

Title Gel occlusion in the xylem vessels of cut *Acacia Holosericea* foliage stems is not mediated by ethylene

Author N.M. Che Husin, D. C. Joyce, M. Gupta, George, D

Citation Abstracts of 7th International Postharvest Symposium 2012 (IPS2012). 25-29 June, 2012. Putra World Trade Centre (PWTC), Kuala Lumpur, Malaysia. 238 pages.

Keywords Acacia; ethylene

Abstract

The short commercial vase life of *Acacia holosericea* cut stem foliage is potentially the result primarily of physiologically mediated xylem vessel occlusion. Xylem occluding gels are considered to be a defence and healing mechanism against microbial intrusion. In 45 cm long cut *A. holosericea* stems, occluding gel secretions were observed in xylem vessel lumens at the cut stem end and for up to 25 cm distal from the cut end. The gels were deposited within 2 h after the stems were mechanically wounded, and they apparently matured over time. 'Early gels' were transparent and colourless in reaction with phloroglucinol-HCl (P-HCl). The staining of late gels with P-HCl was typically pink to red cherry, light to dark brown or amber and yellowish. A possible role for wound ethylene production in mediating gel formation in cut *A. holosericea* stems was investigated by applying exogenous ethylene versus the ethylene binding inhibitor silver thiosulphate (STS). There was no differential response in xylem occlusion between these treatments and with the untreated control. The overall results are indicative of ethylene independent xylem occlusion by gels in cut *A. holosericea* stems.