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Grape and Wine Industries in Thailand *

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Climatic and grape growing

I visited four different vineyards and three wineries during my stay (March 27, 1988 to April 6, 1988) in Thailand.

They harvest grapes an average of 2.5 times a year in Thailand. According to the common knowledge of viticulture in traditional wine-producing countries including Japan, the dormant period is necessary for the grape vines to grow and produce the shoots which will bear the year's crop.

The grape vines in Thailand, however, are not dormant. After harvesting grapes and pruning vines, the vines put up the new shoots. The average grape growing season is 4 months. There are three seasons, winter (November to February), summer (March to June) and rainy (July to October) seasons in Thailand. The air temperature averages 20°C in the daytime and 10°C at night in winter, and 30°C in the daytime and 20°C at night in summer. The temperatures are quite high for both table grapes and wine grapes. Although the climate is hot, the sugar contents of Thailand's grapes are relatively low, 16 to 18 degree Brix due to some uncertain reasons. The grape vines may be infected by some viruses, so there is a need to check for and control the viruses. Organic acids especially malic acid is poor in grape juices because they are lost by respiration. Rainfall is not too heavy, between 800 and 1,000 mm. However, this is fairly heavy, when compared to that in the good climatic areas for wine-grape production in the world.

The rainfall pattern in Thailand is roughly equivalent to that in Hokkaido and Tohoku districts in Japan. However, most of the rainfall is concentrated during the rainy season. The quality of the grapes harvested at the 2nd growing season (October to January or February) is better than that at the 1st growing season (March to June or July) because the harvest time in the 1st growing season is in the rainy season.

Vineyards visited

Most of the vineyards in central Thailand are located within 2 hours by a car from Bangkok. I visited the vineyard of Kasetsart University and the vineyard in the low, bog land both in the central Thailand. It takes about 2 hours by a car from Bangkok to the vineyards.

The experimental vineyard is located in Kampanasan campus in Nakorn Pathom Province, which is 90 minutes by a car from Bangkok. There were several table grape varieties including a few Japanese grapes.

The vineyard in the low land was located in Damnern Saduak district, Ratchaburi Province, and was surrounded by a lot of canals. It is very close to the famous floating market. Table grapes look as if they are growing in water.

There are several vineyards near Chiang Mai in the mountains, in northern part of Thailand. I visited two vineyards there. One is an experimental vineyard at Hang Chat Horticultural Station in Lampang Province. There, Seagram (USA company) grows 16 grape va-

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rieties and a French company grows 4 wine grapes and 7 table grapes. Another vineyard is in Doi (mountains) Inthanont, Chiang Mai, where minority races live. They grow a poppy. However, the Thai government plans the growing of various crops, flowers and fruits including grapes to replace the poppy. This is called Royal Project. In order to keep grape berries well away from the wet soil and pathogens below, they use overhead trellis or arbor. The berries are covered with paper bags to prevent bird damage like those in Japan.

Wineries visited

There are 3 wineries. One is in Samut Sakorn Province and is the biggest winery producing only wine cooler (SPY brand) in Thailand. Another is in Patoom Thani Province and also produces wine cooler (Seagram brand). The last one is in Nakorn Chaisri district, Nakorn Pathom Province, the oldest winery in Thailand, producing table wines and also cooler (Cooler Club brand). Thailand also has one brandy factory. It is in Suan Sampan district, Nakorn Pathom Province. The central plain of Thailand is the most important areas where grapes grow. The table grapes are planted and sold on the market. The most common varieties are White Malaga for white variety and Cardinal for red variety.

I visited three University wineries, pilot scale winery at Department of Biotechnology, Faculty of Agroindustry, wine-making laboratory at Institute of Food Research and Product Development, Kasetsart University, and Experimental Winery at Chiang Mai University. At the Institute winery, several wines were being made from the grapes which were cultivated on Kampangsan Campus. At the winery at Chiang Mai University, wines from fruits other than grapes are mainly made. They are fermented and stored in 10 to 30 liters of glass or plastic bottles. However, grape and fruit wines were made in a pilot scale (200 to 300 liters) as the winery of the Department of Biotechnology. The wines tested were a little bit sweet and poor in acidity and astringency,

but clean and smooth.

Comments and suggestions to JSPS and NRCT

It is certainly a useful mutual beneficial program I have seen and learned much about the wine research work, wine industry, tropical viticultural practice in Thailand which I have never known before from any book or journal. Thailand is, unexpectedly, a country with a great potential for growing good table and wine grapes.

In order to produce high quality of wines, we need to have a good knowledge of grapes along with that of wines. The Thai and Japanese scientists who know about both wines and grapes or their viticulturists (or enologists) who know about wines (or viticulture) should do joint research and discuss together.

In this program, researches on growing wine grapes under such climatic conditions as high humidity and high temperature which prevails in Thailand and Japan and different from the western countries which produce high quality of wines should be carried out as a joint project between the two countries. We should also study flavors, acidity and astringency of grapes and wines. These flavors are often poor in grapes grown under tropical climatic conditions. We should also study the differences in fondness or taste between grapes produced in Southeast countries including Japan and those of the western Europe countries.

Furthermore, we should study the selection of wine grape varieties suitable to the climatic conditions in Thailand and Japan using the same grape varieties. It will be fruitful for the two countries to initiate studies on the relationship between grape or wine quality and the viticultural conditions such as the climate, soil and fertilizer.

As to wine-making, we should study again and analyze four fundamental flavors of wines such as acidity, sweetness and astringency, basic techniques including how to use sulfur dioxide, how to prevent oxidation, how to use bentonite, how to clarify, how to check wine quality and importance of pH and scientific

control of fermentation and aging as joint researches among Southeast countries. We should establish the academic researches and practical techniques in the grapes and wines for ourselves, namely specific to Southeast countries.