光照對茶樹生育及開花的影響

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摘　要：(1) 台茶 12 號和青心烏龍在三種不同光照時數(8 小時、12 小時及 16 小時)處理之下，二供試品種茶芽萌芽日數以 16 小時光照處理為短且快，茶芽生育及生長速率亦較佳，茶菁產量相對亦較高，至於採摘期則較 8 小時光照處理為短 14－21 天。由此可知在較短光照時數之下茶樹生長發育較為緩慢，也因此造成往後茶樹花芽分化及花蕾數目多比光照時數 12 小時及 16 小時來得慢且少很多。(2) 在三種不同光強度處理之下，台茶 12 號和青心烏龍在較高強度下，其茶芽萌芽日數較在低光度下為短且快，換言之，在高光度下茶樹的腋芽休眠期較為短。此外在高光度下台茶 12 號茶芽的長度為 9.5 公分，芽葉數目為 3.95 個；在低光度下則茶芽長度為 5.7 公分，芽葉數目為 2.85 個，二者之間茶芽生育及生長速率等有明顯差異。至於青心烏龍茶芽生育及生長速率亦有相同試驗結果，並且在低光度下青心烏龍茶葉採摘期較高光度下多 7－10 天；至於葉片葉綠素的含量，無論是成熟葉或嫩葉則以低光度下為多，但茶樹樹勢較為弱些。(3)台茶 12 號和青心烏龍在三種不同光度(自然光、遮光 50%及遮光 75%)處理之下，台茶 12 號的花芽分化及花蕾數目則以在自然光 19.6 個/枝條為多、遮光 50% 為 13.9 個/枝條次之、遮光 75%為 10 個/枝條為少；至於青心烏龍亦有相同反應，因此可知越是低光度則茶樹花蕾數目相對減少，此可能與茶樹體內化學成分碳水化合物與氮素含量比率有密切的關係。此外無論是台茶 12 號或青心烏龍成熟葉葉片葉綠素的含量則以遮光 75%低光度下較自然光為多。

The Effects of Lights on the Growth and Flowering of Tea

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Abstract： 1) Under 3 treatments of light period (8hr, 12hr, and 16hr), the bud emergence of two testing species (TTES No.12 and Chinsin Oolong) is shorter and faster under the 16hr treatment. The tea buds are better in growth and have higher growth rate, and the yield is consequently higher, the plucking period is 14 to 21 days earlier than 8hr treatment. According to these results, tea plants grow slower under shorter light period, and this also contributes to slower flower differentiation and less buds compared to the 12hr and 16hr treatments. 2) Under 3 treatments of light density, the bud emergence time of two testing species (TTES No.12 and Chinsin Oolong) is shorter under high-density treatment than the lower ones, the axillary buds also have shorter dormancy under high-density treatment. The flush of TTES No.12 under high light density is 9.5 cm long with 3.95 buds in average, while in the treatment of low light density, the flush is 5.7 cm long and the number of bud is 2.85 in average. The Chinsin Oolong has similar result, and the plucking period is 7 to 10 days later under low light density. The chlorophyll content in the leaf, whether mature or young is higher under low light density, but the tea plants are weaker in viability. 3) Under 3 treatments of light quantity (natural light, 50% shading, 75% shading), the flower bud differentiation and bud number of TTES No.12 is the most under natural light which is 19.6 buds/shoot, the second under 50% of shading which is 13.9 buds/shoot, and the least under 75% of shading which is 10 buds/shoot. The Chinsin Oolong has similar result. According to these results, the lower the light density, the less the flower buds. The chlorophyll content in mature leaf of TTES No.12 and Chinsin Oolong is higher under 75% of shading than under natural light.