

„კოტეხი“/“kotekhi”

Registered in Georgia as an Appellation of Origin

Registration N799, registration date: 12/10/2007<sup>1</sup>

PRODUCT TYPE FOR WHICH REGISTRATION OF GEOGRAPHICAL INDICATION IS REQUESTED:

Grape product, category

1. Wine

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**1. NAME:** „კოტეხი“/“kotekhi”

## **2. TYPE, COLOR, AND BASIC REQUIREMENTS**

Geographical location. The specific zone is located in the middle stream of the river Alazani, on its right bank, with the coordinates of North latitude 41°45' and East longitude 45°48'. The territory of the micro-zone includes the foothill adjacent to the woody slopes of Northern-western inclination of Tsiv-Gombori Ridge and Alazani Valley, and is located at 250-700 meters above sea level.

### **Climate**

The weather is formed by atmospheric processes developed in subtropical and moderate latitudes and displaced from west to east. Climate is moderately damp here, with hot summer and moderately cold winter.

The annual duration of the sunshine is 2150-2200 hours, varying between 1550-1600 hours in the vegetation period. In the micro-zone, the annual sum of the direct solar radiation on the horizontal surface is 71 kcal/cm<sup>2</sup>, the annual diffused radiation is 49 kcal/cm<sup>2</sup>, and that during the vegetation period is 35 kcal/cm<sup>2</sup>. The annual value of total radiation is 120 kcal/cm<sup>2</sup>, and 90 kcal/cm<sup>2</sup> during the warm period.

The average annual air temperature is quite high reaching 12,4°. The warmest months are July and August, with the average temperature of 23,6°; the average temperature of the coldest month (January) is +0,9°. The average of the annual absolute minimums is -10°, and the average of absolute maximum is 35°. Extreme temperatures are -22 and +38°.

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<sup>1</sup> [https://www.sakpatenti.gov.ge/ka/state\\_registry/](https://www.sakpatenti.gov.ge/ka/state_registry/)

In most part of the region a stable transfer above the air temperature of 10° takes place in the first decade of the month of April (5.IV) and the fall below 10° takes place at the beginning of the month of November (3.XI). The duration of the vegetation period is 211 days. Approximately 3930° of total active temperatures accumulate during this period.

The annual number of clear days (0-2 points), according to the general and lower cloudiness, is 51 and 132. During the vegetation period, this indicator according to the mentioned levels of cloudiness equals to 36 and 79 days, respectively.

The annual indicator of the cloudy days (8-10 points) is 113 and 59, according to the general and lower cloudiness, and that during the vegetation period is 54 and 26, respectively.

During 85 days from the beginning of summer, the average daily air temperature is over 20°. During this period, for 34 days (10.VII-13.VIII), the average air temperature even reaches and exceeds 23°.

The first night frosts in autumn start in the second decade of November (from 25.XI). Once in every ten years, the frosts may start at the end of October (from 30.X). The last night frosts on average end from 24.III. Once in every ten years, spring frosts are expected until the middle of April.

The annual sum of atmospheric precipitations is 804 mm, with 578 mm during the vegetation period. Maximum annual precipitation is fixed in May (124 mm), and minimum is fixed in January (32 mm). Precipitations take the form of snow in the last days of December and disappear until the middle of March. During this period, the decade snow cover of average height of 6-7 cm does not melt for 25 days.

Average relative air humidity is 72%. The highest air humidity (80%) is fixed in November, and is the least humidity (64%) in August.

Average annual number of days with hail is 1,7. The months of May and June have most days with hail (0,6-0,4). In exceptional years, it may hail six times a year.

Following the analysis of temperature isopleths of the depth of alluvial-calcareous soil, at the depth of 5-50 cm, a stable transition of temperature above 10° takes place in the first decade of April, and at higher depths of 50-100 cm, it does not take place until the middle of April.

In the middle of May, the temperature at the depth of 10-120 cm in soil rises over 15°. From the middle of June until the end of September, i.e. for more than 3 months, the temperature at the depth of 5-70 cm is over 20°.

Mainly southern-western (33%) and western (18%) winds prevail here. They are rarely changed for eastern winds (12%). Average annual wind speed is 1,7 m/sec, with its maximum (1,9 m/sec) in March and with its minimum (1,5 m/sec) in December.

According to many-year-long data, the average of absolute minimums of air temperature, as already mentioned, is -10°. Once in every ten years, the minimum temperature is expected to fall to -15° (for a short period) causing only slight damage (<30%) to the vine buds.

## **Soil**

The soils are represented by varieties of brown, dark brown alluvial-dealluvial and alluvial-proalluvial soils.

Brown soils of great thickness, calcareous, slightly skeletal loamy-clay.

Brown soil of average thickness, calcareous, slightly skeletal loamy and clay.

Dark brown (old alluvial) soil of great and average thickness, calcareous, slightly skeletal, clay alluvial-dealluvial of great thickness, calcareous slightly skeletal, loamy.

Alluvial-proalluvial of great thickness, calcareous, slightly skeletal, loamy soils.

Thicknesses of profiles of brown and dark brown soils of great thickness are within the limits of 100-130 cm, and the thickness of humus-containing active layer is within the limits of 60-80 cm. The thickness of profiles of alluvial-proalluvial and alluvial-dealluvial soils is great at every point and is over 100 cm. The thickness of profiles of brown and dark brown soils of average thickness varies between 60-70 cm and 70-80 cm, and that of a humus-containing layer is 50-60 cm. According to the texture, the soils of the upper zone are loamy and clay. Content of physical clay (with fraction <0,01 mm) is up to 40,6-67,4%. As for the soils of the lower zone, which are mainly formed by displaced and drifted materials, their texture is represented by heavy loamy soils, with the same fraction of 60,0%. Their structure in the zone in plantage layers (0-50 cm) of brown soils is granular-cloddy and cloddy-granular, and the structure in the lower layers is weakly expressed. The structure in the section of alluvial soils is cloddy-granular and fine-granular-cloddy, with the lowest layers without structure.

The humus content in the plantage layers of brown and lower alluvial soils is in little and average amounts of 1,54-3,09%. The content of hydrolysis nitrogen in the upper- and lower-zone soils is low not exceeding 5,60 mg in 100 gr. of soil, the content of soluble phosphorus is low not exceeding 2,0 mg in 100 gr. of soil, the content of exchange potassium is also low and constitutes 2,0-7,2 mg in 100 gr. of soil. The content of calcium carbonate in the section of brown soils is average or high reaching 9,2-20,0%, and not exceeding 8,0% in the lower zone. The reaction of the soil area is weak and average alkaline – pH = 7,1-8,0. The soils are weakly skeletal.

### **Agro-technological regulations**

In order to gain the bulk wine „კოტეხი“/“kotekhi”, by considering the soil and climatic conditions, the following agro-technological regulations are to be observed.

Species of “Rkatsiteli”:

Growing area: Up to 750 m above sea level.

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

Height of stem: 80-100 cm

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

Norm of loading per 1 m<sup>2</sup>: 8-10 buds.

Harvest: 9-10 tons per hectare.

Species of “Saperavi”:

Growing area: Up to 750 m above sea level.

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

Height of stem: 80-100 cm

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

Norm of loading per 1 m<sup>2</sup>: 8-10 buds.

Harvest: 7-8 tons per hectare.

### **Soil cultivation**

In the irrigation area the last irrigation cycle of vegetation is to be ended one month before the vintage. Autumn and spring plough of soil, with minimal land cultivation. Moisture-preservation measures– preserving the soil in a loose state (cultivation, milling, mulching).

### **Fertilization**

Application of organic-mineral fertilizers with regulations.

### **Phyto-sanitary regulations**

Principal diseases: Mildew, powdery mildew, rot.

Pests: Tick, western grape worm, mealybug.

Control measures: Application of contact and systematic preparations registered in Georgia.

### **Economic-technological characterization of “Rkatsiteli” and “Saperavi”**

“Rkatsiteli” – Wine species of white grape. It is distinguished by high economic-technological properties, resistance in various conditions and high dignity of production. 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.

“Saperavi” – Georgian, color-grape wine species giving high quality production. Wine made of “Saperavi” is of intense dark red color, with moderate content of alcohol and acidity, with rich and gay race and high taste properties.

The bunch is larger than average with the weight of 140-145 gr. The ripe bunch is of dark blue color, juicy and pulpy with pleasant sweet taste.

The grape ripens in the second half of September. The vine is stronger than that of average grow. The harvest per hectare to gain the conditional production varies between 7-8 tons.

Sugar content of the ripe grape reaches 200-260 gr/dm<sup>3</sup>, with the acidity of 7,5-8,5 gr/dm<sup>3</sup>.

Wine „კოტეხი“/“kotekhi” (white) – „კოტეხი“/“kotekhi” is the highest-grade white dry wine of geographical appellation. It is made of the grapes of “Rkatsiteli” species with fully stopped must.

Wine „კოტეხი“/“kotekhi” is characterized with a light straw coloring, with species-specific aroma and pleasant taste.

Chemical characteristics of the wine „კოტეხი“/“kotekhi” should correspond to the following data:

Volumetric spirit-content, % - 10,5 – 12,0

Mass concentration of sugars no more than 4 gr/dm<sup>3</sup>

Titrated acidity – 5,5-7,5 gr/dm<sup>3</sup>

Volatile acidity of no more than 1,0 gr/dm<sup>3</sup>

Mass concentration of finished extract of no less than 16 gr/dm<sup>3</sup>

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

Wine „კოტეხი“/“kotekhi” (red) - „კოტეხი“/“kotekhi” is the highest-quality red dry wine of geographical appellation. It is made of the grapes of “Saperavi” species with fully stopped must.

Wine „კოტეხი“/“kotekhi” is characterized with red color, species-specific aroma and fine, pleasant taste.

Chemical characteristics of the wine „კოტეხი“/“kotekhi” should correspond to the following data:

Volumetric spirit-content, % - 10,5 – 12,0

Mass concentration of sugars no more than 4 gr/dm<sup>3</sup>

Titrated acidity – 5,0-7,0 gr/dm<sup>3</sup>

Volatile acidity of no more than 1,2 gr/dm<sup>3</sup>

Mass concentration of finished extract of no less than 20 gr/dm<sup>3</sup>

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

#### **Areas of specific zones**

The area of the specific zone of “Kotekhi” is approximately 14 km<sup>2</sup>.

The location, the micro-climate, the atmospheric processes developed in subtropical and moderate latitudes (displaced from west to east), the soils and the originality of indigenous species make for special features of „კოტეხი“/“kotekhi” wines.

