

All I Want for Christmas is Golden Rice



By Ruth Kava — December 8, 2017



Golden and Ordinary Rice Credit:
Wikipedia

Actually, I want more than just having Golden Rice — I want it to be widely available to people who eat rice as a staple food. And I want to see the results of that consumption in the decrease in the number of children worldwide who go blind because of vitamin A deficiency.

To recap briefly, vitamin A deficiency causes not only blindness, but also increased susceptibility to infectious diseases because of its impact on the immune system. Beta-carotene is a precursor to vitamin A, and although excess doses of vitamin A can be damaging, there has been no toxicity associated with beta-carotene.

Some have argued that the way to deal with lack of vitamin A is periodic supplementation with high-dose vitamin A, and this route is already in place in many developing countries, but high dose supplementation only [lasts](#) ^[1] 4 to 6 months and thus must be repeated. According to [UNICEF](#) ^[2], in 2013, vitamin A deficiency was a widespread public health problem — in sub-Saharan Africa it affected nearly half of children between the ages of 6 to 59 months, and in South Asia, about 44 percent of such children were deemed deficient. But, the agency reported, by 2015 only 70 percent of targeted children were reached with vitamin A supplementation.

Further, even where supplementation is available, not all individuals in an area will get it — the programs are primarily focused on young children and pregnant women. But fortification of a staple food with beta-carotene could improve the status of all individuals — even adult men and non-pregnant adult women would lose their sight if they had a long-term deficiency. And some research indicates that golden rice can be as or more effective than either supplements or spinach in delivering beta-carotene to those who need it — as we reviewed [here](#). ^[3]

Yet anti-GMO activists such as Greenpeace have [railed](#) [4] against the use of this life-saving product of genetic engineering, although we've never heard them complain about using genetically engineered insulin to treat diabetes. Obviously, they pick their targets carefully.

Soon there will also be [Golden Potatoes](#) [5], genetically engineered to contain beta-carotene, which will perform a similar function for populations that depend on these tubers as dietary staples — particularly in areas of Central and West Africa. We can likely expect Greenpeace and its ilk to weigh in against these as well. However, I hope that the development and approval of these potatoes moves rapidly in spite of them, so that soon I can add them to my list of stocking stuffers!

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Links

[1] <http://www.who.int/nutrition/topics/vad/en/>

[2] <https://data.unicef.org/topic/nutrition/vitamin-a-deficiency/>

[3] <https://www.acsh.org/news/2012/08/16/a-golden-age-of-rice>

[4] <https://www.acsh.org/news/2012/09/17/greenpeace-misleads-on-golden-rice>

[5] <https://www.acsh.org/news/2017/11/13/move-over-golden-rice—golden-potatoes-are-way-12136>