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Comparison in Cup Quality of Arabica Coffee from Yunnan, China

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Abstract

Yunnan is the only coffee plantation province in China. It comprises three Arabica plantation regions (Dehong, BaoShan and Simao). The Arabica species are particularly sensitive to a disease called “coffee leaf rust disease” (*Hemileia vastatrix*). It is the major constraint for coffee production there. To overcome this serious epidemic problem, Catimor varieties, known for their coffee rust resistance, were introduced in Yunnan at the end of the 20th century. In recent years, low coffee prices in the market caused an international coffee production crisis. In almost all coffee producing countries, such low prices are unable to cover production costs and have led to serious social and economic problems. The present arabica germplasm from Yunnan was screened for taste quality. The 52 best samples were rated by a professional cup cup taster group in Berlin and the 17 best samples of this cupping were submitted to a consumer taste panel in Bonn. Basing on the results from the coffee cup testing and on complementary physical and chemical data, new ways are explored to reduce the incidence of coffee rust and to increase the income of coffee farmers in China. The results of the cup testing show that the quality of Catimor cultivars is not worse than traditional cultivars in China. They combine coffee rust resistance with relatively high productivity characters resulting in lower production costs. Moreover, the three main coffee plantation regions are compared for cup quality in order to find the environmental conditions in China which are best for cup quality. Finally, the study will focus on the shade or non- shade problem in coffee growing. According to the physical data (e.g. the fraction of beans in different sizes, the weight of 1000 beans and the ratio between the fresh fruits and the dry beans) and the cup testing results, we can determine whether shade trees have positive effects on the quality of coffee in China. It not only raises the local farmers’ income from coffee growing but also adds the extra benefit from the sales of by-products from shade trees. In addition, we will try to find the relationship between taste quality and the chemical components of coffee beans e.g. caffeine, trigonelline and chlorogenic acid.

Keywords: *Coffea arabica*, cup quality, germplasm, income, Southwest China