

## Keys to Successful Vineyard Establishment



### Assumptions

- Site has been selected
- Water has been tested and is of good quality and quantity for irrigation
- Soil tests have been taken and fertility recommendations have been received

## Study!

- Learn as much viticulture as possible
  - Certificate Program
  - Read
  - Volunteer
    - Spend as much time in a vineyard as possible
    - Plant a backyard vineyard
    - Learn as many aspects of vineyard management as possible before your \$ is on the line

## Plan Your Vineyard

- Solidify your Dreams
  - Determine what you want your vineyard to be:
    - Hobby or Career?
    - + winery?
  - Talk to current growers
    - In your region and across the state
    - Build an information network
  - Utilize existing resources
    - Prospective Grower Workshop
    - Viticulture Advisors
    - Certificate Program

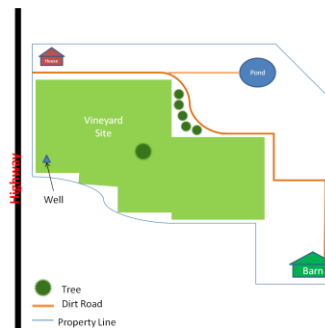
## Plan your Vineyard

- Set realistic 1, 5, and 10+ year goals
  - Start with 10+ and work back
    - Year 10+
      - Full time vineyard
      - 20 acres in production
    - Year 5
      - 10 acres planted
      - 2 varieties
    - Year 1
      - Land Cleared, Irrigation capacity matched goals
      - First 3 acres of vines planted



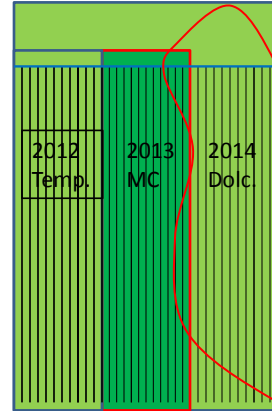
## Plan Your Vineyard

- Map your site
  - Rough outline of your property
    - Include major site features
      - Roads, Buildings
      - soil variability
      - water features
      - current and **FUTURE** buildings
    - Does not have to be perfectly to scale, but it helps



## Plan Your Vineyard

- Design your vineyard
  - Accurately design your vineyard based on your goals
  - Include complete vineyard layout
    - Planting blocks, by year and variety
    - Underground irrigation lines
    - Minimize soil variability within blocks



## Plan Your Vineyard

- Budget realistically
  - Time limitations
    - Full-time vs. Part-time
    - Available labor
  - Money
    - Vineyards are NOT cheap
    - Limits Flexibility
  - Anticipate the worst
    - If you plan for the worst you will never be disappointed!



## Variety Selection

- Criteria
  - Well suited to your environment
    - From a similar climate
    - Already grown in your area
  - Weather
    - Bud break, relative to other varieties
  - Disease risk
    - Not just PD
  - Yield and quality potential
  - Marketability



## Trellis and Plant Spacing

- Select your system and spacing based on:
  - Variety
  - Location
  - Acreage and land cost
  - Yield potential
  - Site potential
  - Weather challenges



## Trellising System

- Purpose of trellis
  - Support of permanent vine structure
    - Cordons
  - Facilitate canopy management
    - Light infiltration and air flow
    - Management of shoot growth
  - Reduce labor
    - Pruning
    - Harvest



## Plant Spacing

- Factors to consider
  - Site potential
    - High vigor site =  $\uparrow$  in row spacing
  - Weather
    - Retraining
  - Variety
    - Growth habit
    - Vigor



## Site Preparation

- Begin, at least one year prior to planting
  - Land clearing
    - No trees within your vineyard
    - Buffer zone
  - Eliminate highly competitive weeds
    - Bermuda Grass
  - Establish site appropriate cover crop



## Planting

- Maximize uniformity
  - Soil moisture
    - Too much **or** too little
  - Planting depth
    - Uniformity
      - Grafted vines should have the graft union 1-2" above the soil line
  - Timely
    - Get them in the ground
      - This is not something that you want to spread out over several weekends!



## Training

- Maximize uniformity
  - Uniformity within a vineyard is very, very important
  - Choose a single training system
    - Single trunk, bilateral cordons from laterals
  - No rushing!
    - Develop a significant, healthy root system
    - Don't try to force full cordon development in one season.

Year two is not important, year 22 is.

## Timing

- Time sensitive tasks must be done on time!
  - Training
    - Sucker removal
    - Tying
  - Pest control
    - Weeds, insects and disease
  - Canopy management
    - Shoot thinning, shoot positioning, green fruit drops etc.

## Control Competition

- Weeds and cover crop management
  - Weeds and cover crops
    - Compete for water, nutrients and light
    - Provide homes for insects
    - Excessive weeds **will** limit the young vines ability to grow
  - Utilize all options at your disposal
    - Chemical
    - Manual



## 6 Keys to Remember

- 🔑 Fully utilize existing resources
  - Viticulture Advisors, Great Vineyards Program etc.
- 🔑 Plan your vineyard like you would plan your retirement
  - Vineyards, like businesses, don't plan to fail, they fail to plan
- 🔑 Don't overload your boat
  - Avoid planting more vines than you can **properly** manage

## Points To Remember

### Be on time

- There is a time for everything – don't miss that time

### Be consistent

- Uniformity **must** be your goal

### Be persistent

- Vineyards are not planted for today but for tomorrow

**The following is a sample timeline for developing a vineyard, created by Mark Chien,  
Viticulture Extension Agent, Penn State University:**

1. Commit to becoming a premium wine grape grower.
2. Find vineyard site 0-2 years. Organize financing, create business plan. Start collecting local climate data. Make contacts with winery customers. Begin viticulture education process. Attend new grower workshops. Consider hiring consultants. Find a high quality vineyard and do intensive work internship during summer, harvest, pruning.
3. Year 0/summer: when soil is dry perform soil evaluation. GIS and GPS mapping of soils, slope, aspect, hazards, other topographic features that may influence development decisions. Create maps and an operational plan based on these data such as row direction, row length, vine spacing, trellis design, soil amendments, water development, cultivar, clone and rootstocks.
4. Year 0/fall: order plant materials from reliable nurseries for planting in Year 2 spring. Clear land and plant winter cover crop.
5. Year 0/winter: continue education, planning for upcoming season and review budgets, networking, attend winter meetings.
6. Year 1/spring: infrastructure development such as roads, fences, water source, etc. Preliminary soil preparation and weed control.
7. Year 1/summer-fall: when soil is dry, soil preparation including ripping, discing and leveling and soil amendments. Weed and vertebrate control. Install underground irrigation parts, develop surface and subsurface drainage (if rows are mapped). Check vines at nursery. Attend summer field day meetings.
8. Year 1/fall: weed control and winter cover crop, order trellis materials, reserve laser planter.
9. Year 1/winter: trellis system can be installed if hand planting. Arrange labor needs. Continue to develop infrastructure projects. Review budget and organize spring activities. Attend winter meetings.
10. Year 2/spring: final field prep, layout and marking field. Receive, prepare and plant vines, surface irrigation parts installation. Install trellis system. Grow tubes can be installed.
11. Year 2/summer: Early vineyard care begins. Early training and suckering according to vine vigor. Replants. Weed control. Irrigate and fertilize as needed. Spray vines for

insects and disease. Late summer remove grow tubes. Monitor vines closely for any problems.

12. Year 2/fall: in cold areas hill up over graft unions.

13. Year 2/winter: review the entire growing season – what went wrong or right. Figure out what needs to be done in Year 3? Attend winter meetings. Prune according to vine size.

All during this process you are educating yourself about growing wine, tasting local wines and visiting vineyards near and far, attending meetings and workshops, networking, etc.