

# “ INDIAN GRAPE VARIETIES ”



# INTRODUCTION

- Cultivated grapes are believed to have been introduced into the north of India by the Persian invaders in 1300 AD, from where they were introduced into the south.
- Famous Indian medicine scholars, Sasruta and Charaka in their medical treatises entitled '*Sasruta Samhita*' and '*Charaka Samhita*', respectively, written during 1356-1220 BC, mentioned the medicinal properties of grapes.
- Kautilya in his '*Arthashastra*' written in the fourth century BC mentioned the type of land suitable for grape cultivation.

# “CLIMATE AND GRAPE GROWING REGIONS”

- ❖ The Western Ghats have laterite soils which are rich in iron with good drainage. They vary from sandy clay loam and red laterite, basalt rock to murrum soils, all well suited for wine grape cultivation.
- ❖ The summer growing season in India tends to be very hot and prone to monsoons. Many of India's wine regions also fall within the tropical climate band.
- ❖ Summertime temperature can get as hot as 113 °F (45 °C) and wintertime lows can fall to 46°F (8°C). During the peak growing season between June and August, rainfall averages 25–60 inches (625-1,500 mm).
- ❖ Grapes are usually harvested at the end of winter (January–March), which helps to expose the crop to warm days and cool nights. This exposure aids in the slow maturation of the grapes, enhancing their quality.

# “CLIMATE AND GRAPE GROWING REGIONS”

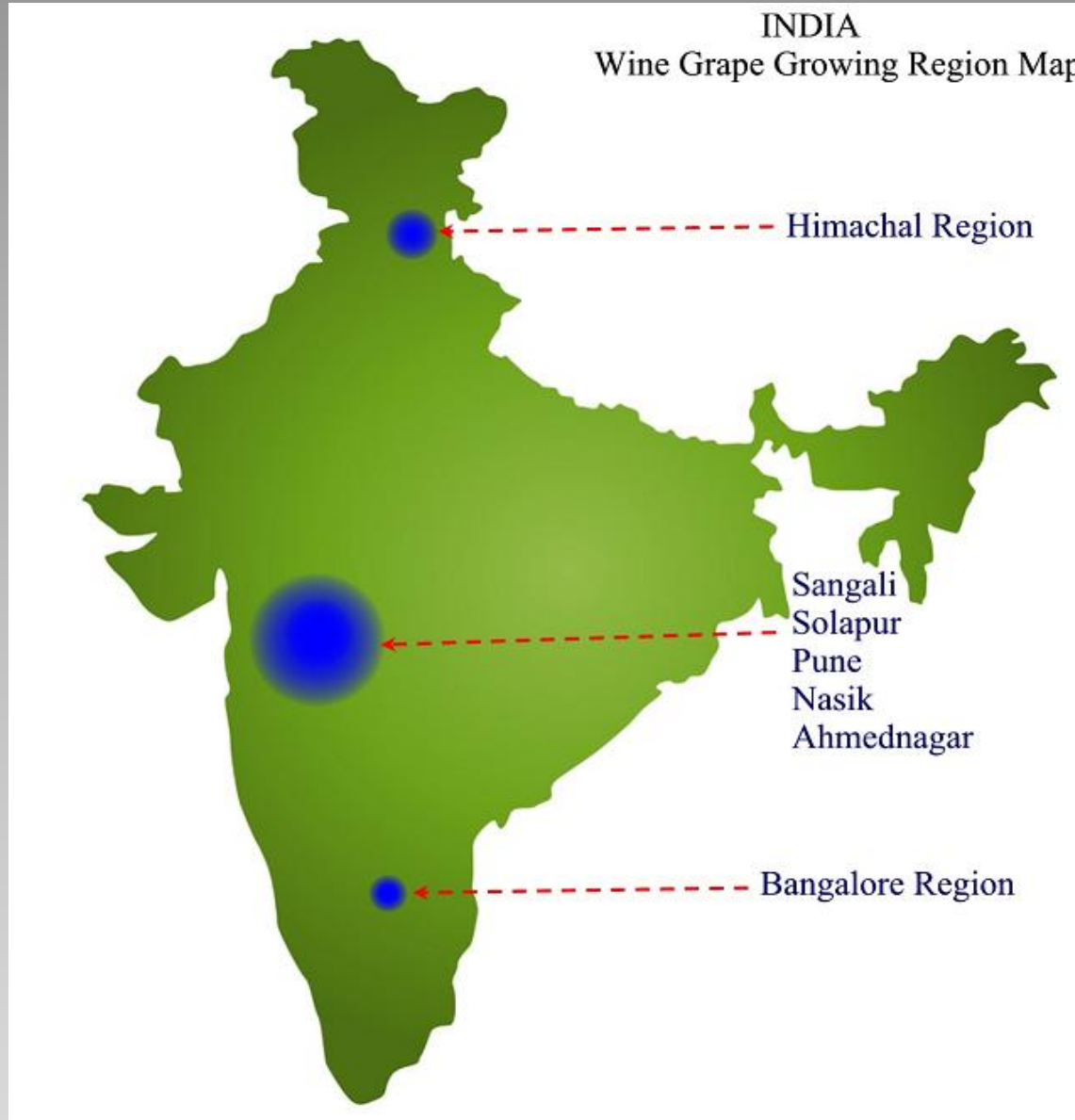
- ❖ Vineyards are then planted at higher altitudes along slopes and hillsides to benefit from cooler air and some protection from wind. The altitude of India's vineyards typically range from around 660 ft (200 m) in Karnataka, 984 ft (300 m) in Maharashtra, 2,600 ft (800 m) along the slopes of the Sahyadri to 3,300 ft (1000 m) in Kashmir.
- ❖ The commonly followed trellising system which are suitable for Indian climate includes VSP, “Y”, Pergola(bower) trellising system.

## “GRAPE GROWING REGIONS”

- Vineyards in India range from the more temperate climate of the northwestern state of Punjab down to the southern state of Tamil Nadu.
- **Nasik Region (Maharashtra State):** Biggest wine producing region in India. This region includes Pune, Nasik and Ahmed Nagar. It is above 800 meter sea level. Several top wineries are located in this area including Chateau Indage and Sula Wines.
- **Sangali Region (Maharashtra State):** This region includes Solapur, Sangali, Satara and Latur. It is above 800 meter sea level.
- **Bangalore Region (Karnataka State):** Nandi Hills located about around 45 kilometer North of Bangalore City. Grover Vineyards is located in Nandi Hills. It is above 800 meter sea level.

- **Himachal Region:** It is located at Northern India. This region covers the northwestern plains corresponding to 28° and 32° N latitude, It is upcoming state for the wine production. Temperature varies from 20 C to 40 C. Unique Climate of this region attracts the wine makers to produce delicate wine grapes.
- **Nasik, Sangali and Karnataka regions** are the major wine grape producing regions in India, lying between 15° and 20° N latitude which account for 70% of grape production in India.....

# INDIAN WINE GRAPE GROWING REGION MAP



# The Nasik Region

- Nasik is situated 2,000 feet above sea level in the Western Ghats of India. Located in northern Maharashtra - approximately 200 km from Mumbai and Pune - it is an important industrial and agricultural area.
- Globally, 95-97% of grape cultivation is devoted to wine grapes. Until recently, though, almost 99% of the grapes cultivated in India were table grapes, and most of them came from Nasik. With the demonstrated success of wine grape cultivation in the region, however, more and more producers are switching from table grapes to wine grapes.
- Sula Vineyards owns over 300 acres of land in the Gangapur and Dindori districts of the Nasik region, out of which 180 acres are currently under plantation. Another 200 acres are under plantation by contract farmers.
- Varietals planted include Chenin Blanc, Sauvignon Blanc, Cabernet Sauvignon, Shiraz, and Zinfandel. Experimental research is currently focused on Muscat, Riesling, Roussanne, Viognier, Grenache, and Merlot.

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- The Nasik region consists of two rainfall zones. The first is high rainfall (80-100cm) hilly Konkan area in the west and the second is the lower rainfall fertile plain to the east. Being at an elevation, vineyards in the Dindori region are assured of ample rainfall. In addition, seven of nineteen dams in the Nasik region are located in Dindori. The Kadava and Kolvan rivers- tributaries of the Godavari, pass through this area as well, further augmenting the availability of water throughout the year.

# INDIGENOUS GRAPE VARIETIES

- India is home to several indigenous table grape varieties that can also be used in wine production with
- Anab e' shahi, Arkavati and Arkashyam being the most common.
- Popular non-native grapes include the Bangalore Blue (Isabella) and Gulabi (Black Muscat).  
The Turkish grape Sultana(Thompson seedless) is the most widely planted grape in India, cover more than half of the 148,000 acres(60,000 ha) planted in the country.
- In addition to the imported varieties that are planted, Sauvignon blanc, Zinfandel, Chenin blanc and Chardonnay have started to establish a presence in the Indian wine industry. Experimental research is currently focused on Muscat, Riesling, Roussanne, Viognier, Grenache, and Merlot.

# “INDIAN WINE GRAPE VARIETIES”

- Red wine Grape varieties

1. Cabernet Sauvignon.
2. Shiraz.
3. Zinfandel.
4. Merlot.

- White wine Grape varieties

1. Sauvignon Blanc.
2. Chenin Blanc.
3. Viognier.
4. Chardonnay.

# “RED WINE GRAPE VARIETIES”

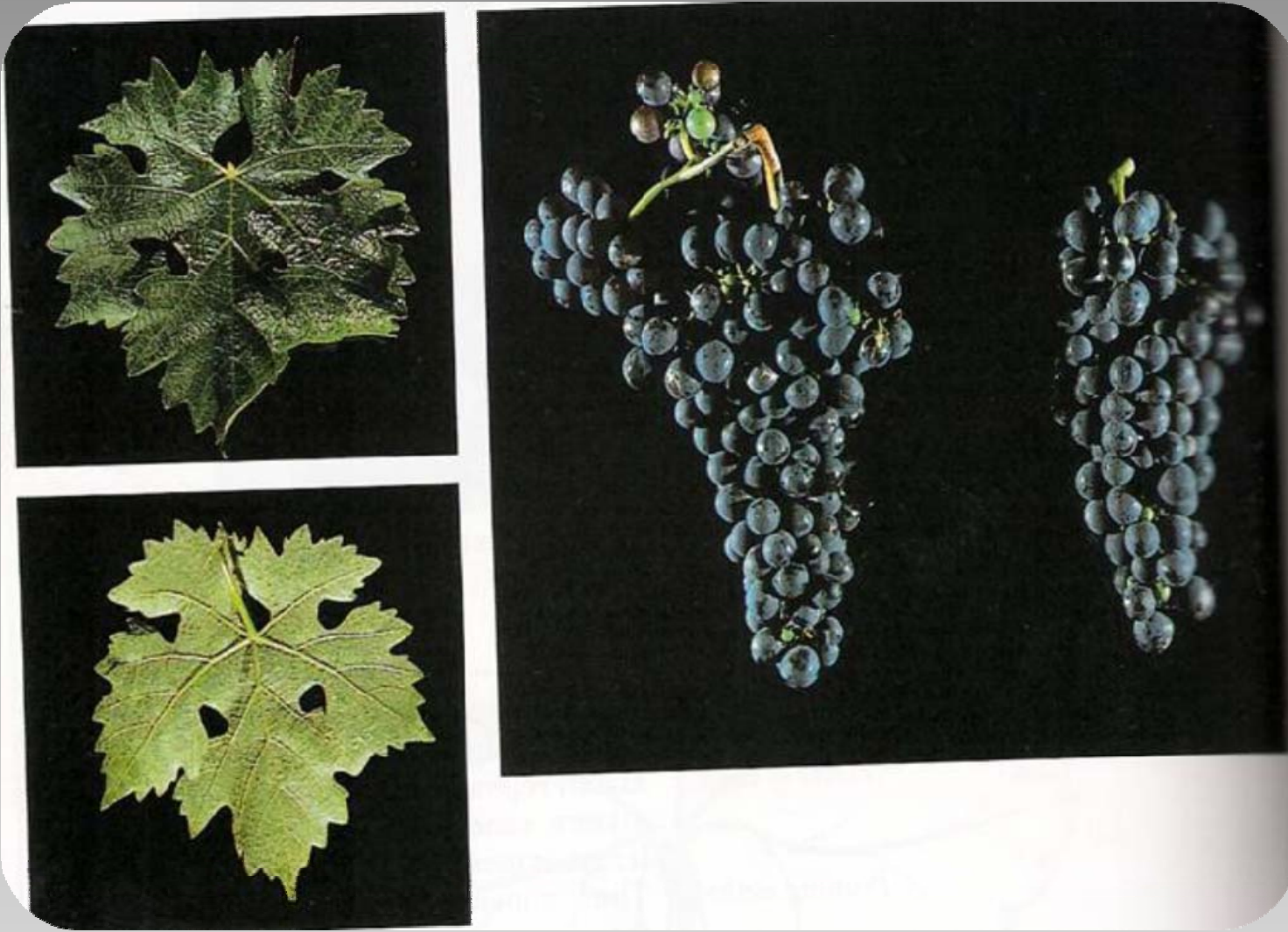
- Cabernet Sauvignon

**Origin** :This variety is native of Bordeaux(France). Bordeaux has used the grape since the 18<sup>th</sup> century, always blending it with Cabernet Franc, Merlot. It is the most well known Red grape cultivar.

**Characteristics** : Reddish young leaves with bronze spot, Mature leaves are circular with 5 to 6 lobes, Upper leaf sinuses are U-shaped, Rounded small size berries.

**Sensory Attributes:** Wines are dark & rich in tannins.

# Cabernet Sauvignon.



- Shiraz (Syrah)

**Origin :** This variety is likely a native of the Persia.

**Characteristics :** Young green leaves, with five lobes, Open lower lateral sinuses: short to medium teeth with both sides convex.

**Sensory Attributes:** Wines are of good quality with high alcohol level. They lack acidity. The grape seems to grow well in a number of areas and is capable of rendering rich, Complex, very colored and powerful wines and smooth tannins with thick skin .

# SHIRAZ (SYRAH)



- Zinfandel (Primitivo)

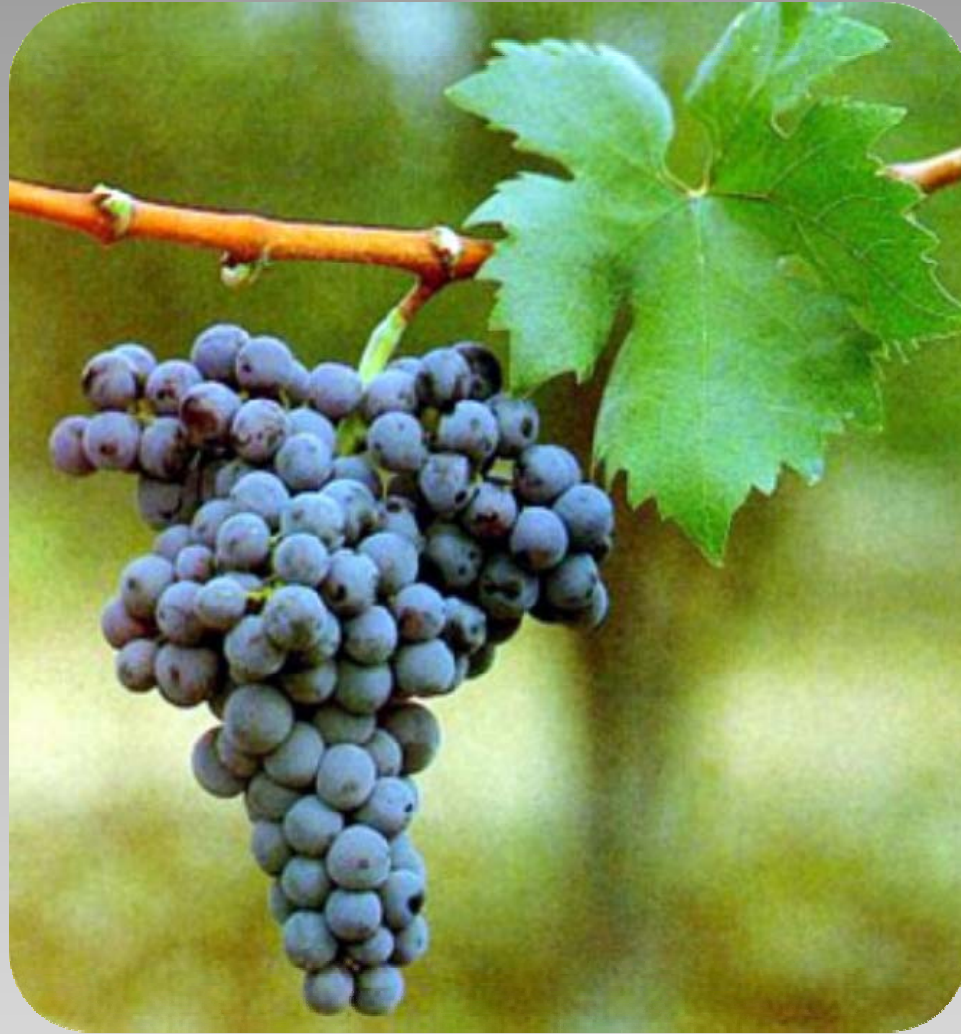
**Origin:** come from southern Italy known as cousin of Primitivo.

**Characteristics:** quite vigorous and grows best in warm but not too hot climate, thin skinned large size grapes. It used also for Rose wine production in India.

**Sensory Attributes:** With style of wine production it varies from light body to full bodied. Intensely flavored and firmly tannic wine designed to age. It produces robust red wine, raspberry, blackberry, pepper predominates in wine.



# ZINFANDEL



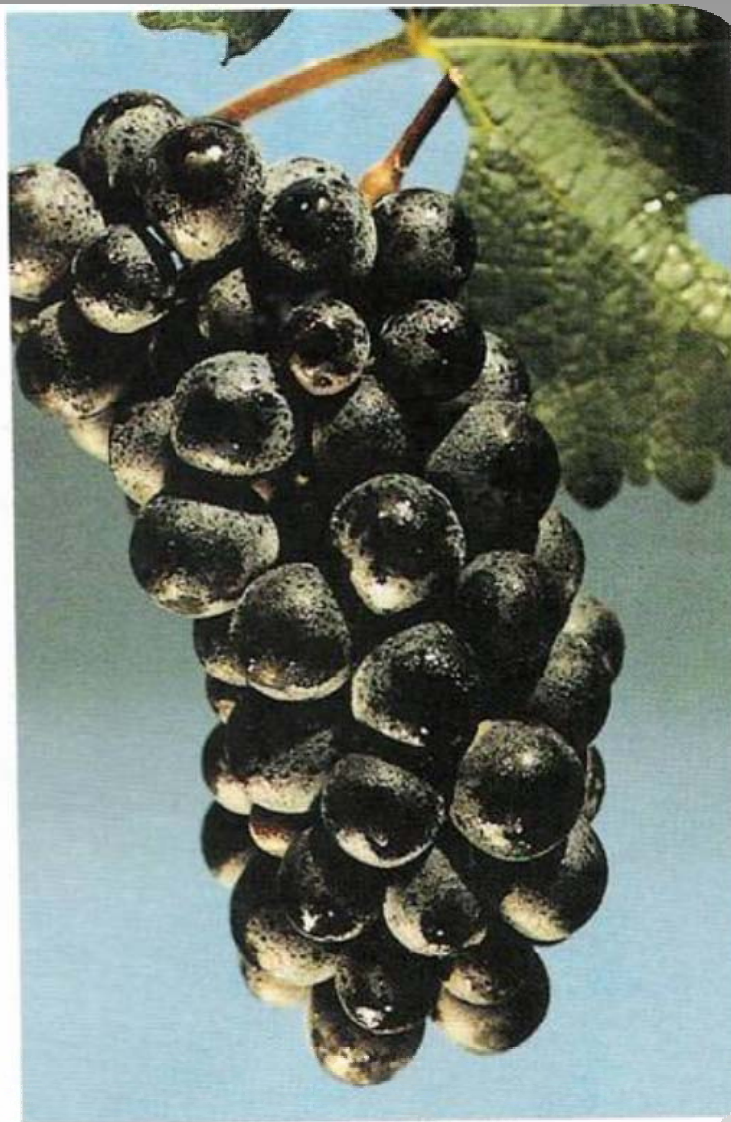
- Merlot

**Origin:** Merlot belongs to Bordeaux.

**Characteristics:** Identified by loose bunches of large berries, thinner skin and fewer tannins as compared to Cabernet Sauvignon, higher sugar and lower malic acid content.

**Sensory Attributes:** Currant and cherry flavours and firm tannins, Strawberry, Plum, fruit cake, tobacco, cedar, chocolate flavours

# MERLOT



# “WHITE WINE GRAPE VARIETIES”

## SAUVIGNON BLANC

### **Origin :**

- Bordeaux region of the France.

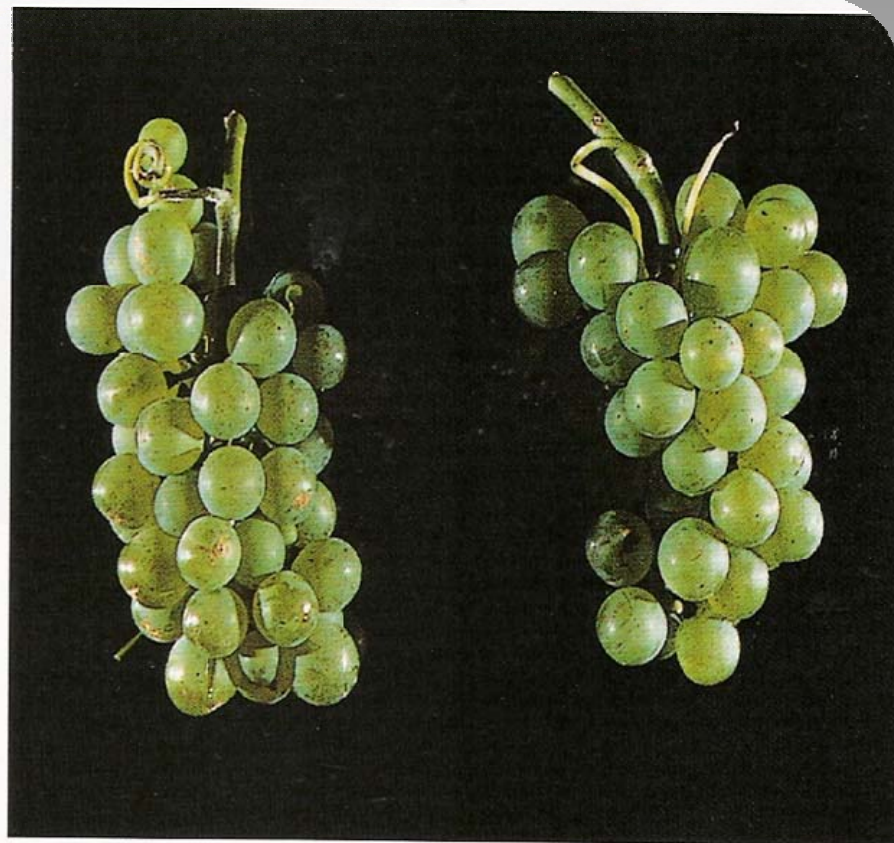
### **Characteristics:**

- Yellow with bronze spots young leaves.
- Short to medium sized leaves with 5 lobes & Ripens early.

### **Sensory Attributes:**

- Used for making dry wine, which shows notable aromas of grass or musk.
- Hints of melon, pepper, lime, capsicum & mineral
- Crisp elegant and fresh taste.

# SAUVIGNON BLANC



# CHENIN BLANC

## **Origin:**

Loire Valley of France

## **Characteristics:**

- Mature leaves with 3 to 5 lobes, Petioler sinus slightly open.
- The fruit is tough skinned and medium size.
- Tendency to early bud break and late ripening.
- Adapted to warm climates and many soil types..

## **Sensory Attributes:**

- Acidity remains high with honey & peach flavor s.
- Have subtle melon, peach, guava, spice and citrus notes
- It is possible to produce different wine styles such as dry, sweet or sparkling

# CHENIN BLANC



# VIIGNIER

**Origin:** Native white wine grape of France's Rhone Valley.

## **Characteristics:**

- Soft skin, high phenols.
- Prefers warmer environment and longer growing season.
- Abundance of spiciness but less complexity.

## **Sensory Attributes:**

- Floral and spicy notes,
- Rich with floral aromas such as violet, acacia.
- Used for dry premium wines.



# VIOGNIER



# CHARDONNAY

## **Origin:**

- White French cultivar, comes from Burgundy.

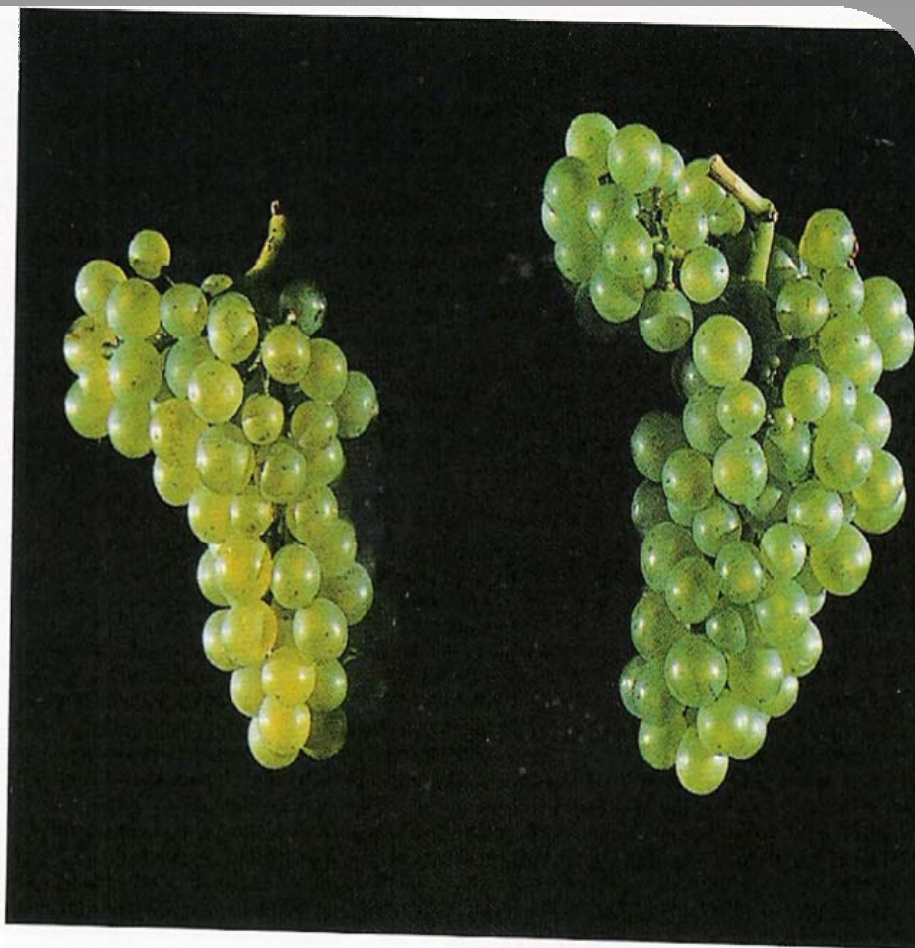
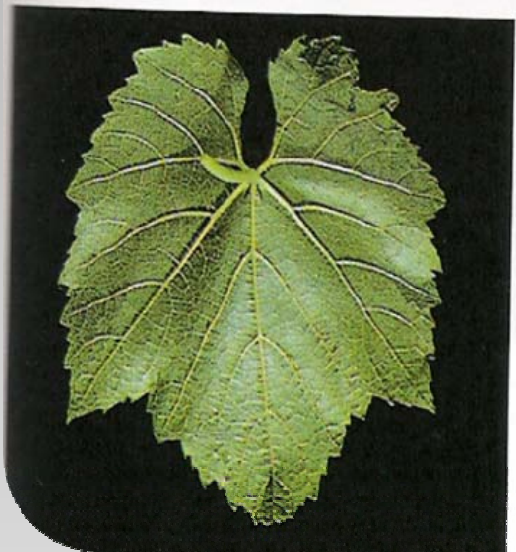
## **Characteristics:**

- Grapes variety are strong, productive.
- predisposed to powdery mildew
- Produces excellent, rich and complex whites wines.

## **Sensory Attributes:**

- Variation in aromas according to the terroir and vinification.
- It offers bold, ripe, rich and intense fruit flavors of apple, fig , melon, pear, peach pineapple, Lemon and grapefruit, along with hints of spice, honey, butter, butterscotch .

# CHARDONNAY




# CONSTRAINTS IN GRAPE PRODUCTION DEVELOPMENT

Although grape cultivation is considered as highly remunerative, the area under wine grapes is confined to only 34,000 hectares due to the following constraints.

- Heavy initial investment for establishing a vineyard.
- High recurring costs in vineyard management.
- High risk of losing the crop due to unprecedented changes in weather.

## **CONSTRAINTS IN GRAPE PRODUCTION DEVELOPMENT**

- Soil and water salinity in Maharashtra and drought in the hot tropical areas.
  - Short period available for ripening in the north.
  - Very low proportion of export quality grapes.
  - Wine is not a popular drink at present.
  - Marketing problems in table grapes.
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# GOVERNMENT POLICIES AND PLANS FOR RESEARCH AND DEVELOPMENT OF GRAPES

The Government of India is supporting the grape industry of the country in the following ways:

- providing soft loans and subsidies for establishing the vineyards and installing drip irrigation systems.
- Research support to sustain the productivity of grapes under adverse situations.
- Promote and support the export of fresh grapes by training the growers and providing soft loans and subsidies for pre-cooling and cold storage facilities.
- Research on grapes by the Indian Council for Agricultural Research (ICAR) Institutes and
- State Agricultural Universities at different centers under the All India Coordinated Research Project on Grapes.
- The National Research Centre for Grapes (ICAR) located at Pune, Maharashtra is the focal point for conducting and coordinating the research activities on grapes throughout the country.

# CONCLUSIONS

- Grape covers an area of 34,000 hectares with an annual production of 1,000,000 tonnes.
- Less expansion of grape growing owing to the high initial cost of establishing the vineyards and high recurring cost of production.
- The risk of losing a crop due to unpredictable changes in weather.
- Since the highest productivity in grapes has been achieved, efforts are needed to extend grape cultivation to newer areas.
- Suitable rootstocks are to be identified for favoring the soil and water salinity and drought are the impediments in this direction.

Future efforts are to be concentrated for-

- Currently more than 80 percent of the produce is used for table purposes.
- Diversify the uses of grapes.
- Frequent market gluts because of inadequate facilities of cold storage.
- Diversification of uses as wine/juice and export of table grapes.
- Maintenance of quality of grapes by crop regulation.
- The produce should be quality and cost competitive..



**“Thank you”**

