



UNIVERSITY OF GEORGIA
EXTENSION

A beginner's crash course in Georgia vineyard site and grape variety selection

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Planning the journey...EFFECTIVELY!



Fruitgrowernews.com

Georgia has a challenging environment

acidic soils



pest and disease pressure



spring frosts



**Vine
stress
bucket**

labor



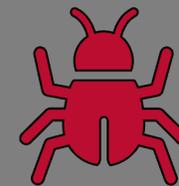
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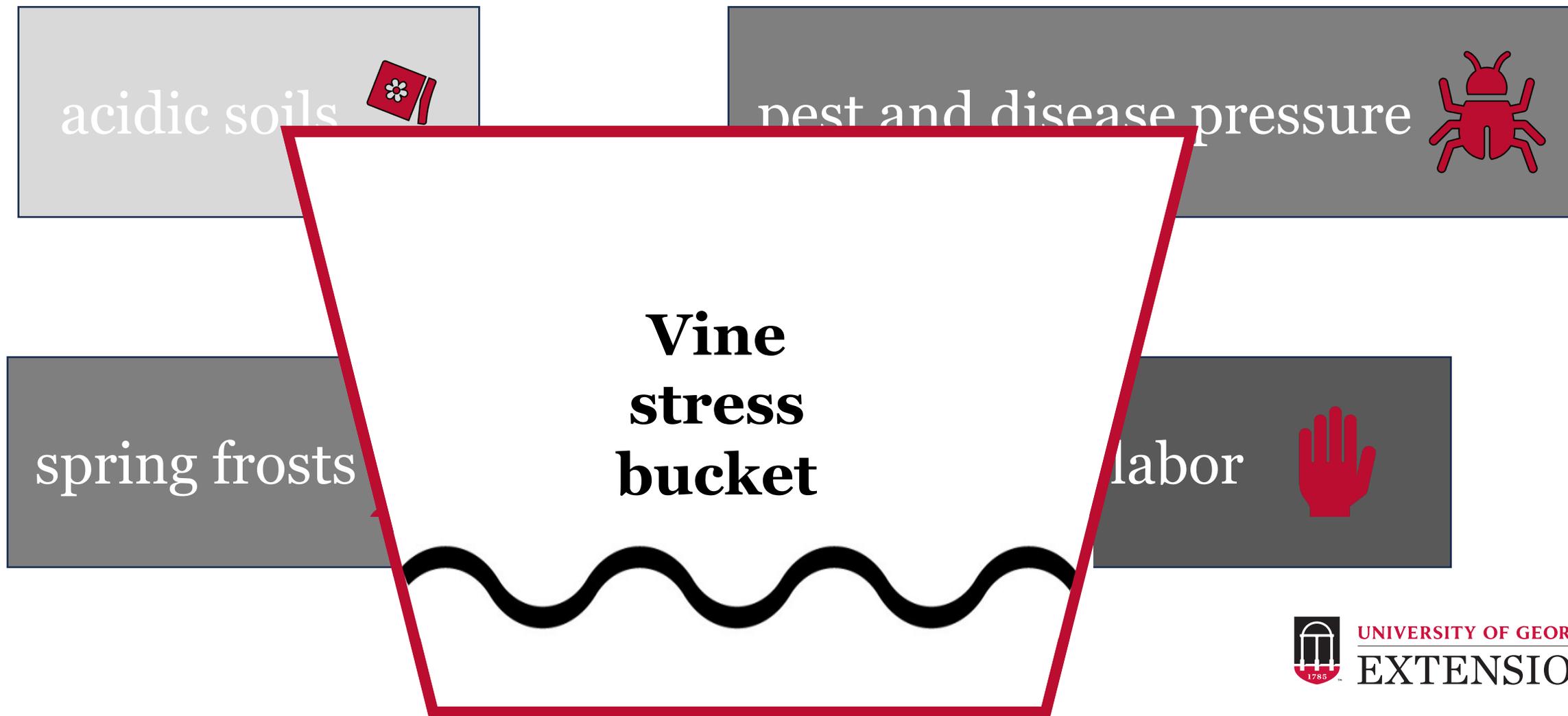
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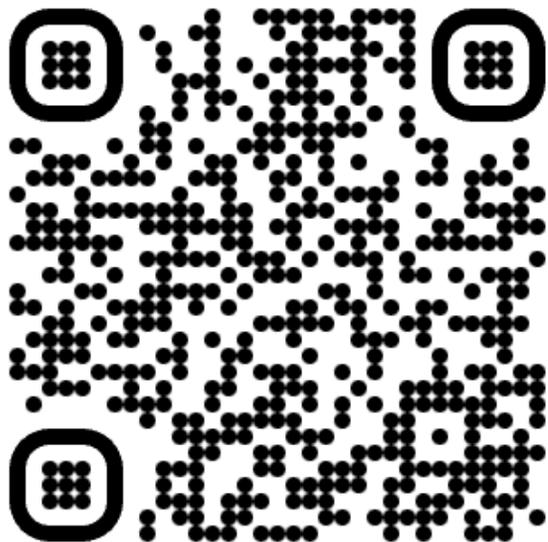
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Resources!

<https://site.extension.uga.edu/viticulture/>



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Site selection

For vineyard –

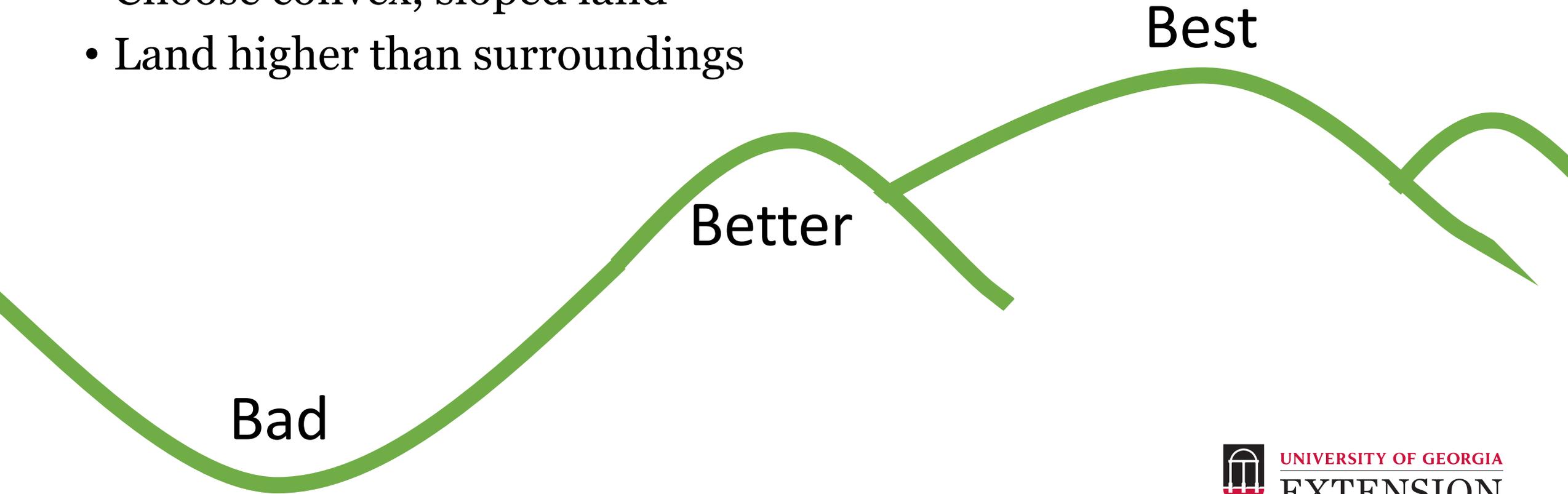
- Choosing a good site can
 - Reduce crop loss
 - Make a good grape variety better!
 - (and) Make an okay grape variety better!

For winery –

- Where people will visit

Vineyard site selection

- Choose convex, sloped land
- Land higher than surroundings

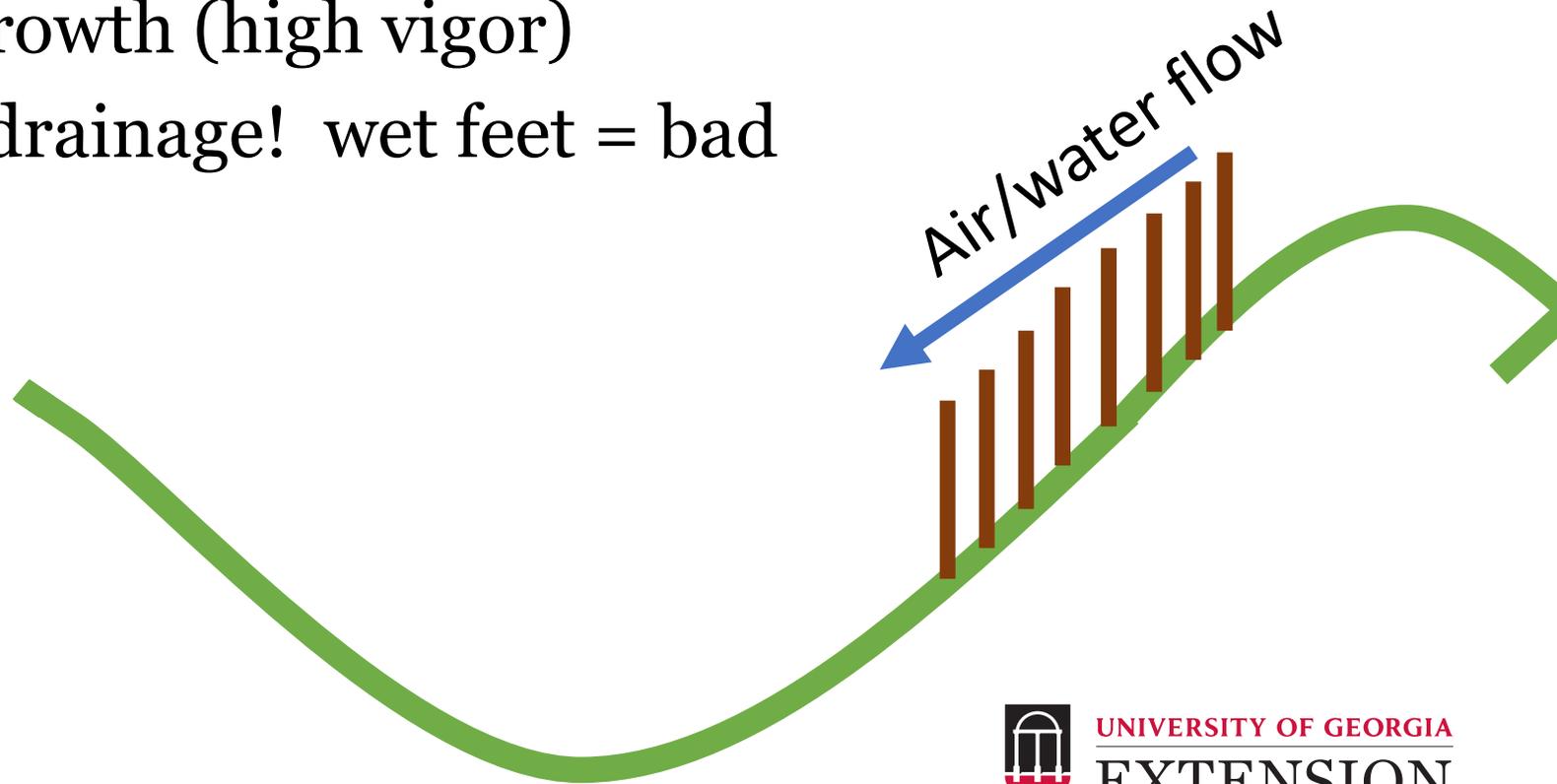


Vineyard Site Selection

- Humid climate, often vines have more water than they need
- Causes excess canopy growth (high vigor)
- Vines need good water drainage! wet feet = bad
- Air flow can help dry canopy (reducing disease pressure)

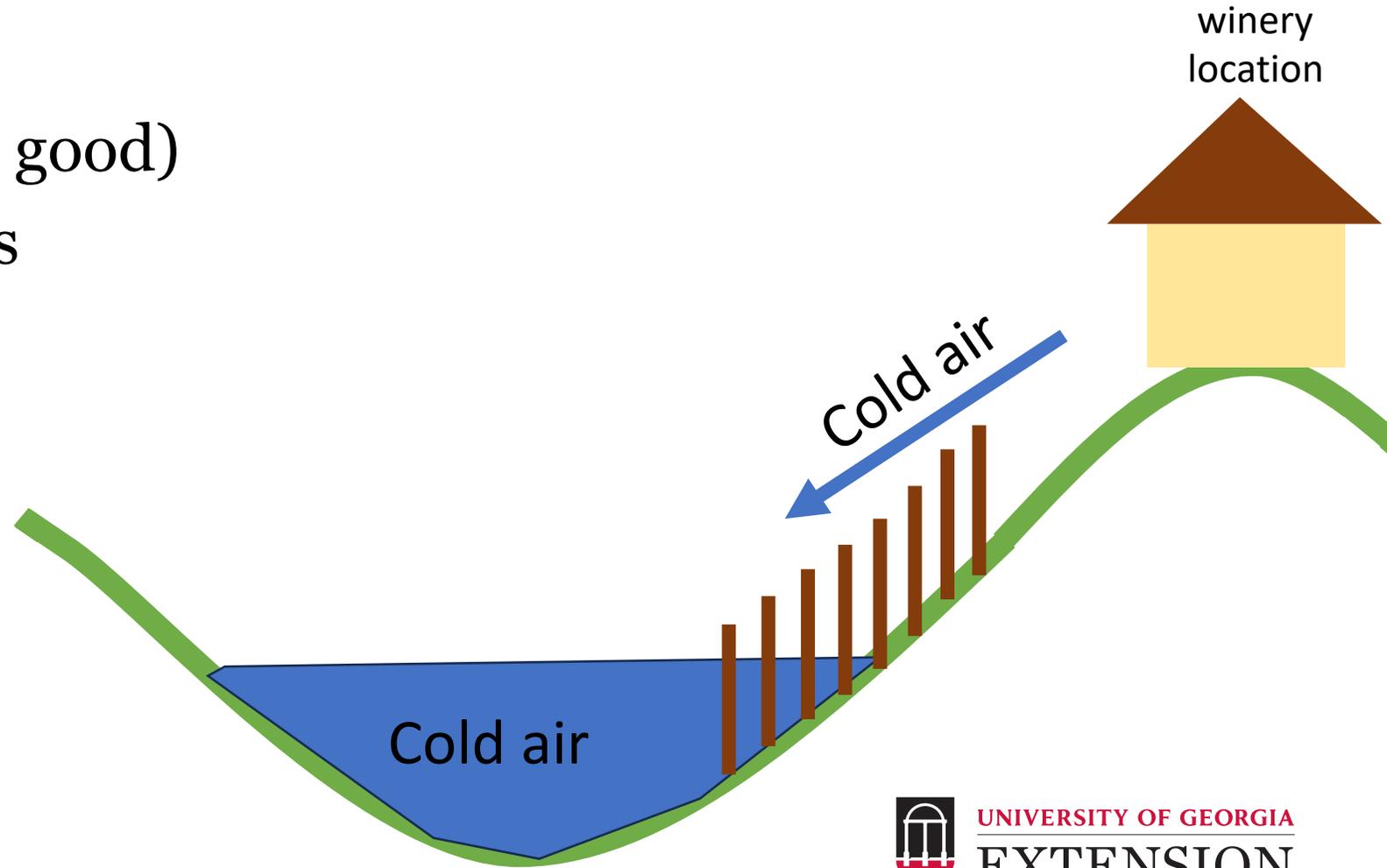


Protect the baby vines!



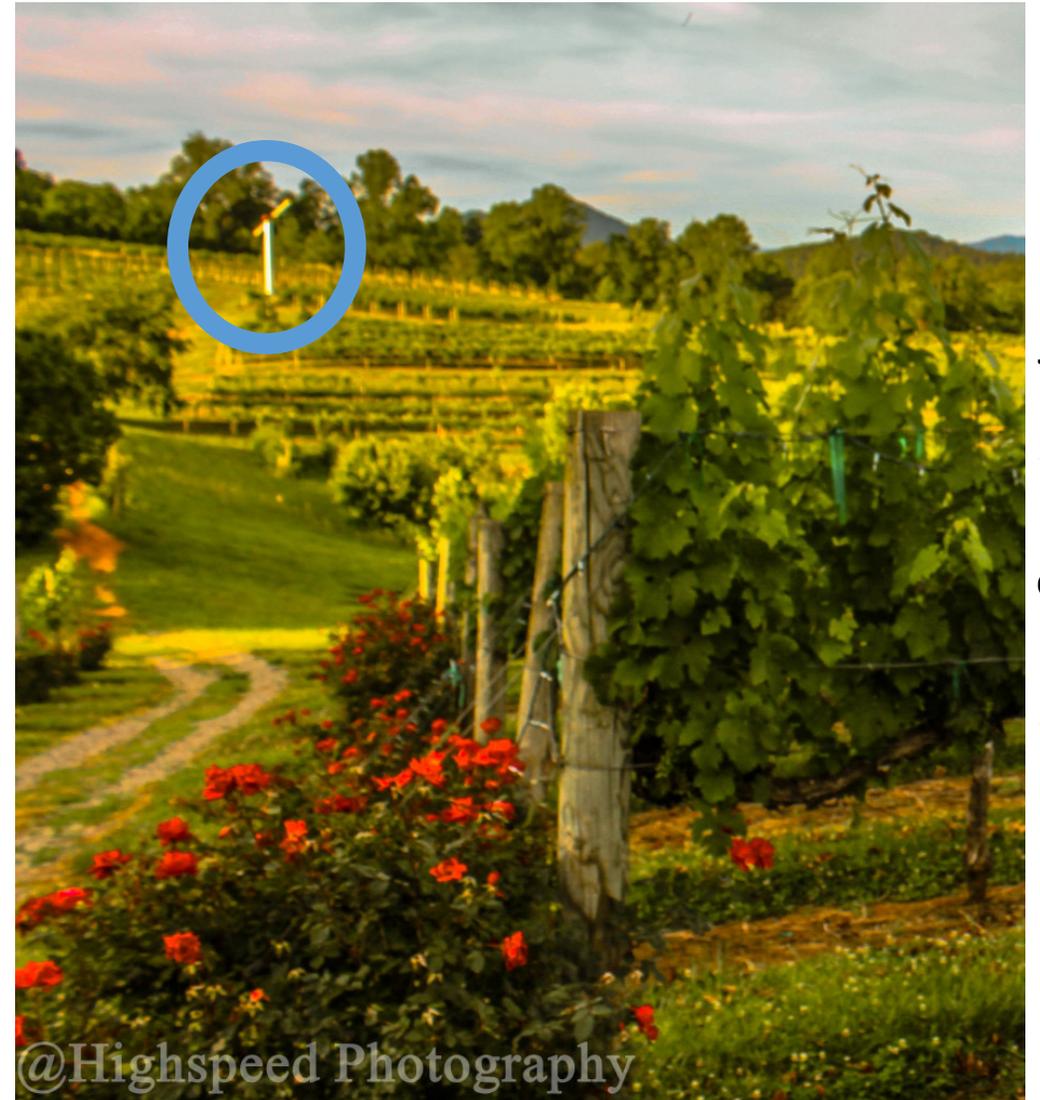
Vineyard site selection

- Air movement (windy = good)
- Beware the frost pockets



Vineyard Site Selection – Spring Frosts

- Retroactive assistance
 - Frost Fan
 - Heaters
 - Sprinklers
- Can be expensive, have limited range, and only help in certain conditions



Site Preparation

Soils in GA often

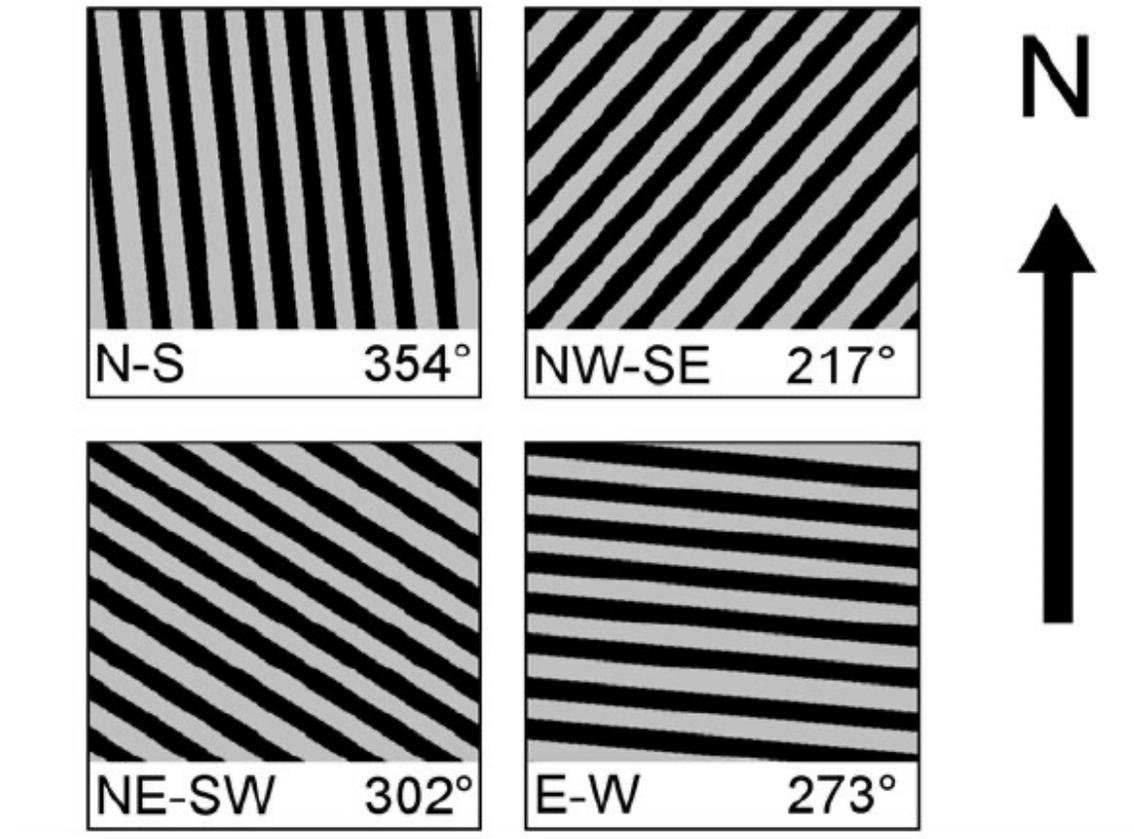
- Are too acidic for grapes
- Have obstructions (big rocks, old roots, etc.)
- Soil amendments and ground preparation are **MUCH** easier before the trellis and vines are in the ground!



Site Preparation

Row Orientation

- Slope aspect?
- North- South or East-West
- Vertical or perpendicular to the slope

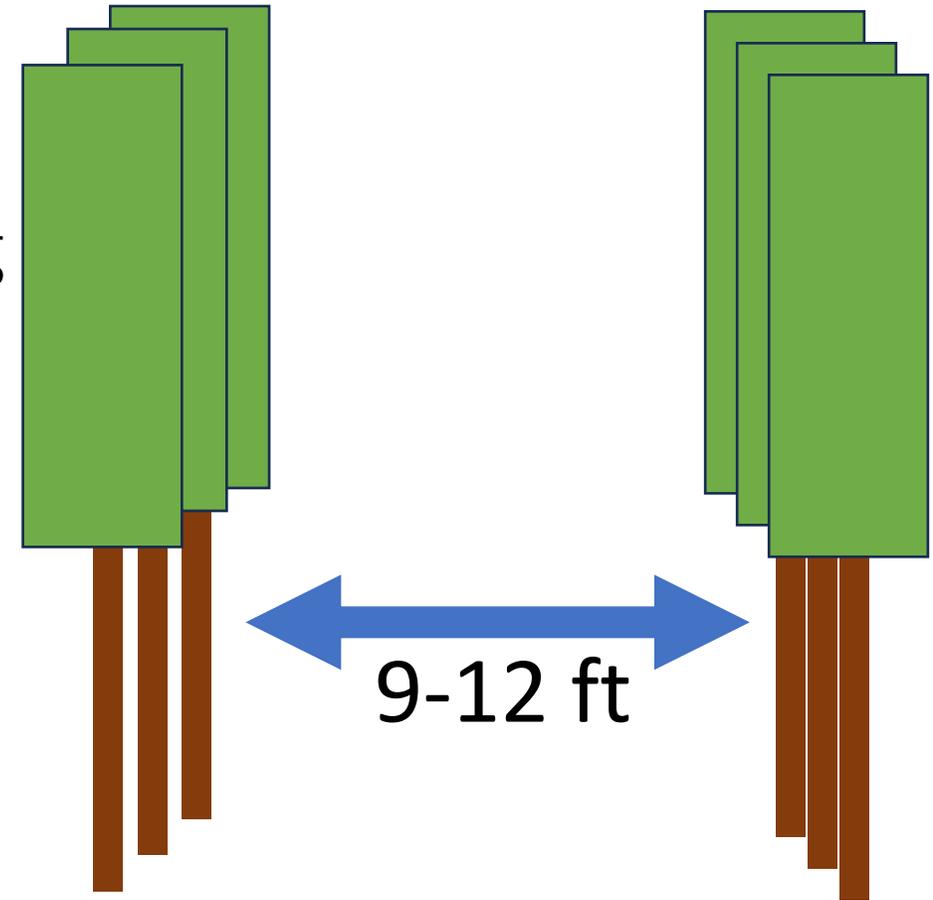


Bodor et al. 2014

Site Preparation

Row Spacing

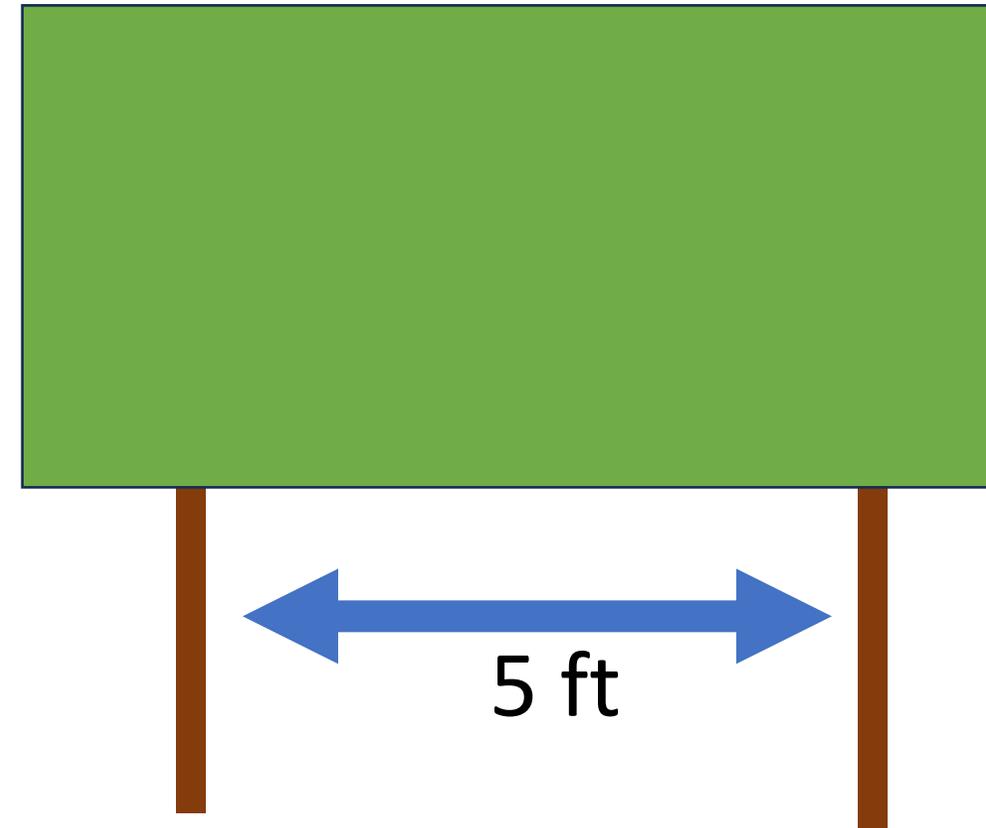
- No less than 1:1 – trellis height: row spacing
- The goal is to maximize area
 - WITH ENOUGH SPACE FOR YOUR EQUIPMENT (at least 1.5 ft on each side of equipment)
 - In GA, generally 9-12 ft (depending on trellis/training system)



Site Preparation

Vine Spacing

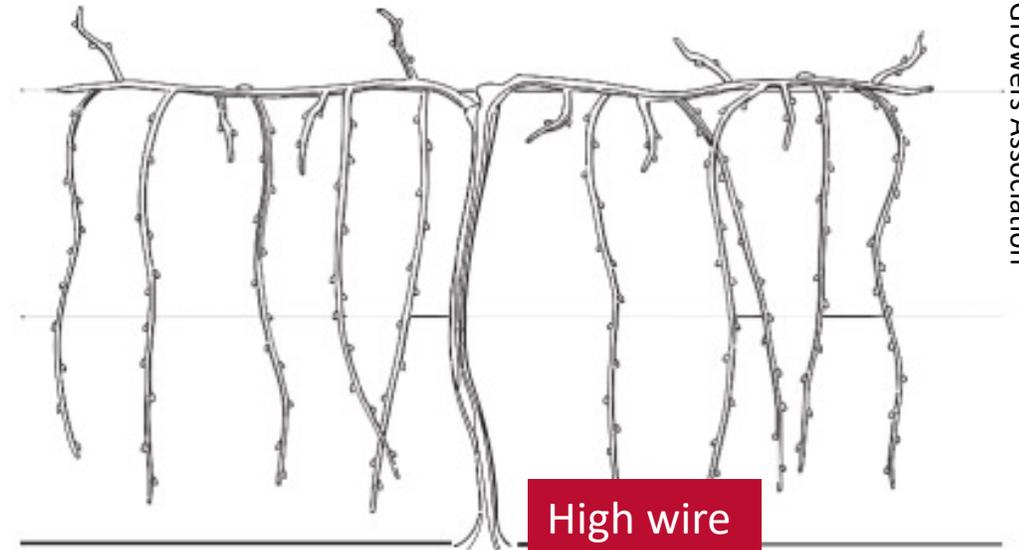
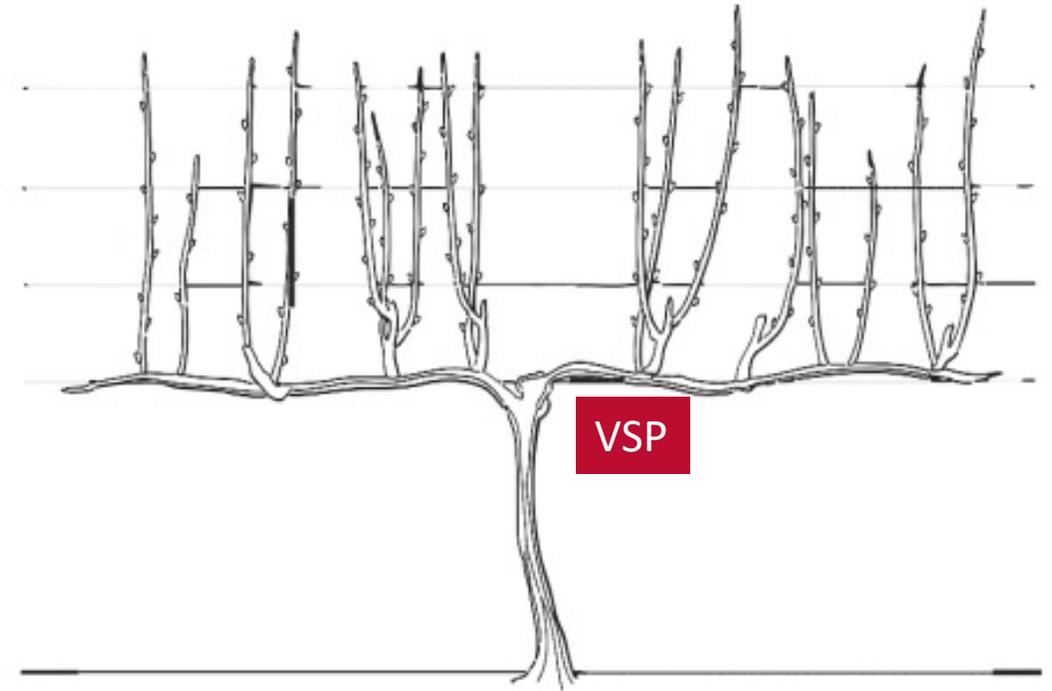
- Bunch grapes – 5 ft between vines
 - Higher vigor vines can be spaced further apart, but bigger vines can be more stressed
- Site water availability is important here!
 - More water = bigger vines = lower vine density
 - Less water = smaller vines = higher vine density



Site Preparation

Trellis System – 2 most common

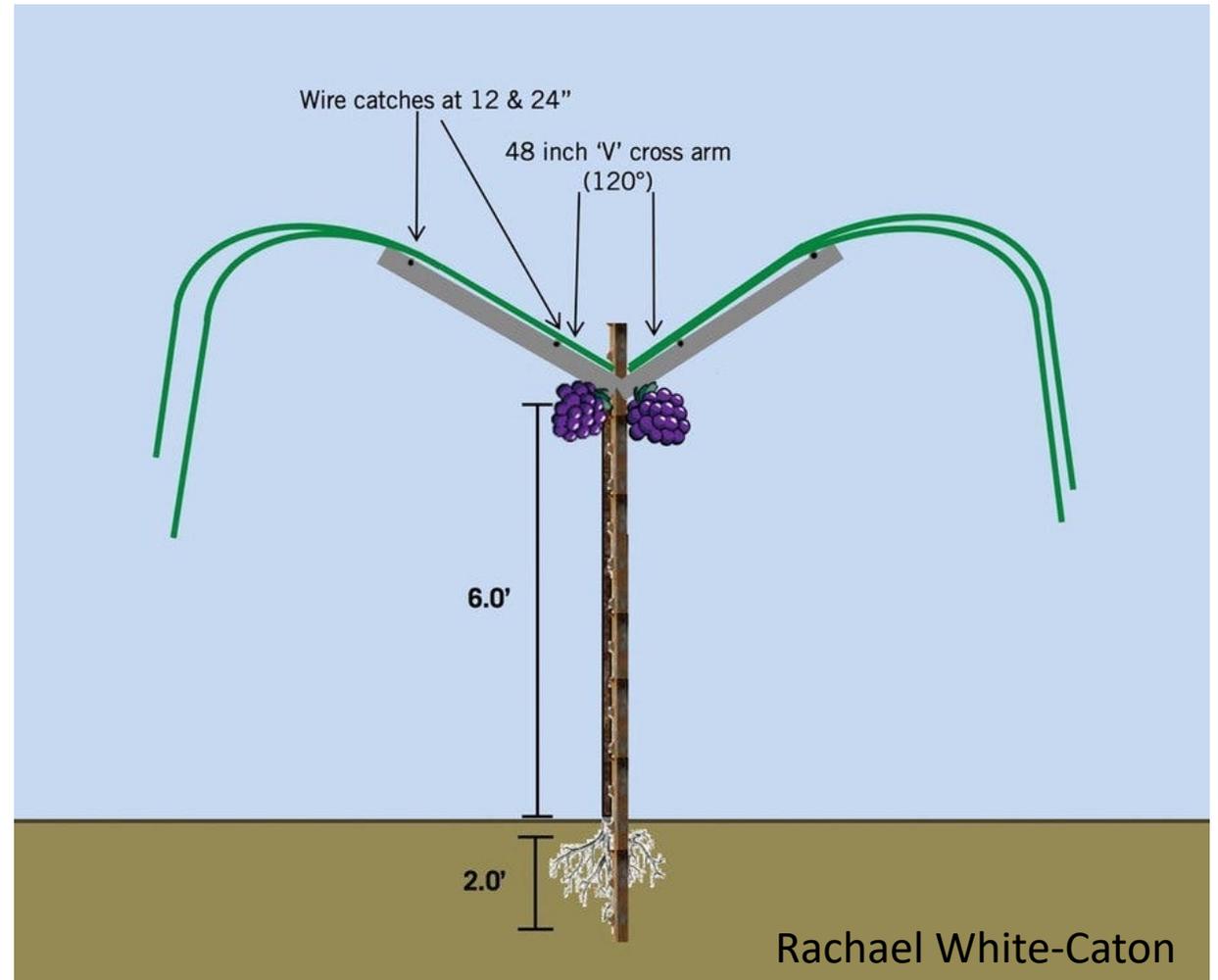
- Vertical shoot positioning (VSP)
- High wire
- Both need 9ft+ row spacing for ~807 plants per acre
- More options for mechanization



Site Preparation

Trellis System

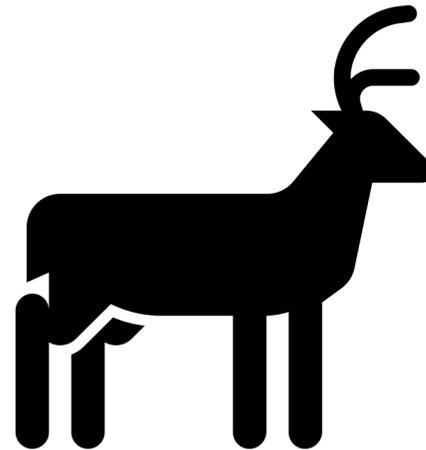
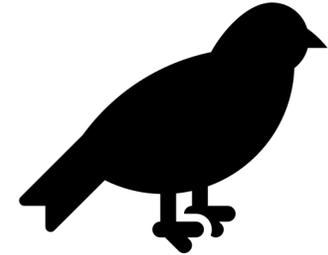
- Watson– High vigor divided canopy system
 - Needs 12 ft+ row spacing
~605 vines per acre
 - Lower density but higher yield



Site Preparation

Wildlife pest pressure
– Deer and Birds

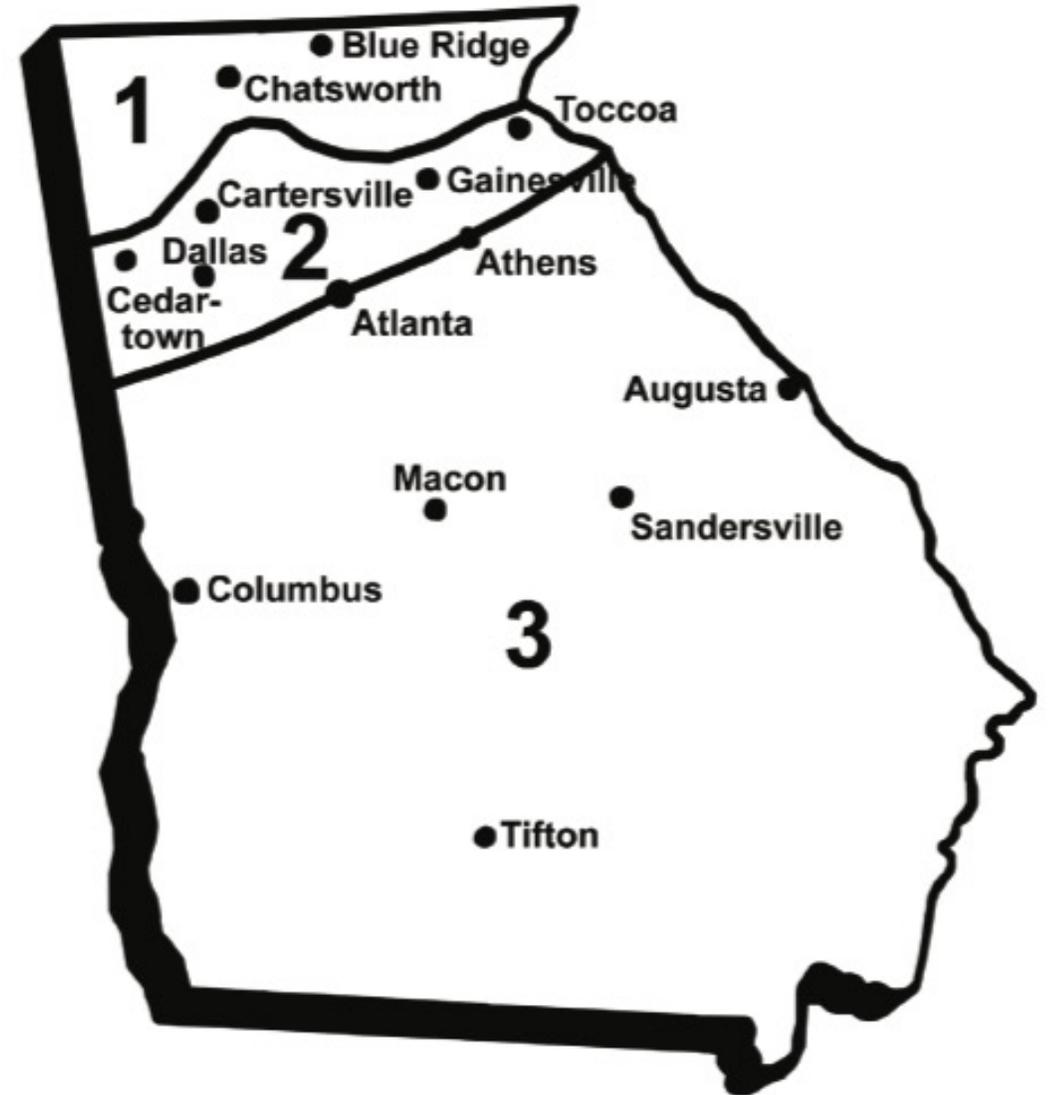
- Fences, netting, sound canons, laser shows, etc.



Cultivar/Variety Selection

- *Vitis vinifera* (European wine grape)
- American grapes (multiple species)
- Hybrids
- Muscadines

Pierce's
Disease



Cultivar/Variety Selection

- Your (potential) site
 - Do you already have a site? What CAN you grow there?
 - What are the stressors?
- Business goals
 - What do you want to grow? Making wine? Selling grapes – to whom?
- Effort
 - How much labor are you willing to put in long term? Do you know where/how you can get help?



Pierce's Disease Tolerance

- Muscadines resistant
- Many hybrids are more tolerant
- Some newly bred vinifera like options (commercially available options) –UC Davis Andy Walker vines
- Bacteriophage, trunk injection treatment?



Variety to consider: Norton

- American native RED variety with downward growth
- Super-vigorous
- High wire trellis (larger row spacing for vigor?)

- Disease tolerant!!
(somewhat tolerant of PD)
- Does not tolerate sulfur fungicide applications



Variety to consider: Crimson Cabernet

- American/European Hybrid
- Norton and Cab Sauv parents
- American native RED variety

- PD tolerant
- Slower grower?



Variety to consider: Traminette

- Gewürztraminer - hybrid cross
- White, moderate to high vigor grape
- Late-mid season grape

- Moderate disease resistance (less so to downy mildew)
- Can be own-rooted (resistant to Phylloxera)



Reisch, et al.

Variety to consider: Lomanto

- Red grape
- Lighter vigor, upright vine
- Medium clusters, medium size berries
- EARLY bud break, but good recovery!

- Susceptible to powdery mildew, PD tolerant



March 22, 2023

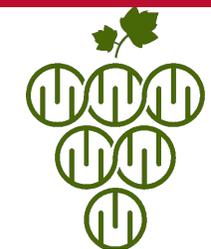


June 22, 2023

Species to consider: Muscadines

- Native to SE
- Much more disease resistant
 - Including PD
- High vigor, less density
- Lots of varieties to choose from!





VitisGen III Project

- NIFA-SCRI Grant – breeding desirable grapes with disease resistance – funded project
- **Potential Upcoming Variety Test Site in GA**
- **Other Exciting Projects:**
 - Vitis-Muscadinia Alliance (another breeding project) – planning grant
 - Niche Vineyard Market Planning grant – submitted planning grant proposal
 - FRAME2 (fungicide resistance in Powdery, Downy, and botrytis!) – submitted proposal



Variety to consider: Arandell

- Red grape
- Moderate, upright canopy (for a hybrid)
- Moderate fruit yield per vine but much more disease resistant (in comparison with Chambourcin)
- Can be own-rooted (resistant to Phylloxera)



Variety to consider: Aravelle

- Cayuga white x white riesling
- White grape (like Riesling grapes)
- Moderate disease resistant, stronger rot resistance
- Mid-season bud break
- Grafting suggested

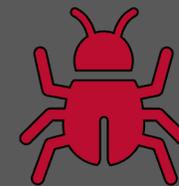


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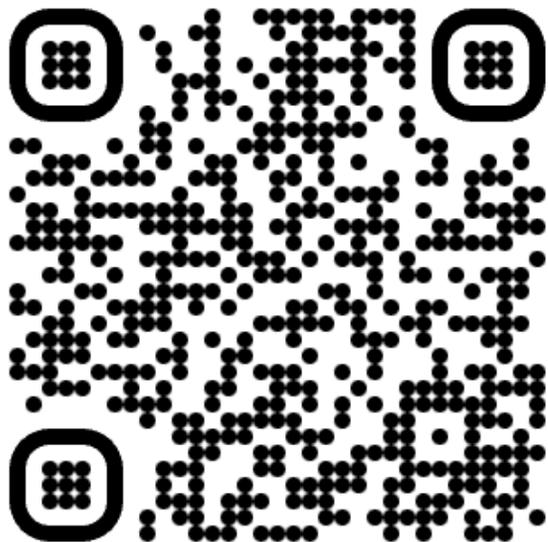


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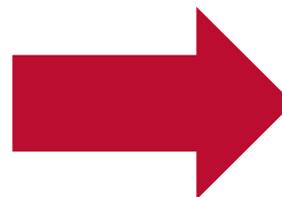


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This presentation (with notes) will be found here



Resources!

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Only a few of the members of the UGA Viticulture Extension Team!

- County Extension Agents
- Regional Extension Specialist (me!)
- Paid consultants
- Your fellow growers!



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VitisGenIII

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Questions?

