

變動模式與反應曲面設計在茶葉烘焙品質之應用

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摘 要：名間茶區秋季機採茶菁製造之半球型包種茶，以不同溫度(80-120°C)及時間(2-12 小時)烘焙對茶葉品質之影響，試驗結果如下：(1) 色澤：80-90°C烘焙 12 小時或 100°C烘焙 6 小時以內變化不大，仍具有原茶墨綠色之色澤。隨著烘焙溫度之提高，色澤由墨綠轉為暗綠或灰綠(120°C、6 小時以上)，已失去原茶之新鮮亮麗之色澤。(2) 水色：烘焙溫度 90°C 以下，時間對茶湯 L(明亮度)、a(紅綠值)、b(黃藍值)值差異不顯著；若烘焙溫度高至 100°C 時，茶湯水色 a 及 b 值隨烘焙時間的變化有顯著差異，顯示 100°C 烘焙對茶湯水色有顯著的影響，茶湯水色由蜜綠、蜜黃而轉變為暗黃，其中茶湯 b 值顯著增加，同時 a 值亦隨時間的變化而顯著增加，且 L 值下降，即明亮度降低，茶湯呈暗色。若烘焙溫度高至 120°C 時，烘焙時間 2 小時則 a 及 b 值已增加，4 小時 L 值已開始下降。因此，為保持該茶區茶湯水色明亮度及鮮活性之特色，烘焙溫度以不超過 100°C 為宜。(3) 香味：80-90°C 烘焙 8-10 小時，確可去菁去雜而改善香味品質；100°C 烘焙 6 小時以上時，可使茶葉產生輕熟味，隨烘焙時間的變化熟味漸次加重，雖然不會產生火焦味，但其滋味的鮮活性漸次散失；若烘焙溫度高至 120°C 時，烘焙 2 小時已產生輕熟味，隨烘焙溫度之延長而產生火味，滋味粗澀，喪失該茶區茶葉香味之特色。

The Appliance of dynamic model and Response Surface Methodology on the Roasting Quality of Tea

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Abstract: Five temperature levels(80,90,100,110 and 120°C)were to test the effect of roasting tea in combination with six time levels(2,4,6,8,10 and 12 hours).The results were as follows: (1) the color of the made tea: The color of the made tea was not significant difference with temperature 80-90°C among 2-12 hours. But the higher roasting temperature was, the duller the color was. (2). the color of liquor: Below roasting temperature 90°C,the value of L(brightness value),a(red-green value),b(yellow-blue)were significant difference. If the roasting temperature was above 100°C,the a and b value was different significantly by the change of roasting time. It turned yellow, brown ,red gradually. The results indicating that 100 °C temperature was the critical temperature to change the color of the liquor .In order to keep the quality of Mingjung tea area, suggesting that the roasting temperature did not over 100°C. (3) flavour and taste: Roasting by 80-90°C temperature and 8-10 hours, it could remove coarse and improve the taste quality .Roasting By 100°C temperature above 6 hours, it made tea light-mature. The higher the roasting temperature was, the maturer taste became , but it did not made tea bakey . But the roasting temperature was above 120°C , the taste became burnt and lost the characteristics of Mingjung tea.