

# ***Vineyard Establishment***

**1:30 to 2 p.m.  
Friday March 8<sup>th</sup>, 2019  
Show Me Grape & Wine Conference**



**Michael L. White  
Viticulture Specialist  
ISU Extension  
Cell: 515-681-7286  
[mlwhite@iastate.edu](mailto:mlwhite@iastate.edu)**



# Forms of Agriculture used in Vineyards

Conventional Agriculture

Integrated Pest Management (IPM)

Sustainable Agriculture

Organic Agriculture

Biodynamic Agriculture

# Hazardous Vineyard Locations

**Golf Courses**

**Schools**

**Rail Road Tracks**

**Corn / Soybean /  
Wheat fields**

**City Parks**

**Power Line  
Right of Ways**

**Cemeteries**

# Out of Site – Out of Mind



**Vineyards require close attention during  
the growing season**



Cold Injury Insurance  
Grapes have 3 buds.

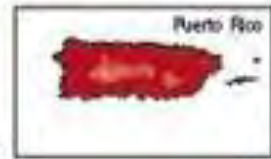
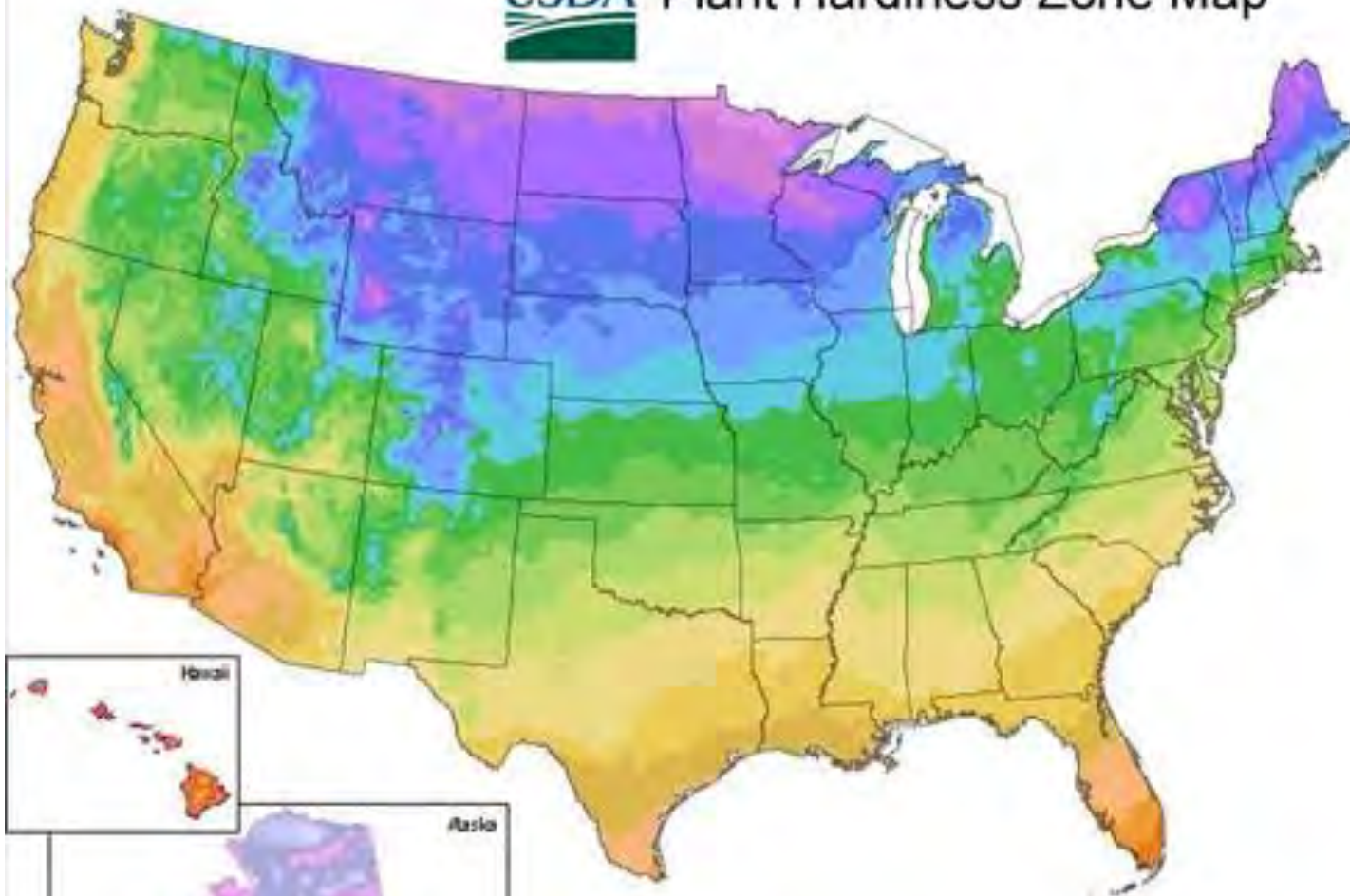
Secondary

Primary

Tertiary



# USDA Plant Hardiness Zone Map

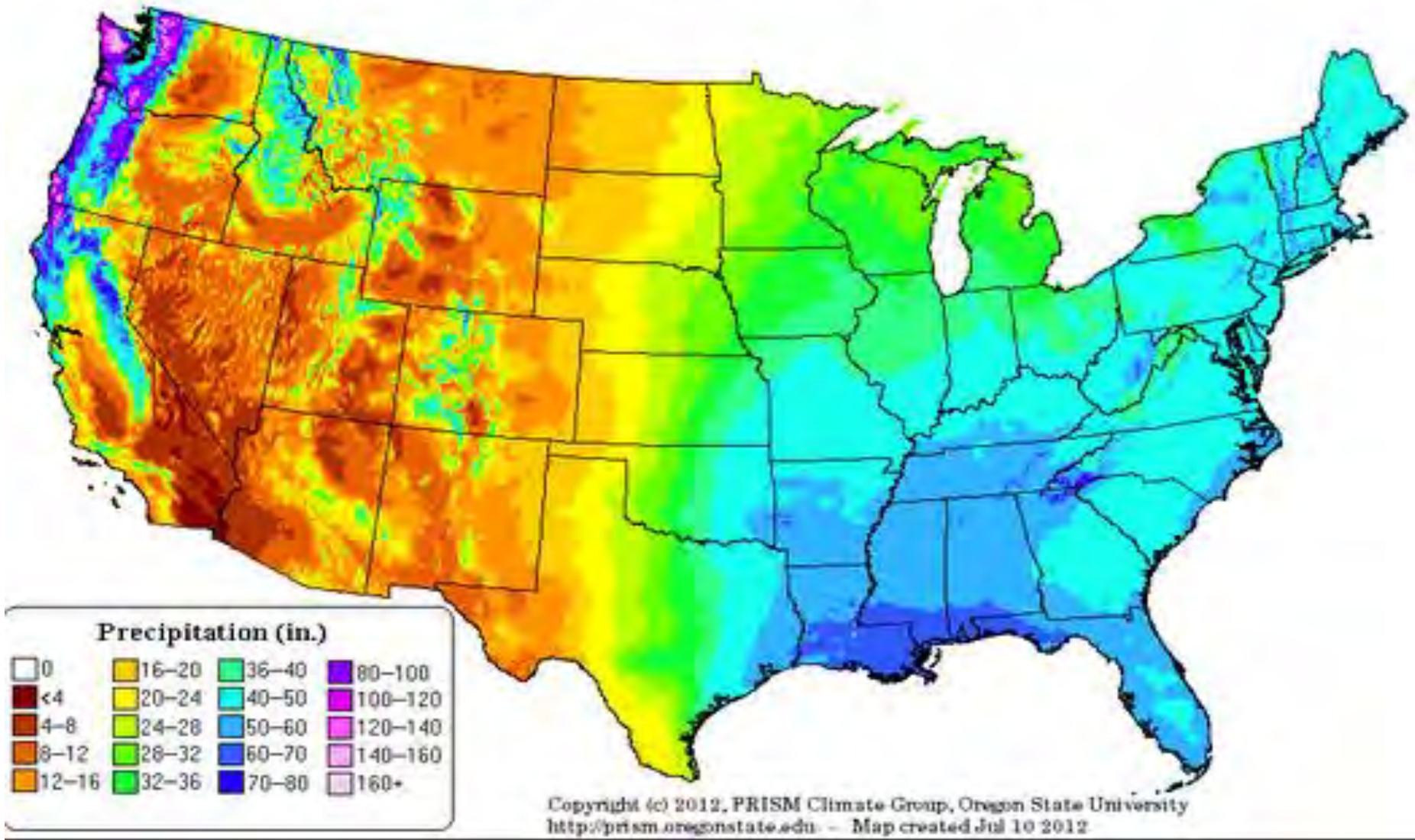


## Average Annual Extreme Minimum Temperature 1976-2005

Temp (F)	Zone	Temp (C)
-60 to -55	1a	-51.1 to -48.3
-55 to -50	1b	-48.3 to -45.6
-50 to -45	2a	-45.6 to -42.8
-45 to -40	2b	-42.8 to -40
-40 to -35	3a	-40 to -37.2
-35 to -30	3b	-37.2 to -34.4
-30 to -25	4a	-34.4 to -31.7
-25 to -20	4b	-31.7 to -28.9
-20 to -15	5a	-28.9 to -26.1
-15 to -10	5b	-26.1 to -23.3
-10 to -5	6a	-23.3 to -20.6
-5 to 0	6b	-20.6 to -17.8
0 to 5	7a	-17.8 to -15
5 to 10	7b	-15 to -12.2
10 to 15	8a	-12.2 to -9.4
15 to 20	8b	-9.4 to -6.7
20 to 25	9a	-6.7 to -3.9
25 to 30	9b	-3.9 to -1.1
30 to 35	10a	-1.1 to 1.7
35 to 40	10b	1.7 to 4.4
40 to 45	11a	4.4 to 7.2
45 to 50	11b	7.2 to 10
50 to 55	12a	10 to 12.8
55 to 60	12b	12.8 to 15.6
60 to 65		15.6 to 18.3
65 to 70		18.3 to 21.1

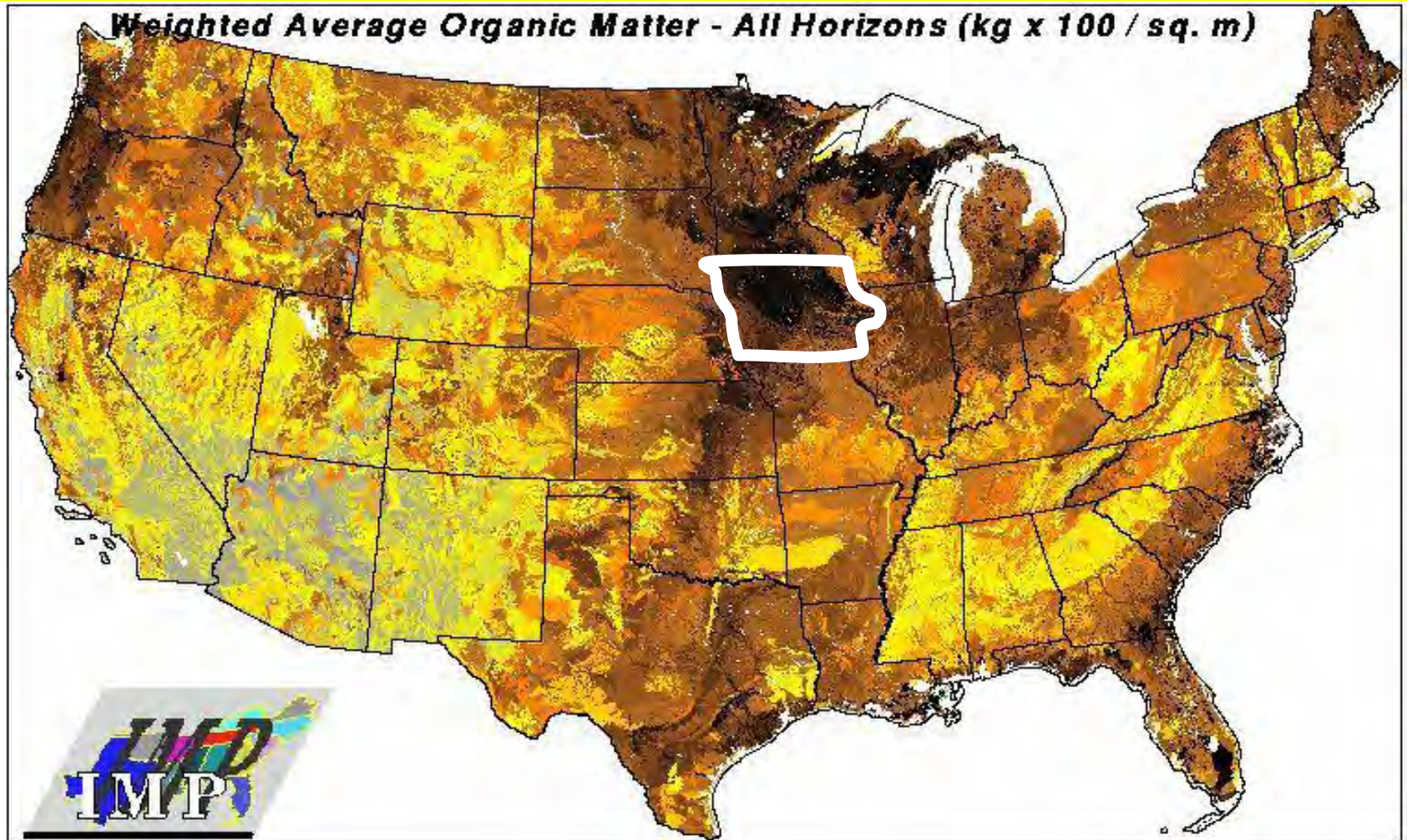

**OSU**  
 Agricultural Research Service  
 Oregon State University  
 Mapping by the PRISM Climate Group, Oregon State University.  
<http://prism.oregonstate.edu>, 2012

## Precipitation: Annual Climatology (1981-2010)





# Too much VIGOR – Most common problem.





# Location – Location - Location

**South Facing Slope or Ridgeline**

**Well Drained Soil**

**Higher Topography to Deter Frost Damage**

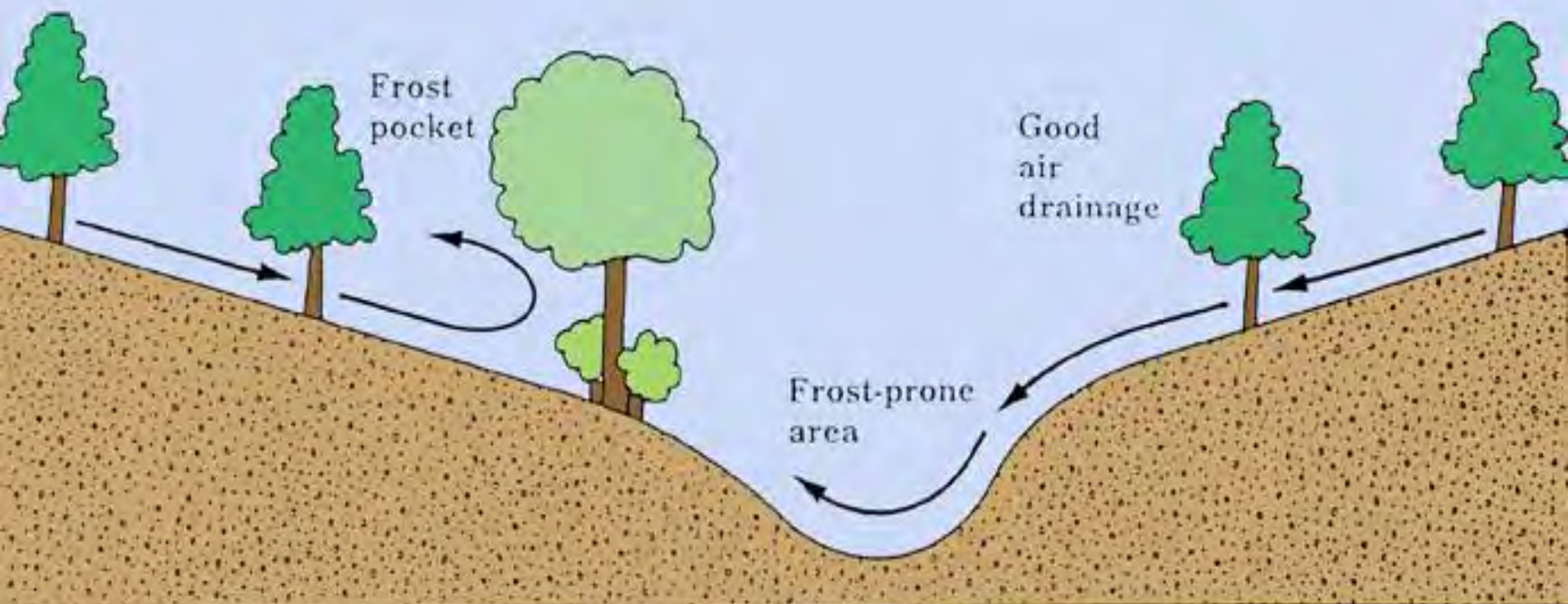
<b>pH = 5.5-7.0</b>	<b>Good Fertility</b>	
	<b>P = 25ppm+</b>	<b>K = 125ppm+</b>
<b>Zn = 2-4ppm</b>	<b>2-4% OM%</b>	

**Stay at Least 100' from Lime Gravel Roads**

**No Trees within 100' of Vineyard**

**Seasonal Water Table 4' or Deeper**

# Site Selection is Key for Frost Protection







**3 ft deep hole full of water should drain:**

**24-48 hrs - Good**

**48-72 hrs - Marginal**

**72+ hrs - Poor Site**







You are here: Web Soil Survey Home

Search

Enter Keyword

All NRCS Sites

Browse by Subject

The simple yet powerful way to access and use soil data.



- I Want To...
- Start Web Soil Survey (WSS)
  - Know Web Soil Survey Requirements

<https://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>



**FREE**  
**Soil Map**  
**Soils Info**  
**Acres**



# Options for Tight Soils?

Planting Vines on a Ridge of Soil

Drip Irrigation

Ripping 24-36" deep under vine row prior to planting

Surface & Subsurface Tile Drainage

Fill Augered holes with good soil prior to planting grapes

Run a Ditch Witch Type Trencher down each row and fill back in.

# Remove Vineyard Acres out of USDA Farm Program Acres Prior to Planting Grapes!

**FSA**

Farm Service  
Agency Online



Contact Your County FSA Office

<http://www.fsa.usda.gov/>





1-800-DIG-RITE  
811 or  
mo1call.com

**Contact Missouri One Call a least 3 days and not more than 10 days prior to digging.**

**<https://www.mo1call.com/>**

# PLANTING OPTIONS

AUGER



TREE PLANTING BAR



TRACTOR MOUNTED  
TREE PLANTER



# The Auger Transporter

Designed, built & patented by Christmas Tree Grower

**Lewis H. Bowser**

U.S. Patent 6125951

About us  
Videos  
Trade Shows  
Other Equipment  
Contact Us



Every plant deserves an augered hole for a perfect growing environment.

## New Features:



- **Echo 50 cc Engine & Transmission**
- **Anti-Torque & Vibration Isolation System**

The Echo 50 cc engine features more power with a proven dependable record. Six vibration isolators secured to the underside of the engine plate absorbs most of the vibration from the high powered unit. The transporter frame has been beefed up to insure a trouble-free and long lasting piece of equipment.

The Auger Transporter is very easy to operate; far safer than a hand-held earth auger; and gets the planting job done in much less time. Saves money! Used in nurseries, tree plantations, vineyards, berry production, vegetable transplants, lawn & garden jobs, etc.

Augered holes are proven to give the best growing environment for young plants. It loosens soil; provides large enough hole to properly position roots, preventing J-rooting; contains rain and irrigation; promotes rapid new growth. The proper RPM keeps the dirt mounded at the top of the hole.



# Trim Back to 3-5 Buds



Save as  
much root as  
possible.

# 4 hr. Max Soak in Water Prior to Planting





# Plants Sink in Loose Soil







Drip Irrigation,  
Maybe?

Grow tubes are good for  
herbicide spray & critter  
protection.







# PHENOXY Drift



**2,4-D & dicamba (Banvel)**

# Register Your Commercial Site on Driftwatch



## Map My Specialty Crops

Click here to sign up as a commercial crop producer.



## Map My Apiaries

Click here to sign up if you only keep bees.



## Applicator Registration

Click here to sign up if you are a licensed applicator.



<https://driftwatch.org>

## Misc. Horticulture Supplies

AM Leonard: <https://www.amleo.com/>

Forestry Suppliers: <https://www.forestry-suppliers.com/>

Gemplers: <https://www.gemplers.com/>

Hummert Intl.: <https://www.hummert.com/>

## Pesticides

Midwest Grower Supply, MO: <http://mwgsupply.com/>

Local Ag Dealers

## Posts

Farm Supply / Lumberyards/Fence Builders

Post Brokers

## Vineyard Equipment & Supplies

MDT & Associates, MN: <https://www.mdtgrow.com/>

Midwest Vineyard Supply, IL:

<https://www.midwestvineyardsupply.com/>

Oregon Vineyard Supply: <http://www.ovs.com/>

Spec Trellising, PA: <https://www.spectrellising.com/>

Midwest Grower Supply, MO: <http://mwgsupply.com>

Plantra: <https://www.plantra.com/>

Example  
Equipment & Input  
Suppliers



## Example Cold Hardy Grapevine Nurseries

Aberfoyle Nursery – MN: <http://www.aberfoyle.org>

Bevins Creek Vineyard – MN: <http://www.petitepearlgrape.com/>

Carlos Creek Winery – MN: <http://www.carloscreekwinery.com>

Double A Vineyards – NY: <https://doublevineyards.com/>

Grafted Grapevine Nursery – NY: <http://www.graftedgrapevines.com>

Hidden Hollow Nursrey – MN: <http://www.hiddenhollowvineyard.com/>

Inland Desert Nursery – WA: <http://www.inlanddesert.com>

Northeastern Vine Supply – VT: <http://www.nevinesupply.com/>

Seaway Grapevines – NY: <http://www.seawaycoldhardygrapes.com>

Silver Creek Nursery – IL: <http://www.silvercreekvineyards.com>

St. Francois Vineyard- MO: <http://www.stfrancoisvineyard.com>

Winterhaven Nursery – MN: <http://www.winterhavengrapevines.com/>

## Resources included at end of each ISU Wine Grower News

[Grapes e-Xtension](#)   [Iowa Wine Growers Association](#)

[ISU Viticulture Extension](#)   [ISU Midwest Grape & Wine Industry Institute](#)

[ISU 2019-20 Midwest Fruit Pest Management Guide](#)   [Northern Grapes Project](#)

[A Review of Cold Climate Grape Cultivars](#)   [Wisconsin Fruit News](#)

[VESTA \(Viticulture Enology & Science Technology Alliance\)](#)

[Dr. Tom Zabadal's YouTube Channel](#)

[Mike White's YouTube Channel](#)

The Vineyard Advisor FREE App

[iTunes App Store \(iPhone\)](#)   [Google Play \(Android\)](#)

[Growing Grapes in Minnesota 168 pp. Free Download from the MGGA](#)

with 14 Best Practice videos

[The Efficient Vineyard Project – Precision Viticulture](#)

[\*\*https://www.extension.iastate.edu/wine/growersnews\*\*](https://www.extension.iastate.edu/wine/growersnews)



# Wine Grower News

Weekly in-season  
viticulture/enology  
newsletter.

42 states, 12 countries

To Subscribe to this FREE Newsletter

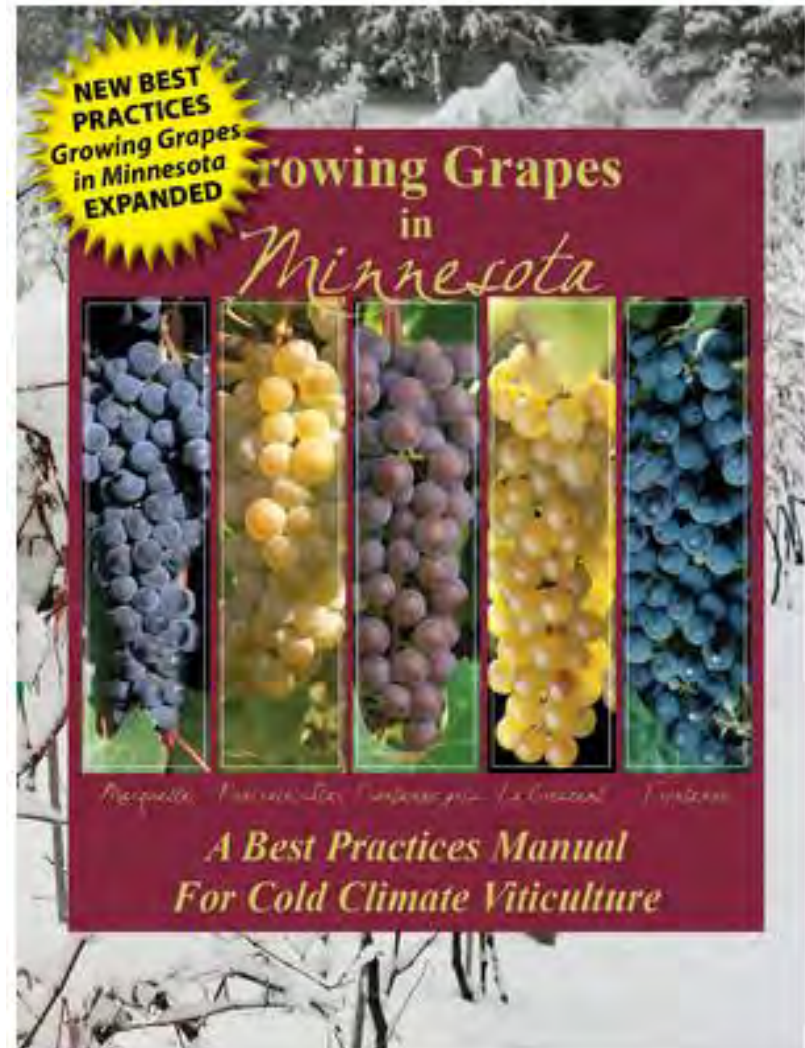
E-mail “ [mlwhite@iastate.edu](mailto:mlwhite@iastate.edu) “ with the word  
*subscribe* in subject line.

<https://www.extension.iastate.edu/wine/growersnews>



# Excellent Book from the Minnesota Grape Growers Association

- Chapter 1 Growing Grapes in Minnesota
- Chapter 2 Considering Growing Grapes?
- Chapter 3 Vineyard Economics  
Tables
- Chapter 4 Grape Cultivars for Minnesota
- Chapter 5 Starting the Vineyard
- Chapter 6 Care of Established Vineyards
- Chapter 7 Pruning
- Chapter 8 Canopy Management
- Chapter 9 Fertilization and Nutrition
- Chapter 10 Weed Control and Vineyard Floor Management
- Chapter 11 Winter Protection for Tender Cultivars
- Chapter 12 Vineyard Pest Management
- Chapter 13 Insect Pests of Grapes
- Chapter 14 Wildlife Pests of Grapes
- Chapter 15 Grape Maturation
- Chapter 16 Resources
- Chapter 17 Growing Grapes in Minnesota Tables



**166 pp. FREE Download**

## ***Last but not Least!***

**Spend your first year visiting as many Midwest Wineries, Vineyards and Vine/Wine Events as you possibly can prior to putting your business plan together.**

**What you think you know – you don't!**