Grapes in Sindh

By
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(Editor's note: Mr. Panhwar wrote to me requesting back copies of "Notes From The North". When I mailed them to him I asked how he had heard about the MGGA and would he write an article about growing grapes in Sindh. This is the response I received.)

Grapes are said to have originated from Pakistan to the Caucasus Mountains area. There still are wild varieties of grapes in hilly tracts of the northern area of Pakistan and Dr. Maxime Thompson of the University of Oregon has collected more than 100 wild varieties recently. They still are in quarantine with the USDA.

Some 12,000 years ago temperatures were some 10°F (5.5°C) lower than today and Sindh (see the climatic map of Sindh drawn by the present writer) probably had wild grapes growing all over the Province (State). Warming started 10,000 years ago and as the area was arid most of the grapes in the wild were destroyed by grazing animals. There is archaeological evidence of grapes being cultivated in Sindh by Neolithic farmers 7,000 years ago and afterwards. The varieties grown then must have come from wild ancestors. Since then grapes have been raised in this area throughout the centuries.

Around 2,800 years ago tribes in northern Pakistan, developed Vedic religion (Hinduism descended from it). Among their four early religious texts, one describes making wines and liquors in great details and their taking on religious occasions. This shows large scale use of grapes for the purposes. There was no prohibition or inhibition about hard liquors in South Asia until Islam was introduced in Sindh by Muslim conquerors in 711 AD. Having been committed to prohibition of alcohol, they banned its use in public and followers of Vedic religion called Hindus (a word derived from Sindh to Ind to Hind to Hindus or dwellers of India), had to manufacture and use liquor virtually in secret from locally grown grapes to avoid conflict with followers of this faith. Muslims rulers and elite themselves were fond of liquors and probably encouraged its cultivation among non-Muslims. A well known variety of grapes "Bukhari" was introduced by them in South India. The Muslim attitude about raising grapes was an outcome of pleasing staunch clergy.

While a student at High School Mehar a town of 5000 souls, I saw eight vineyard each less than 1 acre within the municipality limits, owned by Hindu business men and being looked after by Hindu labour from the present Northern India. Grapes were harvested in early July and converted into liquor. Most of the grapes grown in Sindh were never seen in the market and were unsuitable for table use. Table grapes were imported from other areas. Such small vineyards existed in the urban towns in the whole Sindh and the cultural practices involved were not known to the Muslim cultivators, who resided in the rural areas as against Hindus who lived in urban settlements. In 1947 after the creation of two independent States of India and Pakistan,

there was mass migration of Hindus to India and newly settled urban Muslims did not know what to do with the vines, so they were destroyed by neglect.

In the School my performance was good and this helped me to make friendships with Hindus students, some of whom came from the families of vine owners. Vines were irrigated by lifting water with Persian wheels from dug and brick lined wells. Average temperature of well water was 80°F against 118°F in June and minimum of 30°F on coldest nights of January. Bathing in water drawn from wells was the normal custom and also fun in the summer or winter. Free bathing water reservoirs were constructed by owners. Early morning bath just before sunrise was a religious rite among the Hindus and there invariably was a rush at the wells. Since school insisted on personal hygiene all Muslim students also took daily baths at these wells and I visited one or the other wells every day. In the process I had a chance to see most of the cultural practices involved in raising vines, stopping water in December/January defoliation manuall7y and pruning in February. I had no chance to taste the fruit as school was closed for summer vacation at harvest time during early July. What were the varieties raised for wine is not known, but a table variety known as Karachi Gulabi has survived in south India and is recognised as a dark red Muscat. It is certain that some plants may have survived now in the wild state in the abandoned fields of their original owners and collection from those localities is possible.

Knowing the background. I thought I could introduce the grape cultivation on commercial scale in the mild climate (300 chill hours below 7.2°C) at my farm by stopping water for creating stress. Small scale experiments with Thompson Seedless and its two local variations, Sunderkhani and Kishhmish, besides a few European varieties and also recent hybrids like Italia, Cardinal, Ruby Red, Alphono Lavalle, Ribier, Flame Seedless, etc., showed varying amounts of success. Being on 25°-30'N, 3 miles east of Tando Jam, the maximum angle of the sun is 49° on December 23. We therefore have run vine rows east and west and have built inclined trellis at 35° to the horizontal with 6 feet long arm to carry five wires. It works fine but under our sunny and arid weather and with irrigation there is profuse growth and I thought, we can manipulate two crops a year. We stated experiments in 1985 and put commercial crop on 2 ½ acres in 1990. We had small crop in June 1991. We are putting another 4 ½ acres in January 1993. We do not have well defined winter as our climatic chart will show you. We have not taken two crops a year as yet as rains come in July and August and water stress can be created only after rains. We plan to do so in August of 1993 hopping to get the first crop in March of 1993 and the second in June of 1994. The latter by pruning at the end of January 1994. We had succeeded in getting two crops from our experimental plots, this way. We have completed pruning only two days before Christmas and have sprayed the buds with Dormex (a new German chemical for breaking dormancy and producing uniform flowering), and expect new growth by about 10-15th January, flowers in early February and harvest at end of May.

We came to know about the Minnesota Grape Growers Association at the University of California Davis from the library. This is how I got in touch with you. I am a graduate in Agricultural Engineering from the University of Wisconsin at Madison. I worked as Agricultural Engineer and later on as Chief Agriculture Engineer for Sindh Province for 16 ½ years and then

started a consultancy company. I have successfully introduced peaches, plums, apples, pears, almonds and pomegranates on small scale in weather climatic charts of which is enclosed. I visit USA regularly. My wife Farzana is a Bio-chemist and has been working with me as a consultant as well as on the farm. She helps me to manipulate the environment for introducing these crops. We grew mangoes and banana on our farm and were very comfortable. We helped the people of whole Sindh to introduce these fruit crops. Expansion of area, reduced to the real income to about 40%, so we thought of changing cropping pattern. To the bad luck of the whole Province more than 150,000 acres under banana was destroyed by Bunchy Top Virus during past 4 years. I recognised the disease and one year later this was confirmed by Dr. Stover of Canada, a writer of the latest book on bananas. As token of this scientific work, President of Pakistan awarded me the highest civilian title, "Sitara-e-Imtiaz" or "Star of Excellence". I and my wife travel to USA once a year primarily to learn from various specialists but have not stopped over in Minnesota except touching the twin city airport. Many years ago I had visited Minneapolis to contact Howard Johnson about tube-well screens. We now are planning to introduce low chill stone fruits, pome fruits, grapes, nuts (almonds and pecan) and pomegranates. We have varietal collection and plan their propagation. We need your blessings.

Average monthly climatic data of Tando Jam.

Months	**Evapora-tion (Inch)**	**Sun-Shine Daily (Hours)**	**Rain-Fall (Inch)**	**Temp (Maxi-mum) (°F)**	**Temp Mini-mum) (°F)**	**Temp Mean (°F)**	**Relative Humidity (%)**	**Dew Point (°F)**
January	1 to 2	8.50	0.2	73.00	47.00	60.00	50	39
February	3 to 4	10.00	0.2	83.00	51.00	67.00	50	45
March	6 to 7	9.25	0.2	91.00	62.00	76.00	50	51
April	8 to 9	10.75	0.1	102.00	70.00	86.00	50	56
May	9 to 10	10.50	0.2	108.00	78.00	93.00	50	67
June	7 to 8	10.00	0.4	103.00	81.00	92.00	60	75
July	7 to 8	8.75	3.0	98.50	80.00	89.00	70	75
August	7 to 8	9.00	2.0	96.50	78.50	87.00	70	72
September	7 to 8	10.50	0.6	97.00	76.00	86.50	60	69
October	5 to 6	10.50	0	96.50	66.50	81.50	60	59
November	2 to 3	10.0	0.1	90.00	56.00	73.00	60	48
December	2 to 3	9.0	0.1	78.00	48.00	63.00	60	44
Annual Mean	**79**	**0.1**	**7.1**	**93.37**	**67.56**	**78.41**	**57.50**	**58.33**