

Reviewer's report

Title: The positive impact of red palm oil in school meals on vitamin A status: study in Burkina Faso

Version: 1 **Date:** 20 January 2006

Reviewer: Vinodini Reddy

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General

Red palm oil (RPO) is the highest plant source of provitamin A carotenoids, and several studies have shown its efficacy in reducing vitamin A deficiency in children. Results of the present study are in line with the earlier findings and demonstrate that fortification of school meals with RPO has a positive impact on the vitamin A status of school children. The results also support previous studies showing that initially deficient subjects derive the most benefit from vitamin A/RPO supplements. This is an important study relevant to Burkina Faso and other countries where RPO is the staple fat. The paper is well written and may be accepted for publication.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Discretionary Revisions (which the author can choose to ignore)

The following points may be considered in 'Discussion'.

It was observed that more than 10% of children had low serum retinol after the intervention. This is attributed to factors other than vitamin A intake. But, inadequate dose of the supplement appears to be a more plausible explanation. Vitamin A supplied by the RPO supplement over the test year was close to 60 mg provided by a single vitamin A capsule. This is not enough to maintain serum vitamin A levels. The recommended dosage is 60 mg of vitamin A every 6 months.

It is stated that vitamin A status of pupils who received vitamin A capsule 6 months earlier was not different from that of others. This is not surprising, since the benefit of vitamin A capsule has been shown to be short lived. This is the basis for recommending 2 doses in a year. In fact, studies using 60 mg vitamin A have shown that serum retinol levels are not maintained beyond 4 months. Whether it is synthetic vitamin A or dietary supplement, adequate dose is required to improve vitamin A status.

What next?: Accept after discretionary revisions