“TSINANDALI”

WINE OF APPELLATION OF ORIGIN

Production micro-zone of wine “TSINANDALI”

Geographical location. The micro-zone of wine “Tsinandali” is located on the right bank of the river Alazani, in the administrative region of Telavi, with the coordinates of northern latitude of 41°54´ and eastern longitude of 45°35´. The territory of Tsinandali covers the extensions of woody slopes of northern-eastern inclinations of Tsiv-Gombori mountains on the one hand, and foothills and Alazani plain, on the other hand. Industrial vineyards are mainly located at 300-750 m above sea level.

The micro-zone of wine “Tsinandali” includes the following villages: Akura, Vanta, Busheti, Kvemo Khodasheni, Tsinandali, Kisiskhevi, Kondoli, Nasamkhrali, Shalauri, Kurdgelauri, Vardisubani.

Climate. The climate is moderately humid with hot summer and moderately cold winter. The annual duration of sunshine is more than 2300 hours. The sum of the solar direct radiation on perpendicular surface is 130 kcal/cm^2, and that on the surface horizontal to the sunrays is 76 kcal/cm^2. During the warm period, this indicator is 92 and 60 kcal/cm^2, respectively. Dissipated radiation per annum is 54 kcal/cm^2, and the same in the vegetation period is 40 kcal/cm^2. The annual value of total radiation is 130 kcal/cm^2, and 100 kcal/cm^2 in the warm period.

The average annual air temperature is quite high reaching 12,4°. The warmest month are July and August, with their average temperature of 23,2°; the average temperature of the coldest month (January) is +0,9°. Average of the annual absolute minimums is -10°, and the average of the annual absolute maximums is 35°. Extreme temperatures are -23 and +38°.

In most part of the region a stable transition of the air temperature above 10° is in the first decade of the month of April (8.04) and the temperature falls below 10° in the first days of the month of November (from 3.11). The

duration of the vegetation period is 208 days. Total of active temperatures (Σt>10V) is 3800° at the height of 550 m.

The annual number of clear days (0-2 points), according to the general and lower tier cloudiness, is 52 and 82. During the vegetation period, this indicator according to the mentioned levels of cloudiness equals to 36 and 55 days, respectively.

The annual indicator of the cloudy days (8-10 points) is 122 and 95, according to the general and lower tier cloudiness, is 122 and 95,, respectively, and that during the vegetation period is 61 and 45, respectively.

The annual sum of atmospheric precipitations is 845 mm, with 644 mm during the vegetation period. Maximum out of annual precipitation is fixed in May (157 mm), and minimum is fixed in January (28 mm).

The vine buds (of Rkatsiteli, Saperavi, Cabernet) start blossoming in the middle of April ripening from the middle of August. Grape should be harvested at the end of September if high-quality vintage wine of European quality is to be produced.

Total of active temperatures in Tsinandali micro-zone (at the altitude of 300-750 m) varies within the limits of 4100-3500°. High-quality bulk table wine of European type may be produced from the vine species growing here in 75%-35%(from the land plots with the altitude of 300-450 m), or sever or four times in every 10 years. Production of good quality is gained in the given areas almost every year.

At the altitude of 500-550 m, the high-quality bulk wine is produced twice in 10 years (20%) whereas the product of good quality may be gained 5 times in 10 years (50%). The product of good quality may be gained from the plots at the altitudeof 600-650 m twice in 10 years (20%).

Days with hail in Tsinandali are frequent (2,3 days per annum, on average). Most frequently it hails in May and June (0,7 and 0,8). It may hail 9 times in the years with extremely high proportion of hail.

Average relative air humidity is 70%. The air imbibition is the least in August (60%), and is the greatest in November (77%).

Rumba winds of western (35%) and eastern (23%) directions prevail in the micro-zone. The average annual wind speed is 1,7 m/sec. The number of days with strong winds in the year is not high (10 days).

According to multi-year data, the average of the annual absolute minimums of the air temperature is -10, -11°C. Once in every 10 years, minimum temperature of -15° with little duration is expected what will only slightly damage the vine buds (<30%).

Soil. In June and July of 2005, the specialists of soils from the Scientific-Research Institute of horticulture, vine-making and wine-making, aiming at studying the soil cover in the micro-zone, performed field and cameral soil works in the study area. The analytical works of the soils were conducted at the agro-chemical laboratory of the same Institute.

The following types of soils were identified on the study territory:

1. Brown forest, of great thickness, average and strongly skeletal, heavy loamy;
2. Brown, of great thickness average, weakly skeletal here and there, clay and loamy;
3. Brown, of average thickness average, weakly skeletal, heavy loamy;
4. Brown meadow, of great thickness, heavy loamy and clay;
5. Brown meadow, of great thickness, weakly and average skeletal, loamy;
6. Dealluvial-proalluvial, of great thickness, light and heavy loamy;
7. Dealluvial-proalluvial, of great thickness, weakly skeletal, loamy;
8. Alluvial, of great thickness, heavy loamy;
9. Alluvial, of great thickness, strongly skeletal, loamy.

The soil of the first variety is characterized by the model soils in the villages of Vanta, Akuri (plot ”Sites of ancient settlements”), Kisiskhevi (plot of “Above the channel”).

The soil of the second variety is characterized by the model soils in the villages of Busheti (plot “At the White Bridge, below the railway”, Shalauri (plot “Below the highway”), Vachnadziani (plot “Khramitsebi”).

The soil of the third variety is characterized by the model soils in the village of Shalauri (plot “Sites of great asp”).

The soil of the fourth variety is characterized by the model soils in the villages of Tsinandali (plot “Teliani”), Kvemo Khodasheni (plot “Naparekhlebi”), Kurdgelauri (plot “Beganapshebi”).

The soil of the fifth variety is characterized by the model soils in the village of Khodasheni (plot “”Great vineyards”).

The soils of the sixth and seventh varieties are spread in the transition zone of the above-listed villages into Alazani plain.

The soils of the eighth and ninth varieties are located directly at the limit of the Alazani terrace.

Brown soils spread in the upper part of the micro-zone are characterized by average and deep profiles (by their varieties). Alluvial, alluvial-proalluvial and dealluvial-proalluvial soils are characterized by deeper profile and various levels of skeletal texture. Thickness of the soil profile in the upper part, where there are brown soils spread, is 70-100 cm, and the thickness of the humus-containing active layer is 30-50 cm. In the lower part of the zone, where there are alluvial, alluvial-proalluvial and dealluvial-proalluvial soils spread, the profile is deeper exceeding 100-150 cm, with the thickness of the humus-containing active layer of 40-50 cm.

According to texture, the soils are mainly average and heavy loamy, with light clay soils spread along short sections. The content of humus is little amounting to 1,0-2,5%. The content of hydrolysis nitrogen, soluble phosphorus and exchange potassium is low. The soils contain calcium carbonates in little or average amounts, within the limits of 2,5-16,0%. The reaction of soil area (pH) is average alkaline.

The soils spread in the micro-zone with their exposition (northern-eastern and eastern mainly), content of calcium carbonates and the level of skeletal texture combined with the climatic conditions create beneficial conditions for producing bulk wine of appellation “Tsinandali”.

The main vine species growing here are “Rkatsiteli”, “Saperavi” and “Kakhuri Mtsvane”.

Agro-technological regulations

In order to produce the bulk wine of appellation “Tsinandali”, the following agro-technological regulations should be observed by considering the soil and climatic conditions.

Species of “Rkatsiteli”

Growing area: Up to 300-600 m above sea level.

Plot of planting: 2,0 x 1,5 m; 2,5 x 1,5 m; 3,0 x 1,5 m.

Height of stem: 70-100 cm

Form of pruning: Free and Georgian two-sided trellis.

Norm of loading per 1 m^2: 8-10 buds, with 80-100 thousands buds per hectare.

Harvest: 9-10 tons per hectare.

Species of “Kakhuri Mtsvane”

Plot of planting: 2,5 x 1,5 m; 2,0 x 1,5 m; 3,0 x 1,5 m.

Height of stem: 70-100 cm

Form of pruning: Free and Georgian two-sided trellis.

Norm of loading per 1 m^2: 8-10 buds, with 80-100 thousand buds per hectare.

Harvest: 6-7 tons per hectare.

Urgent agricultural measure: Rationing of the buds and yielding tillers remained after pruning under the established agricultural regulations, to gain regulated harvest.

Soil cultivation

Autumn and spring ploughs of soil. Minimum soil cultivation – on the background of periodic use of herbicides. Moisture-preservation measures – preservation of soil surface in a loose state (cultivation, milling, mulching). In the irrigation land – ending the last vegetation irrigation one month before the vintage.

In dryland – preserving the soil surface in weed-free and loose state. Soil mulching with organic mass and synthetic means as it appears possible.

Fertilization

Application of organic-mineral fertilizers under cartographic agricultural regulations.

Phyto-sanitary regulations

Principal diseases: Mildew, powdery mildew, anthracnose, rots.

Pests: Ticks, western grape warm, mealybug.

Pest and disease control measures: Using proper contact and systematic preparations registered in Georgia.

Additional agricultural measures: additional treating measures against powdery mildew.

Economic-technological characterization of the species of “Rkatsiteli” and “Kakhuru Mtsvane”

“Rkatsiteli” – Wine species of white grape. It is spread in Georgia and beyond its borders due to its wide ecological plasticity and universal economic-technological properties. The species is of average or late period. It is characterized with abundant harvest (average weight of a bunch is about 160-250 gr.). Average harvest is 9-10 tons per hectare.

Sugar content of the ripe grape in the given micro-zone reaches 240 gr/dm^3, with the acidity of 7,8 gr/dm^3. In order to produce bulk wine “Tsinandali”, the grape is harvested when the sugar concentration reaches 20-21% in it.

“Kakhuri Mtsvane” – White vine species for wine-making. The vine is of average grow and of average ripening period.

The average weight of the bunch is 172 gr. and the average harvest is 7-8 tons per hectare. The species accumulates sugar in great quantities (200-220 gr/dm^3) preserving normal rate of acidity (6,0-7,8 gr/dm^3). The peculiarity of the species is particular sensitivity to powdery mildew.

Wine “Tsinandali”

Wine “Tsinandali” is controlled high-quality dry white wine of geographical appellation. It is made with the grape of species “Rkatsiteli”. 15% of the species of “Kakhuri Mtsvane” is acceptable to use.

Wine “Tsinandali” is characterized with light straw color, taste harmonicity, with full, well-developed and elaborate race and species-specific aroma.

Chemical characteristics of the wine “Gurjaani” should correspond to the following indicators:

Volumetric spirit-content, % - 10,5-12,5

Mass concentration of sugars of no more than 3 gr/dm^3

Titrated acidity – 5,5-7,5 gr/dm^3

Volatile acidity of no more than 1,0 gr/dm^3

Mass concentration of finished extract of no less than 16 gr/dm^3

Concentration of total mass of sulphuric acid of no more than 210 gr/dm^3

Concentration of free sulphuric acid of no more than 30 gr/dm^3

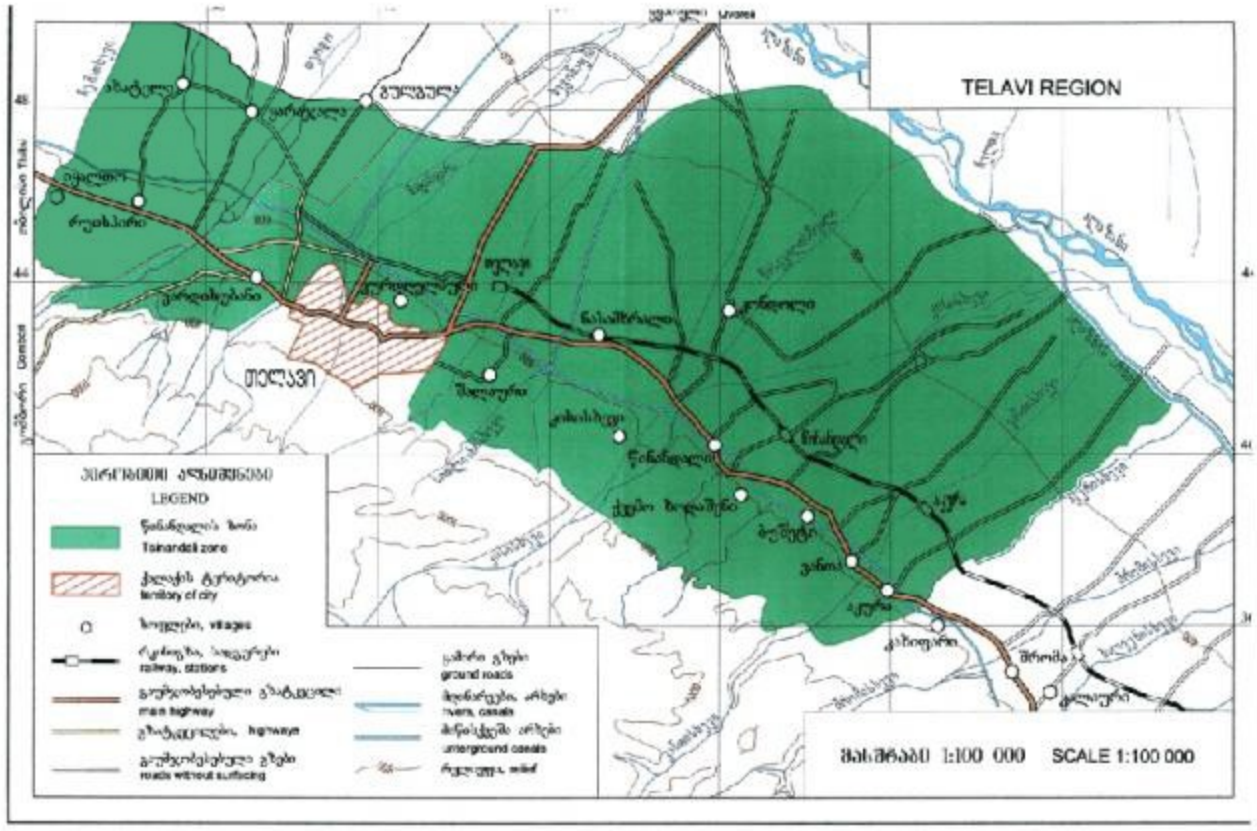
The rest norms should correspond to the legislative acts of Georgia and the EU Directive No. 1493/1999 of May 17, 1999.

Available areas for raw materials of wine “Tsinandali”

The area for raw material of the wine “Tsinandali” is 653 ha.

4571 tons of harvest is possible to produce in the micro-zone. At the output of 65 decaliters out of 1 ton, 297,000 decaliters of bulk wine may be produced.

The particular exposition of “Tsinandali” micro-zone, the microclimate developed on the northern-eastern slope of Tsiv-Gombori Ridge, calcareous, alluvial-proalluvial and dealluvial loamy and detritus soils, and harmonization of the species of “Rkatsiteli” and “Kakhuri Mtsvane” make for the high value of the wine “Tsinandali”.



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