

SORPTION OF FUMIGANTS BY CUT FLOWERS

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This study investigated sorption of three fumigants (carbonyl sulphide, methyl bromide and phosphine) by two flower species; field carnations (*Dianthus* sp.) and kangaroo paw (*Anigozanthos* hybrid).

Fumigations of flowers were carried out in stainless steel chambers at concentrations recommended for use on cut flowers or similar commodities; carbonyl sulphide 15 mgL⁻¹, phosphine 0.25 mgL⁻¹ and methyl bromide 32 mgL⁻¹.

The sorption profiles were different for each of the three fumigants and were relatively constant across the flower species. The highest sorption was observed with carbonyl sulphide. After 7 hours there was no measurable level of carbonyl sulphide in the fumigation chambers (100% loss), in comparison there was a 33% loss of phosphine and a 5% loss of methyl bromide over the same time period.

Further study is warranted to determine whether the gas loss, particularly with carbonyl sulphide, is due to sorption by the flowers or hydrolysis of the fumigant.