

Biofortified crops	References	Country and population	Number of subjects (age)	Food product	Time-type of intervention	Results Conversion factors (Cf)	Results
<b>Orange fleshed sweet potato (OFSP)</b>	Van Jaarsveld <i>et al.</i> <sup>40</sup>	Durban, South Africa Children-	180 (5-10y)	Boiled mashed OFSP Oil	(53 days) <sup>7</sup> MRDR >0.060 inadequate VA liver store	VA liver stores increased in OFSP (78 to 87 %)	OFSP + Low VAD: limitation of the study
	Jamil <i>et al.</i> <sup>43</sup>	Bangladesh Women with low Vit A status	120 (18-45y)	Boiled or fried OFSP Oil capsule	10wk-6days/wk <sup>8</sup> stable isotope dilution.	Increase only in Plasma $\beta$ -carotene in OFSP	OFSP -: limited impact on VA status of women
<b>Cassava</b>	Liu <i>et al.</i> <sup>48</sup>	Colombia Women	8 (20-40y)	Porridge With low fat	1 day <sup>1</sup> , Plasma TRL	Cf : 2.8	BFC +++ Highly effective (including low fat)
	La Frano <i>et al.</i> <sup>49</sup>	California (USA) Healthy women	12 (20-44 y)	Porridge With fat	1 day <sup>2</sup> , Plasma TRL	Cf : 4.2-4.5	BFC ++ Effective with/without oil
	Zhu <i>et al.</i> <sup>50</sup>	California (USA) Healthy women	8 (19-43 y)	Gari (fermented) With fat	1 day <sup>3</sup> , Plasma TRL	Cf: 2.3-4.2 red palm oil (RPO) or other oil	BFC ++ effective Added effect with RPO
<b>Maize</b>	Li <i>et al.</i> <sup>59</sup>	Iowa (USA) Healthy women	6 (18-30 y)	Porridge	1 day <sup>4</sup> , Plasma TRL	Cf : 6.48	BM ++: 250g -15 % of RDA for women
	Muzhingi <i>et al.</i> <sup>60</sup>	Zimbabwe Healthy men	8 (40-70 y)	Porridge Corn oil, butter	35 days <sup>5</sup> reference isotope method,	Cf : 3.2	BM +++ 300 g -40-50 % of RDA for men
	Gannon <i>et al.</i> <sup>61</sup>	Zambia Children (52% undernourished)	133 (5-6 y)	Porridge Daily placebo oil	90 days <sup>6</sup> , stable isotope dilution <sup>13</sup> C-RID-TBRs,	Cf : 10.4 changes in TBRs in orange maize group	BM +: limited by VA status in children (no VAD, high liver store)
<b>Golden rice*</b>	Tang <i>et al.</i> <sup>68</sup>	Boston (USA) Healthy women and men	3 women and 2 men (41-70 y)	Cooked rice 10g butter in a meal	36 days <sup>9</sup> , reference isotope method	Cf : 3.8	GR +++ 100g- 55-70 % of RDA for adults
	Tang <i>et al.</i> <sup>69</sup>	Hunan Province, China Healthy children	68 (6-8y)	Cooked rice (60g) in a meal	35 days <sup>10</sup> (5d/wk) reference isotope method	Cf : 2.3	GR +++ High bioconversion efficiency
	Pinkaew <i>et al.</i> <sup>70</sup>	South of Thailand Children (39 % underweight)	50 (8-12y)	Cooked rice (120g) in a meal	58 days <sup>11</sup> stable isotope dilution <sup>13</sup> C-RID-TBRs,	TBRs of VA increased in OFSP	GR+++ highly efficient on VA status of children

\*Conversion efficiency of dietary  $\beta$ -carotene to retinol ( $\mu\text{g}$  carotenoid: 1  $\mu\text{g}$  retinol). <sup>1,2,3,4</sup> Post-prandial cross-over db blind study; <sup>5</sup>Serum retinol; <sup>6</sup>Community-based, randomized placebo-controlled trial-TBRs: Total Body Retinol store; <sup>7</sup>Randomized controlled trial; <sup>8</sup>plasma carotene, retinol, and VA pool size; <sup>9,10</sup> serum retinol,  $\beta$ -carotene concentration; <sup>11</sup>db blind randomized controlled trial. BFC : Biofortified cassava; BM: Biofortified maize; OSP: Orange sweet potato; GR golden rice. +++: high efficacy, ++: good efficacy, + : efficacy but with limitations, -: low efficacy.\*Transgenic crop. y=year-old; wk = week.