

Abstract

Project factors affecting growth and quality of Arabica coffee production process in Royal Project system and highland development project using royal project system was aimed at studying and analyzing factors affecting the yield and quality of Arabica coffee. Data collection and study were conducted in 3 Arabica coffee growing areas between March and November 2018.

The samples in this study selected farmers who produced quality and well-managed coffee. Data were collected by interview method. The focus groups were 10 farmers and 1 authorities in each area. 5 samples of soil were collected from each farmer, including samples of coffee beans for chemical analysis and cupping test of 15 samples in each area.

As a result of the interviews and group discussions, most of the farmers had a similar process of cultivation and processing. Including the marketing to the Royal Project. Arabica coffee grown as a Catimor group. Except for the farmers at the Mae La Noi Royal Development Project, most of them planted the Typica group. In the coffee growing area, it is found that the average sea level is 1,000-1,300 meters. Most of the coffee growing area is sloping forest along the hill. The production process is to plant a natural conservation system and the shade system, which is grown together with the fruit trees. Other fruits But there are some coffee growing areas in the open space. The coffee is burning. And the output decreased. The distance between the coffee trees is 1.5-2.0 meters, the number of trees is about 400-700 trees per rai. Fertilizer is the main chemical fertilizer. And manure compost is planted with legumes. For weeding, it was found that farmers regularly cut and weed out coffee throughout the year. Pruning is higher than 180 cm after harvesting. Diseases and insect pests are mainly found in the Coffee Leaf Rust, Cossidae, Scale Insects and Black House Ant. Coffee collection from October to March every year. Choose from red and ripe fruit by hand.

Processing section, farmers select good and bad results by selecting the floating fruit. This is the result of insect damage and the atrophy seeds. Cherry from the shell coffee will use a peeling machine within 24-48 hours. And soak in water or fermentation to clear the mucus within 24 hours. Fermentation time depends on air temperature and coffee beans characteristics. Then take it to the floor on high. Each time the weather is dry, the weather varies depending on the weather. Measuring coffee beans with a moisture meter but in some farmers, it is measured by how to use coffee beans. When coffee is dried, it will be stored in sacks. Then put them in their own home. Without overlapping in order to provide airflow and no moisture in the coffee.

The marketing of the three areas sold in the form of coffee to the Royal Project. And authorities support and increase the capacity of farmers to increase the value of the product. Some farmers can create their own brand. Available in both coffee and shell

coffee. Problems encountered during low yield Middlemen come to buy at a higher price than the center. Some farmers bring the coffee to sell to the middleman.

Analysis of soil samples found that most of the soil is sandy loam. Clay, sand, clay and sandy loam. Soil pH is 4.77-5.67, which is the ideal soil for growing coffee. The usefulness of phosphorus in soil was low to very high (>100 mg/kg). Very low to very high (>100 mg/kg) And very low level (<100 mg/kg), respectively. Potassium exchangeable in the soil was moderate to very high (> 300 mg / kg), low to moderate (<200 mg / kg) and low to moderate (<300 mg / kg) respectively. And all 3 areas are mostly dark brown to black. The organic matter in the soil is very high. The organic matter content in most soils is very high (> 5.0).

Analysis of physical coffee production quality showed that the shape of the coffee shell is quite round, large yellow color and no additives. The average humidity was 10.9%, 10.8% and 11.0%, respectively. The green bean has a density of 0.71 to 588 g / cm³. The density of coffee bean affects coffee taste. The size of the coffee seeds screen size of the coffee seeds found that the Huay Nam Khun Royal Project. The largest was 62.38%, followed by Mae La Noi Royal Project 55.58% and Mae Salong Royal Development Project 53.19% (diameter between 4.7–7.1 mm).

Analysis of the chemical composition showed that the analysis of the aroma of coffee roasted samples showed that (1) The sample of Mae La Noi Royal Project are 13 kinds of aromas, the samples of Mr. Khaoh Phuvanarindra's coffee beans were found to have the highest odor content 28 type and 7 types of the most unique aroma. (2) The sample of Huai Nam Mun Royal Project are 11 types of aroma. The sample of Mr. Hassin Meal's coffee is found to contain 26 type of the most odorous substances and the most type of aroma. (3) The sample of Mae Salong Royal Development Project are 13 types of aroma, the samples of the beans are Mr. Lorbaer Leutaitanom and Mr. Boomare Sose. And most unique aroma 3 type are Mr. Arlong Lacher.

The results of coffee taste test showed that there were 3 levels of coffee taste, namely, good level, 1 sample was farmers from highland development project of Mae Salong Royal Development Project. One example is the farmer from the Mae La Noi Royal Project.

Relationship between factors related to chemical composition. And the quality of the drink. To be used to improve the quality of coffee. The factors involved in this research were the height of the area farmer field operations coffee processing Postharvest management and the work of authorities. Chemical compositions include caffeine, sucrose, tricotene and chloroformic acid in coffee beans. The aroma of coffee roasted samples.

Recommendations in this research. Farmers should keep up with the latest news from the Royal Project. In terms of price and quota from the Royal. To be able to plan the distribution. The authorities at the center. There should be a discussion about the quota for

yield and price. Project for farmers to be prepared in terms of quality and quantity of products to meet the distribution standards and requirements of the Royal Project. Including the training of cooperative groups in the farm. And marketing. For farmers to have knowledge. And can negotiate with merchants outside. Not being exploited.

