

Title Effect of bark inversion on fruit weight, size and dry matter concentration of green kiwifruit (*Actinidia deliciosa* cv. 'Hayward')

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Abstract

A study was conducted to evaluate the effect of bark inversion on fruit weight, size and dry matter concentration of green kiwifruit (*Actinida deliciosa* cv. 'Hayward'). Kiwifruit growers received higher payment for their fruits if they could produce larger fruits with high dry matter concentration. In order to regulate fruit quality in kiwifruit, application of plant growth regulators, both natural (e.g. Benefit[®]) and synthetic (e.g. N-(2-chloro-4-pyridyl)-N'-phenylurea or CPPU) were used by kiwifruit growers. However, using plant growth regulators might be costly and sometimes may give negative effects to environment. To date, only girdling technique was used as a cultural practices for regulating fruit quality in kiwifruit. As far as we are aware, ther no detailed studies were conducted on bark inversion in kiwifruit. In this present study, selected kiwifruit vines were subjected to bark inversion, during late summer 2010 fruiting season. The vines without any bark inversion were treated as a control vines. The data on fruit length (L), maximum fruit diameter (W_1) and minimum fruit diameter (W_2), were measured one week after the application of bark inversion and after harvesting. Fruit fresh weight, fruit dry weight, fruit size ($L \times W_1 \times W_2$) and dry matter concentration were also evaluated after harvesting. Preliminary results showed that fresh weight, dry weight and size of fruits at harvest from the bark inversion vines were significantly increased compared with control. Similarly, dry matter concentration was also significantly higher in fruits from bark inversion than control vines. In addition, bark inversion also affecting the fruit length and the diameter increment of fruit at harvest.