GRAPES FARMING

SOIL REQUIREMENTS: -

- Grapes require well-drained soils that are deep and fertile. The ideal soil for grape farming is loamy, with a pH between 6.0 and 7.0.
- Grapes require adequate supplies of essential nutrients such as nitrogen, phosphorus, potassium, and calcium. The soil should be rich in organic matter and should be regularly fertilized with appropriate nutrients.
- The ideal soil pH for grape farming is between 6.0 and 7.0. Soil pH outside this range can affect nutrient availability and plant growth.
- Grape vines grow best in soils with a loamy texture, which allows for good drainage and aeration. Sandy soils may be too porous and not retain enough moisture, while clay soils may be too heavy and not allow for proper drainage.

CLIMATE & TEMPARATURE: -

Grape farming is a temperate climate crop and requires specific climatic conditions for optimal growth and yield. Here are some of the key climate and temperature requirements for grape farming:

- **Temperature:** Grapes require warm temperatures during the growing season, with an average temperature range of 15°C to 20°C (59°F to 68°F) being ideal for most grape varieties. However, temperatures above 35°C (95°F) or below -10°C (14°F) can be damaging to the plants.
- **Sunlight:** Grapes need a lot of sunlight to ripen properly, so regions with long, sunny days are ideal for grape farming. A minimum of 6 hours of direct sunlight per day is required for good growth and yield.
- **Rainfall:** Grapes require a moderate amount of rainfall during the growing season, with around 600-800 mm (24-32 inches) of annual precipitation being ideal. Too much rainfall can lead to disease and fungal infections, while too little can stress the plants and reduce yield.
- **Humidity:** High humidity can also lead to disease and fungal infections, so regions with lower humidity are generally better for grape farming. Humidity levels between 40% and 70% are generally considered optimal.
- **Wind:** Grape vines can be damaged by strong winds, so regions with sheltered locations or windbreaks are preferred.

VARIETIES OF GRAPES: -

1.Moon Drops:

- Moon drops are a type of purple grapes with almost black skin. These finger-like shaped grapes have a crunchy texture and firm flesh, making them a perfect snacking option, and you can refrigerate them for days. The taste of the Moon drop grapes is like a grape jelly which is sweet but not too sugary. The Grapery developed these grapes in Bakersfield, and the name comes from its unique shape.

2.Concord:

- Concord grapes are an heirloom grape variety known for their characteristic dark grape flavour, bright and sweet. This cultivar was developed in a small farmstead outside of Concord, Massachusetts, by a Boston native Ephraim Wales Bull in 1849. These grapes smell fantastic and have large seeds and easy-to-peel skins**.**

3. Pinot Noir:

- Pinot Noir is one of the popular champagne grape varieties initially grown in the Burgundy region in France. But now, these grapes are cultivated all around the world. Pinot Noir grapes are usually found in deep purple fruits with thin skin clumps. These grapes have caramel, earthiness, ripe cherry, and wild strawberry aromas and flavours, making them a perfect wine grape.

4.lemberger: -

- Lemberger or LaFrance’s is a red wine grape variety that is dark-skinned and is a late-ripening variety. The pronounced spicy character is one of the prominent features of this grape variety used in preparing dark tannic wines with subtle tones of spice. These plump grapes have a tannic berry essence with a dusty blue colour.

PLANTING SESSION & MATERIAL: -

- Choose a site with well-drained soil, good air circulation, and plenty of sunlight. Avoid areas prone to frost, as this can damage the grapes.
- The soil should be tested to determine its pH level and nutrient content. Add any necessary amendments to adjust the pH and provide the necessary nutrients. This may include adding compost, manure, or other organic matter.
- Choose a grape variety that is well-suited to your climate and soil conditions. Consult with a local nursery or agricultural extension office to determine the best varieties for your area.
- Grape vines should be planted in early spring, as soon as the soil can be worked. Dig a hole large enough to accommodate the root ball and plant the vine at the same depth it was planted in the nursery.
- Grapes need a trellis system to support their growth and keep the fruit off the ground. The trellis can be made of wood or metal and

should be strong enough to support the weight of the vines and fruit.

- Grapes need regular watering, especially during hot, dry weather. Drip irrigation is the most efficient way to water grape vines.
- Grapes should be fertilized in early spring and again in midsummer. Use a balanced fertilizer that contains nitrogen, phosphorus, and potassium.
- Grapes should be pruned in late winter or early spring to remove old wood and stimulate new growth. Pruning also helps to control the size and shape of the vine.
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PLANTING METHOD: -

Site preparation: Clear the planting site of weeds, rocks, and other debris. Test the soil to determine its pH level and nutrient content. Amend the soil as needed to provide the necessary nutrients.

Digging holes: Dig holes that are at least 2 feet deep and 2 feet wide. Space the holes 6 to 8 feet apart in rows that are 8 to 10 feet apart. Make sure the rows are oriented north to south to maximize sunlight exposure.

Planting the vines: Remove the grapevines from their nursery containers and gently loosen the roots. Place the vine in the hole, making sure the graft union is above the soil line. Backfill the hole with soil, tamp it down gently, and water the plant thoroughly.

Trellising: Install the trellis system according to your plan, making sure it is sturdy and able to support the weight of the vines and fruit.

Mulching: Apply a layer of mulch around the base of the grapevine to help retain moisture and suppress weeds.

Watering: Water the grapevines regularly, especially during the first year after planting, to help them establish a strong root system.

Pruning: Grapevines should be pruned in late winter or early spring to remove old wood and stimulate new growth. Pruning also helps to control the size and shape of the vine**.**

FERTILIZERS: -

Grapes require a balanced supply of essential nutrients for optimal growth and fruit production. While soil amendments like compost and manure can improve soil quality, additional fertilizers may be necessary to provide specific nutrients that are lacking in the soil.

- Nitrogen (N)
- Phosphorus (P)
- Potassium (K)
- Calcium (Ca)
- Magnesium (Mg)

PESTS AND DISEASES: -

Grape phylloxera: This insect pest attacks the roots of grapevines, causing stunted growth and decline in vine health. It is a major threat to vineyards worldwide and can be controlled with rootstock selection, soil treatments, and insecticides.

Grapevine mealybug: This pest feeds on grapevine sap and can transmit viruses that weaken the vine and reduce fruit quality. Control measures include insecticides, cultural practices, and biological control agents.

Powdery mildew: This fungal disease can cause damage to grape leaves and fruit, leading to reduced yield and quality. Control measures

include fungicides, pruning, and cultural practices to reduce humidity and promote good airflow.

Downy mildew: This fungal disease can cause leaf discoloration and fruit rot, leading to reduced yield and quality. Control measures include fungicides, pruning, and cultural practices to reduce humidity and promote good airflow.

Botrytis bunch rot: This fungal disease can cause rotting of grape clusters, leading to reduced yield and quality. Control measures include fungicides, pruning, and cultural practices to reduce humidity and promote good airflow.

Leafhoppers: These insect pests can cause leaf discoloration and reduce vine growth and yield. Control measures include insecticides, cultural practices, and biological control agents.

Birds: Birds can cause significant damage to grape clusters, reducing yield and quality. Control measures include netting, scare tactics, and other deterrents.

HARVESTING OF GRAPES: -

- Grapes can be harvested by hand or machine. Hand harvesting is often preferred for premium wine grapes, as it allows for selective picking and careful handling of the grapes. Machine harvesting is more efficient and cost-effective but can be rough on the grapes and may require additional sorting and processing.
- After harvest, the grapes are sorted to remove any damaged or unripe grapes. The grapes may then be destemmed, crushed, and pressed, depending on the intended use. For wine grapes, the juice is typically fermented and aged before bottling, while for table grapes, the grapes may be packaged and sold as-is or processed into juice, jams, or other products.

- Grapes should be stored in a cool, humid environment to prevent drying out and decay. For short-term storage, grapes can be stored in the refrigerator. For longer-term storage, grapes can be stored in a cold room or cellar, or frozen for later use.