

2021臺灣國際蘭花研討會蘭科植物科技研發成果發表

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技術/專利：海運後不同鉀肥濃度供給對於蝴蝶蘭開花品質之影響

technology/patent：

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摘要 Abstract

Phalaenopsis is Taiwan's most important export flower, storage and transportation is an inevitable stage in the sales process. At present, Taiwan *Phalaenopsis* potted can reduce shipping costs by about 70% compared with air transportation. Therefore, they are mostly shipped in the form of 3.5-inch mature plants. After 28 days of dark storage and transportation, it will be directly sent to the cold room for flower induction. Considering the moisture, darkness and low temperature adversity encountered during the shipping stage of the *Phalaenopsis*, the industry often strengthens fertilizer management after storage, hoping to reduce the storage and transportation adversity regarding the effect of the subsequent flowering quality of *Phalaenopsis*, the actual use benefits are unknown. In this study, after 28 days of simulated shipping of *Phalaenopsis*, different concentrations of high potassium fertilizer (Peter's 15-10-30) were applied to investigate The effect of its use multiple on the subsequent flowering quality. The results show that the application of potassium fertilizer for the *Phalaenopsis* after storage has no significant difference on the flowering quality (Table 1). After the *Phalaenopsis* is stored and transported, its roots may be in a state of dryness for a long time. As a result, the root activity deteriorates, and the root activity gradually increases after one month after delivery (Figure 1), resulting in poor fertilization after storage and transportation. The results of this study show that the importance of fertilizer cultivation management before storage and transportation of *Phalaenopsis* is still higher than that of fertilizer cultivation after storage.

蝴蝶蘭是台灣最重要的外銷花卉，而貯運是銷售過程中不可避免的階段，目前台灣蝴蝶蘭盆花，考量海運可較空運降低運費約70%，因此多以3.5吋成熟株形式海運輸美，歷經28天黑暗貯運之後，便會直接送入冷房進行催花，考量蝴蝶蘭經海運階段所遭遇之水分、黑暗以及低溫逆境，業者常於貯後加強肥培管理，希望能夠減輕貯運逆境對於蝴蝶蘭後續開花品質之影響，然其實際之使用效益卻無從得知，本研究於蝴蝶蘭盆花(*Phal. Sogo Yukidian 'V3'*)經28天模擬海運後，施用不同濃度高鉀肥(Peter's 15-10-30)，調查其使用倍數對於後續開花品質之影響，結果顯示蝴蝶蘭盆花貯後鉀肥的施用對於其開花品質並無顯著差異(表1)，蝴蝶蘭經貯運後，可能因其根部長期處於無水分之狀態下，導致根部活性變差，且其根部活性於出庫後一個月才漸回升(圖1)，因而導致貯運後之施肥效果不佳，此研究結果顯示，蝴蝶蘭盆花貯運前之肥培管理之重要性，仍高於貯後之肥培補充。

圖表 Figure & Table

表1. 不同倍數濃度鉀肥對蝴蝶蘭貯後開花品質之影響

Table 1. Effect of different multiple concentrations of potassium fertilizer on flowering quality of *Phalaenopsis* after simulated storage and transportation

Peter's 15-10-30 (multiple)	Spike length (cm)	Inflorescence length (cm)	No. of side branches	No. floret	Floret diameter (cm)
0	63.1 b ²	30.3 b	0.7 ab	2.9 a	12.8 a
750	65.4 a	33.4 a	0.9 a	3.3 a	13.0 a
1500	63.0 b	32.1 ab	0.3 b	1.3 a	12.7 a

² Means within each column followed by the same letter are not significantly different at 5% level by Fisher's protected LSD test (n = 20).

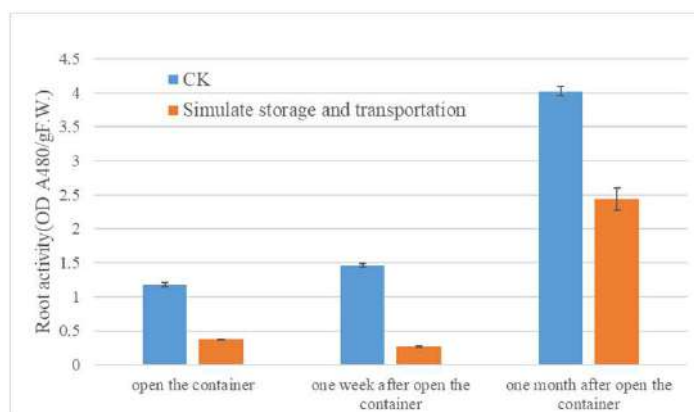


圖1. 模擬貯運前後蝴蝶蘭根部活性

Table 1. Root activity of *Phalaenopsis* before and after simulated storage and transportation.