Bananas and plantains as a source of provitamin A

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Background – Bananas (*Musa spp*, including plantains) are staple foods in many Pacific Island countries where Vitamin A Deficiency (VAD) has become a problem. The introduction of and/or increased commercial availability of provitamin A carotenoid-rich varieties of bananas in these countries could play an important role in VAD prevention.

Objective – To identify banana varieties which are good sources of provitamin A carotenoids.

Design – The carotenoid content of frozen samples of the edible flesh of 12 banana varieties (10 selected from the Queensland DPI South Johnstone Research Station field collection on the basis of the coloration of the edible flesh and the two common commercially-available *Cavendish Williams* and *Lady Finger*) was determined by reverse-phase HPLC following ethanol:hexane extraction. The retinol activity equivalents (RAE)/100g banana were calculated for each sample.

Outcomes – Alpha-, all-*trans*-β and *cis*-β-carotene were the only provitamin A carotenoids present in detectable quantities in all samples and levels of these carotenes ranged from 61 to 1055, 50 to 1412 and 7 to 85 µg/100 g banana, respectively. Total carotene and RAE levels ranged from 150 µg and 8 RAE/100 g, respectively, for *Cavendish Williams* to 2176 µg and 136 RAE/100 g, respectively, for *Kirkirnan*.

Conclusion - Four banana (*Musa spp*) varieties (*Horn Plantain*, *Kirkirnan*, *Asupina* and *Pisang Raja*) were identified as good sources of provitamin A (> 75 RAE/100 g) and hence potentially useful for the prevention of VAD.