

Quality Control of Japanese Green Tea

Quality Evaluation of Green Tea

Green tea quality in Japan has been evaluated mainly by a human sensory test. Recently, the apparatus, measuring the irradiation of infra-red rays from tea, started to introduce to the tea factories. Here after, this apparatus is expected to make a vast contribution to the development of instrumental evaluation of green tea.

Sensory Quality Test.

This procedure involves the appearance (observing the shape and color of the leaves) and the inner quality (aroma, color and taste of the liquid).

Appearance: Approximately 150 g of tea are set on trays and placed on a table. The feeling of touch is an important fact to evaluate the well twisting condition. Color is another indicator to estimate the time of harvest and the condition of production. The bud and debris quantities are also observed by spreading the leaves.

Inner quality: For each sample of tea, 2 testing cups are used. A representative sample of 3 g (2.5 - 4 g for refined tea) is put into a testing cup. Hot water is

poured into the cups stirring the leaves. After about 1 minute, tasters raise leaves by the strainer from one cup and check the aroma. In the other cup, after 5 minutes (2 ~ 3 min for refined tea), the leaves are removed, and then the color of liquid is observed before cooling down. Then, tasters take the liquid by a spoon and check the taste by spreading it all over the tongue.

To estimate the quality of tea accurately, the amounts of samples, water temperature and time of soaking must be uniform in all tests.



Instruments for sensory quality test

Human sensory test

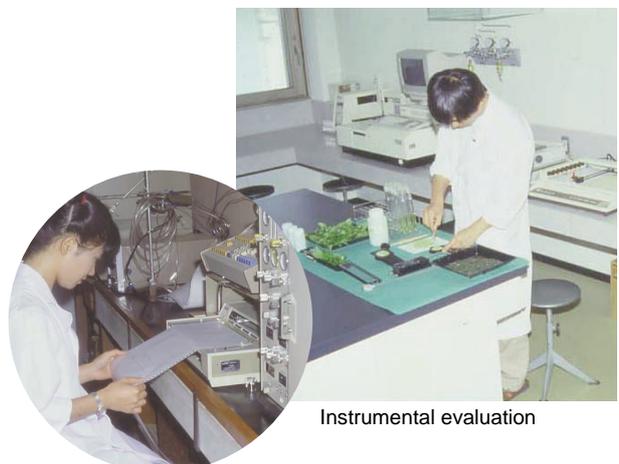
Estimation of sensory quality test of green tea

Appearance	Shape	Twist condition · Leaf size · Amount of stems and powders
	Color	Shade · Gloss
Inner quality	Aroma	Fresh · Greenish · Gyokuro-like · Roast · Scorched · Stuffy · Old · Taint
	Taste	Umami · Astringent · Bitter
	Color of liquor	Shade · Transparency · Presence of Ori

Instrumental Evaluation

The quality is quantified by the amount of irradiation of infra-red rays wave-lengths of tea leaves. The advantages of this method are the speed and ease of manipulation compared those of sensory test. This apparatus is able to determine the amounts of total nitrogen, moisture, catechins, vitamin C and fiber of crude tea and fresh tea leaves.

The relationship between the content of different compound of tea and its quality has been examined as well.



Instrumental evaluation