

Starting a Grape Vineyard by Douglas Raine

Slide 1 Growing up on our family farm in Maryland was a wonderful experience. Just behind our water well was a concord grape arbor. The fragrance in the summer was very pleasing. Beyond the arbor was an apple orchard and to the west were cherry, apricot, persimmon and walnut trees.

As an adult business opportunities brought us to Texas.

I attended a symposium in 1979 in Bonham, Texas honoring Thomas Volney Munson, a viticulturist in the late 1800's who saved the French vineyards from a root disease called Phylloxera. The seminar was so powerful that I was ready to experiment with a few vines at our farm.

A drought destroyed our cotton crop that year and I was ready to put in a vineyard. I started with cuttings and even grafted / callused some as they were rooted in my greenhouse.

As a single parent I was struggling to raise my children, and I called out to God for help. God taught me how to be a father as I worked in the vineyard.

This seminar will focus on growing seedless table grapes.

Slide 2 Growing Grapes and Their Uses

Slide 3 Introduction

Grapes are the oldest cultivated plant throughout the world. This presentation will define the grape and inform you of general information, nutritional facts, and list a variety of seedless table grapes. I explain the parts of the plant, site selection, planting, pruning, harvesting and picking, and diseases. We hope you find this seminar an excellent resource. Let's start out by asking "What is a grape?"

Slide 4 Grape (grap),n. derived from an Old French word "grape" meaning "bunch" or "cluster," also a find of hook used to harvest grapes. Compare to the English word "grapple."

Slide 5 General Information

Grapes do not continue to ripen after they have been picked.

Woody vine

Perennial Portions:

*roots

*trunk

*perhaps cordons

Compound buds

Slide 6 More General Information...

Grapes are about 80% water

Grapes also add fiber to the diet

Red grapes are rich in quercetin, a newly discovered anticancer agent that the University of California lab studies have shown can suppress malignant cells before they form tumors.

The mineral "boron" (found in apples, grapes, grape juice and raisins) may retard bone loss in women after menopause. Also, boron helps women on ERT (estrogen replacement therapy) keep the estrogen in their blood longer.

Slide 7 Nutritional Facts

Serving size 1.5 cups (138g/14.9oz.)

Amounts per Serving % Daily Value*

Calories 90

Calories from Fat 10

Total Fat 0 grams

Sodium 0 mg 0%

Potassium 270 mg 8%

Total Carbohydrate 24g 8%

Dietary Fiber 1g 2%

Sugars 23g

Protein 1g

Vitamin A 2%

Vitamin C 25%

Calcium 2%

Iron 2%

Slide 8 Varieties of Grapes

Grapes come in three basic colors: green (sometimes called white), red, and blue-black.

More than 50 kinds of grapes are in production in NE Texas.

Each variety has its own distinct color, taste, texture and history.

Slide 9 Variety of Grapes

Himrod Seedless

Ripens Early September - A delicious grape, one of the finest of the seedless varieties. The clusters are large but rather loose; berries are medium size, oval, yellow and sweet.

Slide 10 Varieties of Grapes

Thompson Seedless

This light-green grape was probably the first variety of table grapes commercially produced in California. Its popularity endures as it is still one of the best selling varieties in America. These elongated sweet berries pack a punch of flavor.

Slide 11 Varieties of Grapes

Flame Seedless

Summer's favorite grape! These grapes are sweet and red, with a large round berry, a distinctive mild sweet/tart flavor, crisp skin and firm juicy pulp. Try them frozen as an easy but special summer treat.

Slide 12 Varieties of Grapes

Ruby Seedless

Grown for its large clusters of small to medium berries, Red to reddish-black berry color. Sweet dessert fruit.

Slide 13 Varieties of Grapes

Beauty Seedless

Originating in Davis, California, this firm, bluish-black grape has a spicy taste and a tender flesh. Beauty Seedless ripens very early and shows a distinctive blue-green foliage.

Slide 14 Varieties of Grapes

Fantasy Seedless

This large, firm, thin-skinned variety has oval berries that are shades of dark purple, blue and black

Slide 15 Varieties of Grapes

Marroo Seedless

This blue-black variety originated in Australia. When you cross the Carolina Blackrose grape with the Ruby Seedless you get the Marroo Seedless variety, with its medium-sized, firm, juicy berries.

The taste has a mellow, juicy flavor.

Slide 16 Parts of a Grape Vine – root system, trunk, head, cordon, spur, bud, leaf, cluster, tendril, cane, internode, node.

Slide 17

Site Selection and Preparation

Grapes require full sunlight.

Adequate drainage and moisture retention, required

The best soils are looms or sandy looms with organic matter.

Grapes grow best in soil with a pH range of 5.5-6.6

Rows should usually run north and south. This allows the plants to get maximum sunlight and less wind damage.

Slide 18 Planting

Plant your vines in early spring

Grapes do not like weeds so till the soil well and remove all the weeds and grass. Dig a nice big hole so the roots can spread out. Grapes need summer heat to develop and will produce the best grapes late in the season.

Slide 19 Planting continued...

If possible arrange the rows in a North-South orientation to allow maximum exposure to the sun.

For backyard planting, nine feet is suitable.

For larger plantings, ten feet is suitable.

Water newly planted vines every day.

Plant in straight rows for easier manageability, and to reduce trellis costs.

Spread the roots out when you plant, giving them room.

Once you plant the grape, prune back to three buds.

Slide 20 Pruning

Before pruning, an average grapevine may have 200 to 300 buds which are capable of producing fruit. If the vine is left unpruned, the number of grape clusters would be excessive. The vine would be unable to ripen the large crop or sustain adequate vegetative growth. The purpose of pruning is to grow yields of high quality and to allow better growth for the following season.

Slide 21

The more common training systems for the home garden are the four-cane Kniffin. The four- cane Kniffin is popular because of its simplicity. This system is characterized by four canes, two on each side of the trunk, trained onto two trellis wires. In addition, four very short canes (termed renewal spurs) are also retained. The renewal spurs contain one or two buds and are very important in the training system. The buds on the renewal spurs provide shoots and ultimately the canes for next year's crop. Please see pruning diagrams. Before pruning grapes, an understanding of the growth and fruiting characteristics of the grapevine is helpful. Grapevines produce fruit clusters on the previous season's growth (two-year and older wood is not fruitful). The most desirable time to prune grapevines is in late winter or early spring. (Grapevines pruned at this time of year will bleed heavily. However, the bleeding will not harm the vines.) The degree or extent of pruning is dictated by vine vigor. Vine vigor is determined by estimating the amount of the previous season's growth. This concept is called "balanced pruning."

The first step in balanced pruning of grapevines is to size up the vine and estimate the amount of one-year-old wood in pounds. Select and retain the appropriate number of fruiting canes from those on the upper portion of the vine. Remove all the other one-year-old canes, except for the short renewal spurs. Then weigh the pruned canes. The weight of the canes is used to determine the number of buds to retain on the grapevine. To determine the number of buds to leave, use the following balanced pruning formula: "30 plus 10." For the first pound of canes removed, leave 30 buds. For each additional pound, leave an additional 10 buds. When counting the number of buds to be retained on the grapevine, include the buds on the fruiting canes and also on the renewal spurs. The balanced pruning concept is illustrated in the following examples.

A grapevine had two pounds of canes removed at dormant pruning. The gardener would therefore leave 30 buds for the first pound of canes, plus an additional 10 buds for a total of 40 buds. If the four-cane Kniffin system is utilized, the four main canes would each have 8 to 9 buds. Four renewal spurs containing one or two buds would also be retained. The total number of buds should equal 40. If a vine had three pounds of canes removed, the grower should leave 30 buds for the first pound of canes, 10 for the second pound, plus a final 10 for the third pound, or a total of 50 buds.

Slide 22 Harvesting and picking

After 3 or 4 years each vine will produce 12-15 pounds of grapes (about 45 bunches).

Wait until they separate easy from the seeds to pick.

Pick on a dry day, wet grapes spoil quickly.

Slide 23 Diseases

Like people, plants can catch, spread and suffer from various diseases also.

Here is some information on certain diseases along with some solutions and cures.

Slide 24 Rootworm Damage of Grape Roots

Species of a leaf beetle

Seriously damages commercial vineyards

Larvae – (according to Webster's dictionary) is the immature, wingless, and often wormlike feeding from that hatches from the egg of many insects, alters chiefly in size while passing through several molts, and is finally transformed into pupa or chrysalis from the adult emerges.

Slide 25 Rootworm continued...

Produces only one generation a year

Begins as an egg which is deposited under the bark of grape vines, by adult female

It will spend nine to ten months in the immature larvae stage in soil feeding on roots

As an adult, it feeds on grape foliage

An insecticide can get rid of these pests.

Slide 27 Phylloxera

Phylloxera is a yellow aphid (type of insect), which feeds on vine roots and leaves. The feeding causes galls to form on the developing leaves or roots. The aphids live on the surface of the root galls and inside the leaf galls.

The solution to Phylloxera is to graft onto root stock resistant to Phylloxera.

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Please see www.growersupply.com for grafting grape cutting tool. Use cuttings known to grow well in your soil as root stock and graft to desired cutting variety. Cuttings should be made from well-matured dormant canes of the preceding year's growth. The preferred cane size is 1/4 inch to 3/8 inch in diameter with 4- to 6-inch internodes.

Always make sure that nodes are pointing up. For root stock cuttings cut straight across basal node and make graft cut 2-3" above second node. Now we make the graft cut on the desired variety cutting well below the node that is pointing up. It will fit together like a puzzle. Wax coat graft and tape. I like to make a diagonal cut above the third node of the desired variety. Our new grafted bundles are wrapped in newspaper and dipped in a fungicide solution. They are placed in a black plastic bag and stored in a cold dark room for callusing. After six to eight weeks cuttings are moved to the nursery and allowed to

mature during the growing season. After one year the vines are moved to vineyard and the strongest cane is selected and cut back to 3 buds or nodes. All other canes are removed. Cuttings usually are made in late fall or early winter. Each cutting should contain three to four buds, although two-bud cuttings are satisfactory in mist or greenhouse propagation. Make the basal cut just below the lower bud, and the upper cut 1 to 2 inches above the top bud. Make cuts so that the upper and lower ends of the cutting can be easily identified.

As soon as the soil can be worked in spring, remove cuttings from storage or the trench and plant them in nursery rows. The rows should be located on deep, well-drained, fertile soil that is in a good state of till. Space rows 3 to 4 feet apart and make a furrow 6 to 7 inches deep. Set cuttings vertically in the furrow about 5 inches apart and firm soil with the top bud just above the soil surface.

As the season advances, shoots will develop from the above-ground bud, and roots will develop from the nodal regions below ground. Vines should be maintained in the nursery row in a high state of vigor during the growing season. Control of diseases, insects, and weeds in the nursery row is critical. Regular watering and application of fertilizer will ensure adequate growth. New vines will be ready for planting in the vineyard early the next spring. To compensate for cuttings that do not survive, start about twice as many cuttings as vines required.

Slide 29 About Champanel Grape Vine...

Champanel is suitable for the humid Southern climate. It is very resistant to heat and drought with good Pierce disease resistance and cotton root rot. This large black grape with nice white blooms has strong thin skin with a tender, juicy inside. This plant adapts well in any soil, including alkaline and black soils with a pH 7-8.5. The Champanel grape produces large, loose clusters of grapes that ripen in early August.

Slide 30 TABLE GRAPES (Order Now)

HIMROD - Small, white seedless. A cross of the Thompson Seedless and Ontario. Will grow and produce in more humid areas than the

Thompson Seedless.

THOMPSON SEEDLESS - A long time favorite. This variety does best in low humidity areas.

FLAME SEEDLESS - A red skin seedless with firm flesh. Very productive, good eating quality.

MARS - (PP5680) - A blue seedless grape. Resistant to mildews. Fruit is good size and holds up well for shipment. Ripens mid August.

RELIANCE - (PAT. #5174) - A very sweet, pink seedless table grape. Ripens early August. Adapted to wide area. Medium size plants.

Womack Nursery Co. 2551 State Hwy 6 De Leon, TX 76444-6333

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Conclusion: The Parable of the workers in the Vineyard

It is not uncommon to use day laborers during the harvest. The early morning workers wanted a wage contract with the owner; whereas laborers hired during the remainder of the day were content with the generosity of the landowner

Matthew 20:1-16 New International Version (NIV)

The Parable of the Workers in the Vineyard

1 “For the kingdom of heaven is like a landowner who went out early in the morning to hire workers for his vineyard. 2 He agreed to pay them a denarius[a] for the day and sent them into his vineyard.

3 “About nine in the morning he went out and saw others standing in the marketplace doing nothing. 4 He told them, ‘You also go and work in my vineyard, and I will pay you whatever is right.’ 5 So they went.

“He went out again about noon and about three in the afternoon and did the same thing. 6 About five in the afternoon he went out and found still others standing around. He asked them, ‘Why have you been standing here all day long doing nothing?’

7 “‘Because no one has hired us,’ they answered.

“He said to them, ‘You also go and work in my vineyard.’

8 “When evening came, the owner of the vineyard said to his foreman, ‘Call the workers and pay them their wages, beginning with the last ones hired and going on to the first.’

9 “The workers who were hired about five in the afternoon came and each received a denarius. 10 So when those came who were hired first, they expected to receive more. But each one of them also received a denarius. 11 When they received it, they began to grumble against the landowner. 12 ‘These who were hired last worked only one hour,’ they said, ‘and you have made them equal to us who have borne the burden of the work and the heat of the day.’

13 “But he answered one of them, ‘I am not being unfair to you, friend. Didn’t you agree to work for a denarius? 14 Take your pay and go. I want to give the one who was hired last the same as I gave you. 15 Don’t I have the right to do what I want with my own money? Or are you envious because I am generous?’

16 “So the last will be first, and the first will be last.”

Interpretation: Peter was startled with what he had just witnessed with the rich young ruler and asked Jesus “We have forsaken all, and followed Thee; what shall we have therefore?(Matthew 19:27...” Jesus gave the apostles a marvelous promise of reward in this life and the next. They would even share

thrones when His kingdom was established. However, Jesus detected in Peter's question the possibility of a wrong motive for service. This was why He added the warning that some who were first in their eyes would be last in the judgment. The parable is emphasizing a right attitude.

The initial workers wanted a wage contract with the owner; whereas laborers hired during the remainder of the day were content with the generosity of the landowner.

Every group of labors were paid one penny. Can you imagine how each group felt; especially the first group. The first group worked for 1/12 of a penny per hour for the entire day, but everyone received the same pay at the end of the day. Here is the lesson that Christ's disciples would learn. We should not serve God for what we want to receive and expect a reward and we should not insist on knowing what we will get. God is infinitely generous and gracious and will always give us better than we deserve. Jesus came to do heart surgery on the people of this world. Click on the following hyperlink and find out how to be born again. Click hyperlink and take the 2 Question Test: <http://fgbt.org/BMP-Hyperlinks/twoquestiontest.html>.

Slide 32 Enjoy Starting Your Grape Vineyard.