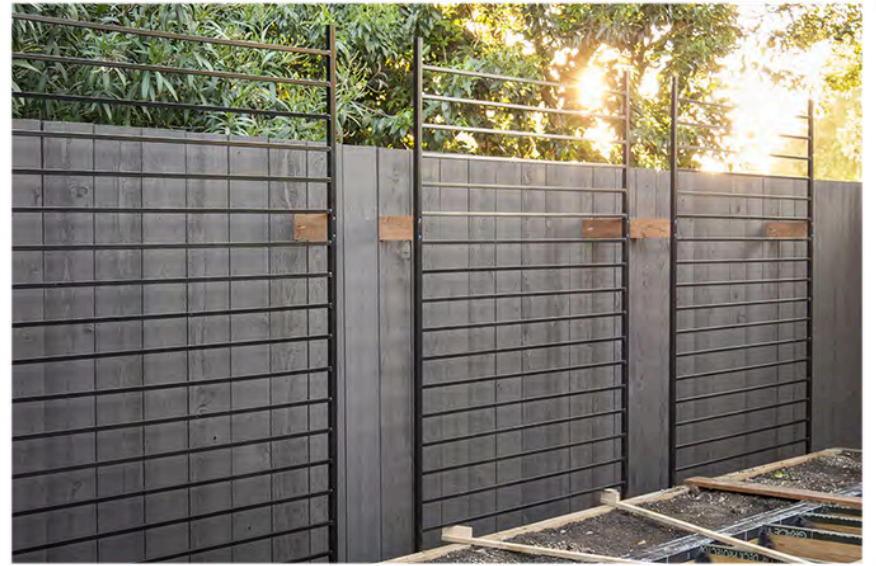
Vine spacing is 20 feet between vines, plant 18" from post

Recommended trellis height 5 feet

Muscadine Vine Spacing

Muscadine 200 feet Row Trellis Posts & Wire
No anchor posts needed for rows shorter than 100'





Backyard Trellis Options

Early vine training

Year 1: Mid-season

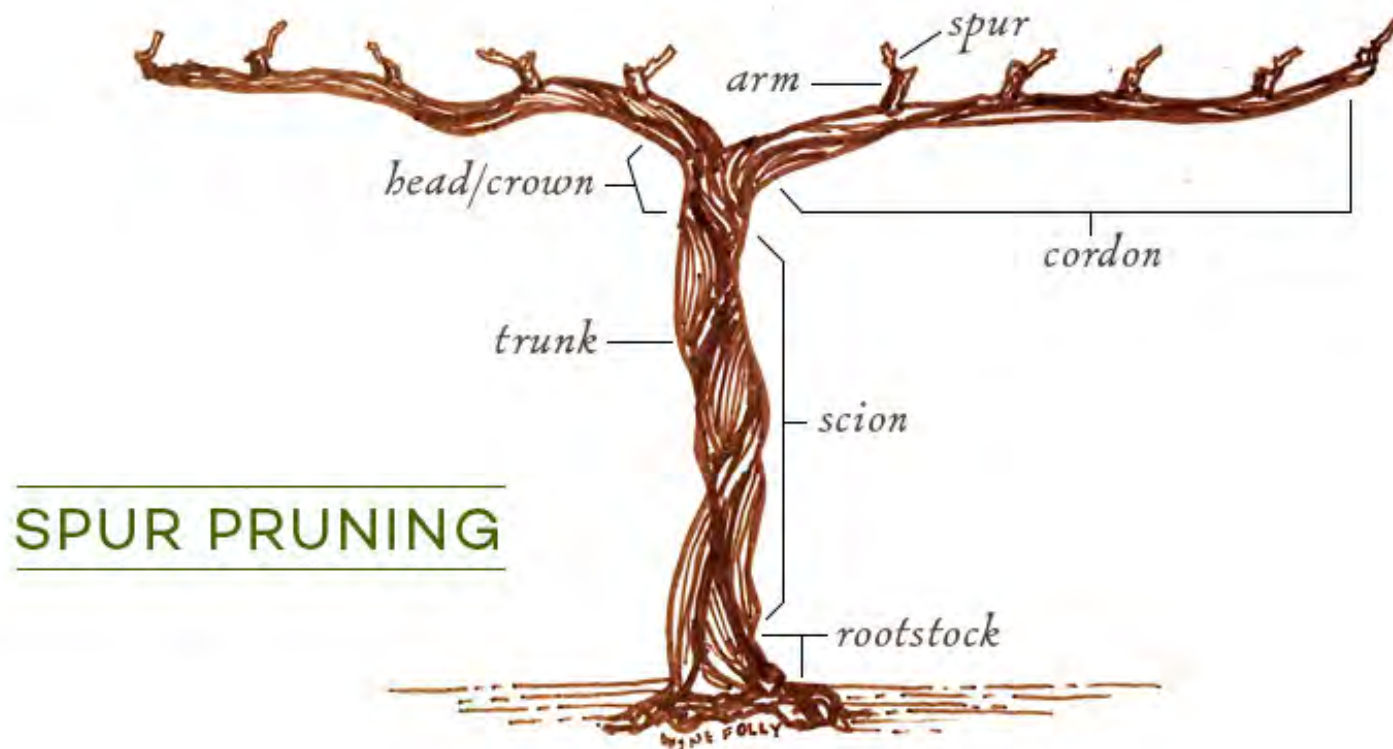


Year 2: End of season

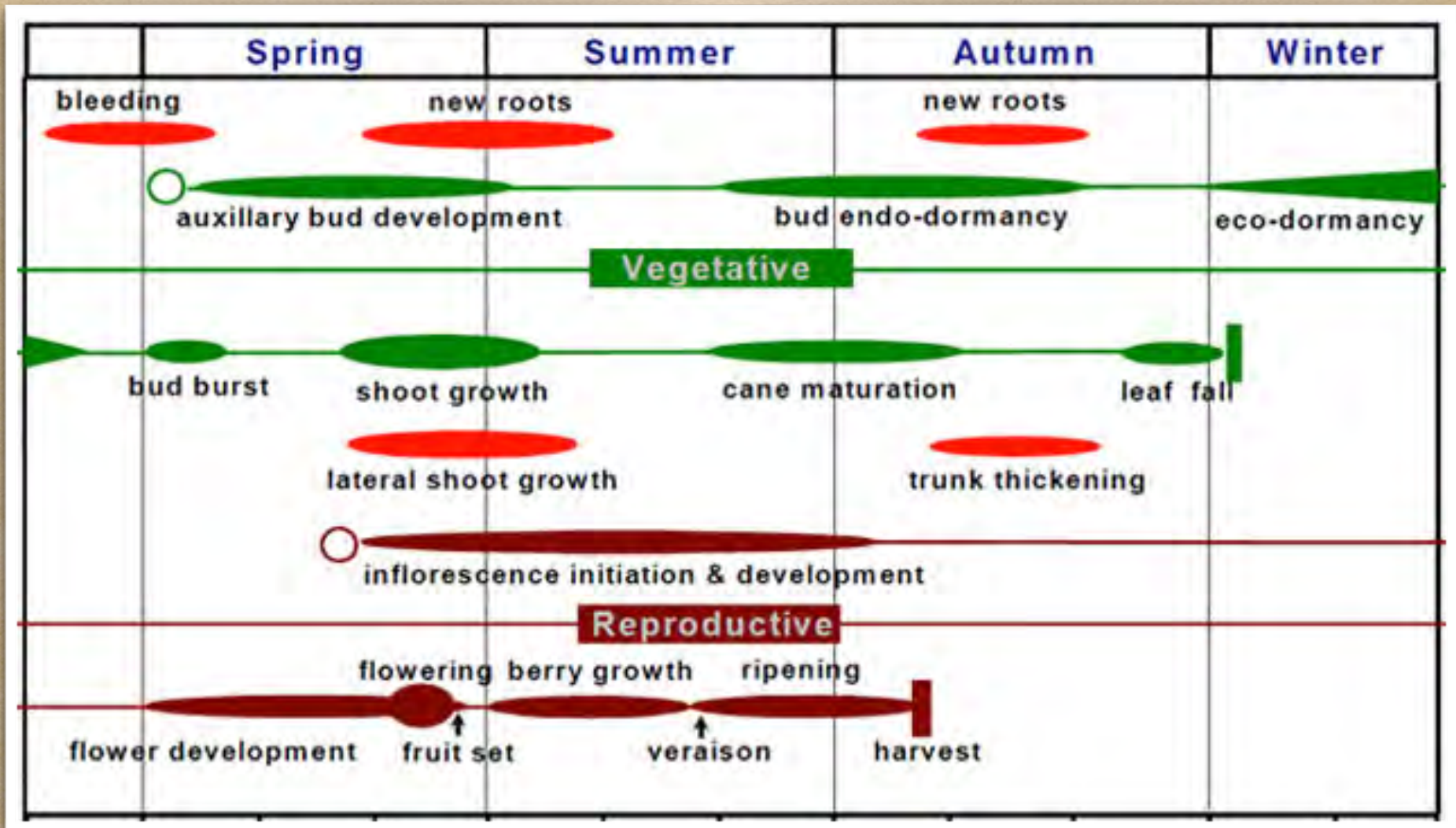


Note the bamboo training sticks
Don't kill off grass between vines
Pinch off all grapevine clusters for the first 3 years

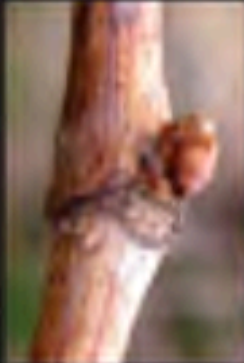


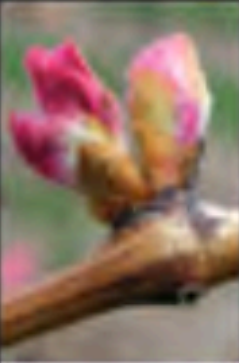
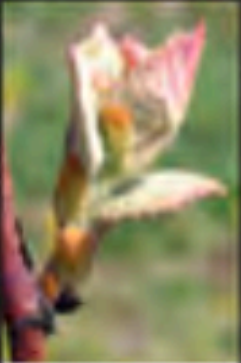


Vine Terminology for Muscadines



Living with the Grape



Vegetative growth

Dormant	Early bud swell	Late bud swell	Bud burst	1- to 3-inch shoots	4- to 8-inch shoots	10- to 16-inch shoots
						
Bud closed. No visible indication of growth.	The bud is visibly swollen, brown and fuzzy. No green or pink tissue is visible yet.	The bud has elongated and green or pink leaf tissue is visible though bud is still closed.	The leaves have separated at the tip, usually exposing the growing point.	The shoot is 1-3 inches (2.5-7.5 cm) long with 1-3 small leaves at right angles to the stem.	Shoots are 4-8 inches (10-20 cm) long with 3-6 leaves. Flower clusters are exposed.	Shoots are 10-16 inches (25-40 cm long). Flower clusters are clearly visible.

In the East/Coastal Plains

NC STATE UNIVERSITY

Cultivars

Dark Fresh-Market

Season	Cultivar	Flower type
Early	Lane	Self-fertile
Mid	Supreme	Female
Mid	Ison	Self-fertile
Mid	Black Fry	Female
Mid	Paulk	Self-fertile
Late	Nesbitt	Self-fertile

20

Seedless Muscadine Varieties

Razzmatazz - a self fertile red/burgandy when fully ripe that is a continuous bloomer

Oh My! - a self fertile bronze, medium size berry that bears mid-season

In the East/Coastal Plains

NC STATE UNIVERSITY

Cultivars

Bronze Fresh-Market

Season	Cultivar	Flower type
Early	Hall	Self-fertile
Early	Triumph	Self-fertile
Mid	Tara	Self-Fertile
Mid	Fry	Female
Late	Late Fry	Self-fertile

In the East/Coastal Plains

NC STATE UNIVERSITY

Cultivars

Processing Cultivars

Color	Cultivar	Flower type
Dark	Noble	Self-fertile
Bronze	Carlos	Self-fertile
Bronze	Doreen	Self-fertile
Bronze	Magnolia	Self-fertile



Photo courtesy:
Dr. Patrick Conner, University of Georgia

Table 5. Appropriate levels of nutrients based on leaf analysis during bloom (Poling et al. 2003)

Element (Unit)	Optimal Range
Nitrogen (%)	1.65–2.15
Phosphorus (%)	0.12–0.18
Potassium (%)	0.8–1.2
Calcium (%)	0.7–1.1
Magnesium (%)	0.15–0.25
Boron (ppm)	15–25
Copper (ppm)	5–10
Iron (ppm)	60–120
Manganese (ppm)	60–150
Molybdenum (ppm)	0.14–0.35
Zinc (ppm)	18–35

- Apply fertilizer 2-3 times per year, not later than June
- Use Calcium Nitrate, Ammonium Nitrate, or full-spectrum fertilizer

Vine Age	Irrigation	Fertilizer	Timeframe
First Year	Yes	Every 3-4 weeks, starting 2 weeks after planting	Planting – August
Year 2	Yes	Every 2 Months	April – August
Mature	No	2 times per year	April - June

- First year: Fertilize in a 12-18 inch circle around the plant
- Second year: increase the circle, fertilize less frequent, keep plant irrigated if longer stretches without rain

In the Mountains

Above 1600 feet Elevation?

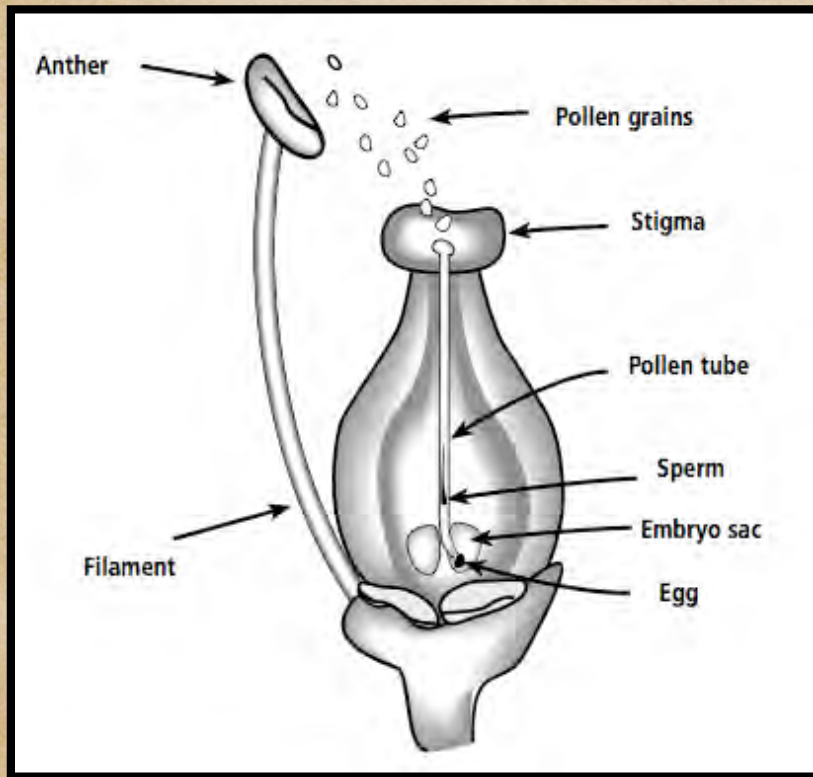
You will need cold-hardy grapevines

Possible choices:

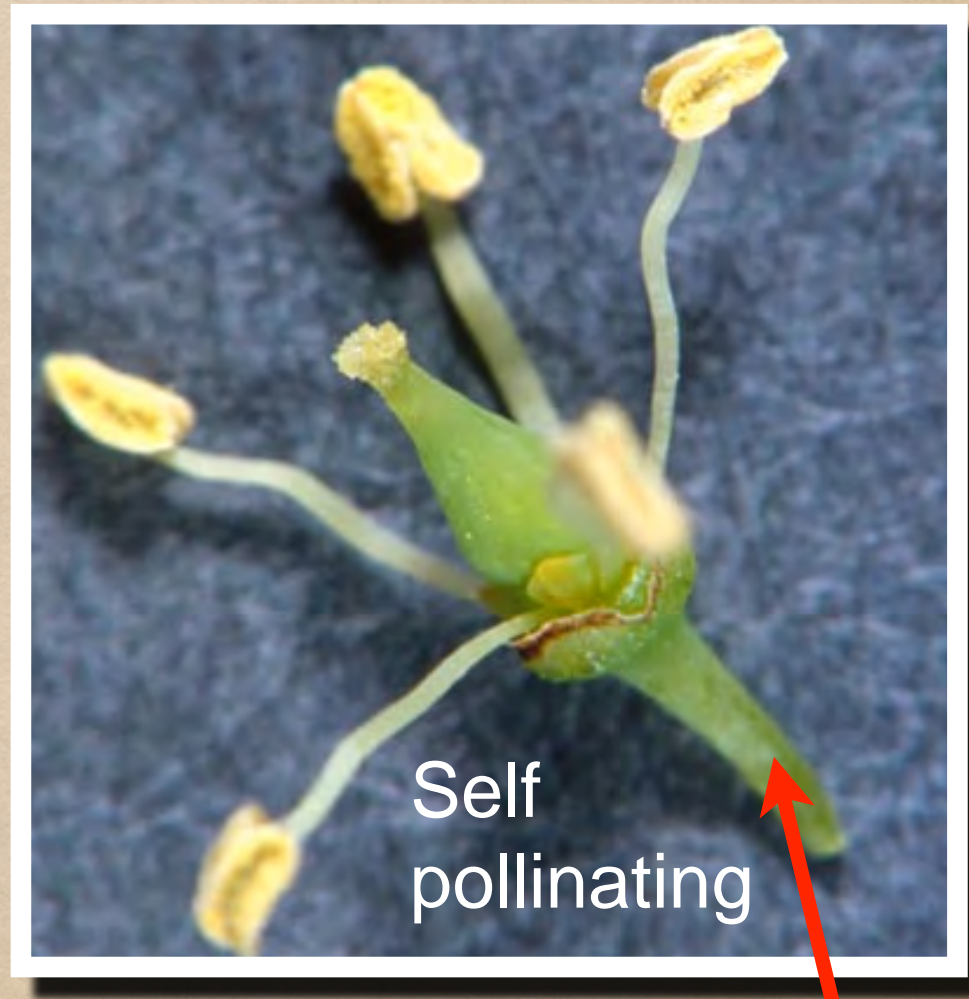
Katuah Muscadines

Katuah Scuppernongs

Grape Flowers



Perfect flower



Pedicel

Photo courtesy Cornell University

Grape Flowers



Grape Flowers



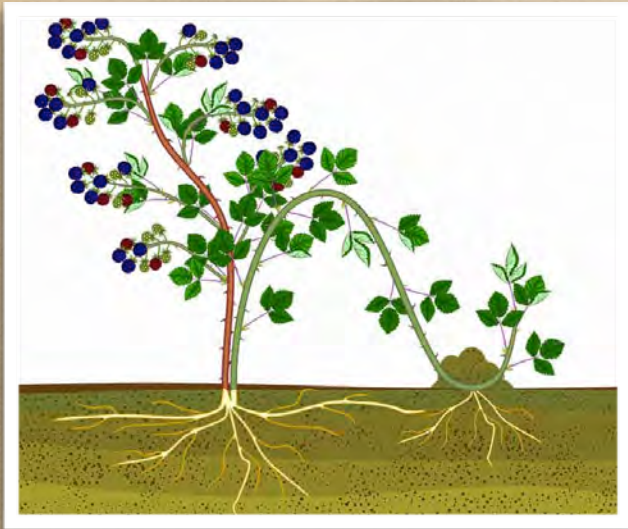
Stigma

Pedicel

Female
flower

Female flower

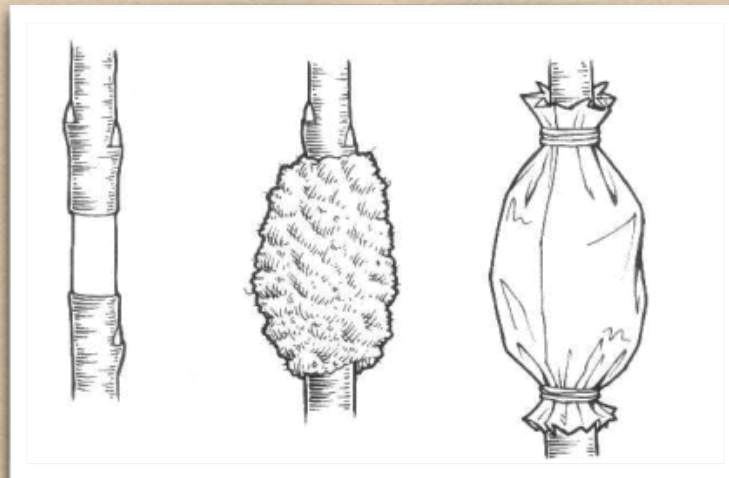
Propagating Backyard Vines



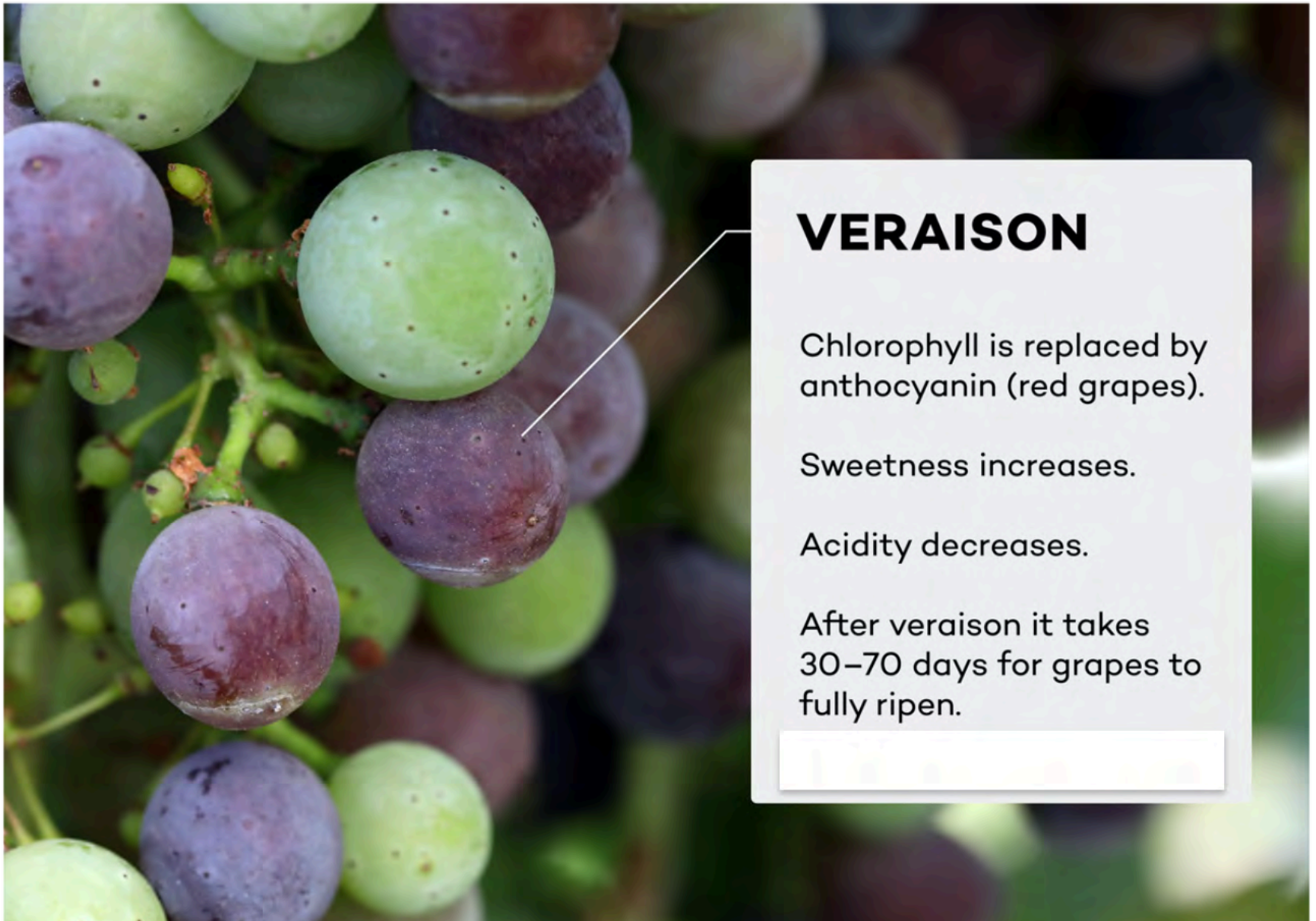
Rock/Dirt Method



Plastic Bottle Method



Saran Wrap/Aluminum Foil Method



VERAISON

Chlorophyll is replaced by anthocyanin (red grapes).

Sweetness increases.

Acidity decreases.

After veraison it takes 30–70 days for grapes to fully ripen.





Not ripe yet



This one
is ready
to eat



Immature
fruit



Not ripe
yet

Shady Grove Journal



Not Ripe

Ready to Pick

When to Harvest?

When you see the birds coming for the grapes

Brix measurement using a refractometer:
15-16 for muscadines,

Taste
Sight
Feel
Seed color



Not Ripe

Ripe



Harvesting

**Collapsable lugs
& Picking bucket**





Next Step:

Making Wine at Home

**10AM Wednesday, August 18
&
10AM Saturday, August 21**



Backyard Vineyards for Muscadines

by

Chuck Blethen
Jewel of Blue Ridge Vineyard

August 14, 2021

