

**Title** Postharvest methods to reduce sulfur dioxide residues in fresh longan  
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#### **Abstract**

Fumigating fresh longan with sulfur dioxide (SO<sub>2</sub>) is commonly used in Thailand as an effective postharvest method for pericarp bleaching and rot control. However, SO<sub>2</sub> residues in both pericarp and arils after fumigation are a major concern for customers. Results from 14 sampling sites in Chiang Mai and Lumpoon provinces showed that more than 80% of the samples had SO<sub>2</sub> residues in the pericarp higher than 1,700 ppm and all of the samples had residues in the arils exceeding 10 ppm. The SO<sub>2</sub> residues in off-season longan were higher than in in-season fruit. Washing longan with running water was more effective in reducing SO<sub>2</sub> residues than soaking in water. Washing longan for 5-10 min. within 24 h after fumigation reduced SO<sub>2</sub> residues by up to 36% in pericarp and about 48% in arils. Water temperature (0, 5, and 23°C) did not change the effectiveness of washing for reducing SO<sub>2</sub> residues in both pericarp and arils. Washing fresh longan for 5 min. had no effect on postharvest longan quality and overall acceptability as determined by a taste panel. Postharvest shelf life of washed longan was not significantly different from that of unwashed longan, which was about 18 days compared to 11 days for non-fumigated longan.