Grapes

Grapes
Buy Products for your crop
Crop Protection
Package of Practices
Expectation
BharatAgri Smart Farming
Standard Farming
Expected Fertilizer and Agrochemical Expenditure
$ 83,000
Expected Harvest
20 tones/Acre
Expected Income (Rs)
¥6,00,000
Expected Fertilizer and Agrochemical Expenditure
¥ 98,000
Expected Harvest
16 tonnes/Acre
Expected Income (Rs)
$ 4,80,000

Favourable climate

Temperature
In its natural habitat, the crop bears fruit during the hot and dry period and undergoes dormancy during the period of severe cold.
It tolerates frost during resting stage but is very susceptible during growing period.
Temperature ranging from 15-35 C is ideal for shoot growth and normal physiological processes of the grapevine.
Vines do not grow and fruit well when the temperature falls below 10 C.
Crop Water Requirement
Total seasonal requirements vary between 500 and 1200 mm, depending mainly on climate and length of growing period.

Favourable soil

Type
The best soil types for grapes are known to be well-drained loan to sandy loam with good organic matter.
Poorly drained, alkaline soils should be avoided. pH
Soils having pH value from 6.5 to 7.5 are most suitable.
If pH is < 6.5 add Lime.
If pH is >7.5 add Gypsum.

Planting material

Thompson seedless
Special Characteristic

Clusters are medium to large, cylindrical to conical shaped, heavily shouldered that ripen in about 130-140 days after pruning. The berries are seedless, small to medium-sized, oval to ellipsoidal in shape, soft berry skin, and greenish-white to golden in colour with firm, juicy pulp. The majority of exported grapes from India consist of this variety.

Anab-e-Shahi
Special Characteristic

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8%1
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This variety is grown in the states of Andhra Pradesh, Punjab, Haryana and Karnataka. It is widely adaptable to different Agro-climatic conditions. This variety is late maturing and heavy yielding. Berries are elongated, medium large, seeded and amber coloured when fully ripe. Juice is clear and sweet with TSS 14-16%. It is highly susceptible to downy mildew. Average yield is 35 t/ha. Fruits have a good keeping quality and mostly used for table purpose.

Red globe
Special Characteristic

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Clusters are big, berries very bold (22-25 mm diameter), red round, seeded with meaty pulp. It is a late ripening variety and takes more than 135 days from pruning. It has good keeping qualities and can be cold stored for at least 3 months. Fruit yield is about 20-25 tons per hectare

Sharad seedless

The berries are bluish black with crisp pulp, oblong to elliptical in shape and highly responsive to Gibberellin treatment for berry size. The fruit quality is better when ripening coincides during cool climate. It has a medium maturity and takes about 125 days from pruning for harvesting. Quality yields of 15-18 tons per hectare can be obtained with proper canopy management, bunch and berry thinning and berry sizing. However, the berries are susceptible to the bleaching as a result of SO2 injury during storage in fruit boxes lined with grape guards. Hence the variety is not suitable for long duration storage/ shipment, but can be exported to short distant/ quick accessible markets.

Cheema sahibi

Open pollinated seedling Pandhani sahibi. Vigorous & High yielding, Bunches are long, Conical, Oral berries, Late ripening & shipping quality is poor due to weak pedical attachment

Land preparation
The land is tilled and laid into plots of 120 m x 180 m separated by 3 m wide roads.
Land within a plot is levelled perfectly to have a gradient of less than 1 percent in any direction to ensure uniform discharge of water through the emitters of drip irrigation systems.

Trenches of 75 cm width, 75 cm depth and 118 m length in a north-south direction with a gap of 3 m between trenches are opened with heavy machinery.
They are closed with topsoil, up to a height of 45 cm after 15 days exposure to sun.
The remaining gap is filled with a mixture of soil, cattle manure, single superphosphate, sulphate of potash and micro-nutrients.
Usually, 50 kg of cattle manure, 2.5 kg of superphosphate, 0.5 kg of sulphate of potash and 50 g each of $ZnSO_4$ and $FeSO_4$ are added to the soil for every running meter length of the trench.
Land is leveled by a tractor or bulldozer as per the requirement, soil type and gradient.
In case of drip irrigation, leveling need not be perfect.
The size of the plot will vary with the type of training system used.
In case of bower and telephone or "T" trellis the ideal size could be 60 X 80 m. and 90 X 120 m. respectively.

Spacing and Plant Population
Varieties

Row to Row	3.0 m
Plant to Plant	2.0 m
Plant Population	7,333

Nutrient Management
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As vineyard soils are either sandy loams or heavy clays, the usage of organic manure has assumed high importance in India.
A standard dose of 200:200:400 kg of N, P205 and K20 per acre is followed in light sandy soils, while 265:
350:265 kg per acre are applied for heavy clay soils.
The annual dose is fixed based on the petiole analysis carried out at 45 days after spur pruning.
While 40 percent of the annual dose is given through organic sources, 60 percent is given as inorganic fertilizer.
Calcium ammonium nitrate is usually not used.
Sulphate of potash is the only source of potash used in place of muriate, particularly in heavy clay soils.
Recently application of soluble fertilizers through drip irrigation is picking up.
40 percent of N, 50 percent of P205 and 33 percent of K20 of the annual dose is given during the growth season and the rest in the fruiting season.

Irrigation
Since grapes are grown in areas where the evapotranspiration exceeds the precipitation, irrigation is essential.
Less than 10 percent of the vineyard areas are surface irrigated, while the rest is irrigated by drip systems.
Water requirement is calculated based on the pan evaporation using 0.8 as the crop factor.
Water is applied at different rates at different stages of vine growth and berry development.

Intercultural Operations
Weed Management
Weeds between the rows of vines are removed mechanically by tractor drawn implements.
Within the rows, weeds are manually hoed and removed.

Harvesting
Number of harvests
In North India, plants start fruiting after two years of planting.
Berries start ripening from the end of May in early varieties.
However, most of the varieties are harvested after they have changed colour near the tip and have become sweet.
A day prior to picking, the broken, decayed, deformed, under-sized berries are removed.
The clusters are usually harvested during the early hours of the day before the temperature rises above
20 C.

Yield
Total harvest quantity
Yield varies according to variety and climatic conditions etc.
The average yield of Anab-e-Shahi and Bangalore blue is 40-50 tonnes/ha while that of seedless varieties is 20 tonnes/ha.
Average yield of 20-22 tonnes/ha.is considered good.