

COMMENTARY

A **Commentary** on the Guest Editorial titled “Ending Hidden Hunger: Is There a Weak Link” by Victor J Temple ([Volume 12, No 7, December 2012](#))

Dear Editor,

We read the Guest Editorial in your latest issue ([Volume 12, No 7, December 2012](#)) and commend Prof Temple and you for the timeliness and comprehensiveness of this important article. The article presented a balanced overview of strengths and weaknesses of various interventions for fighting hidden hunger, while also highlighting the need to integrate these with broader agricultural and health interventions for ending hidden hunger.

There are a few misperceptions related to biofortification which we would like to clarify. This is especially important as HarvestPlus and its partners prepare to deliver four biofortified crops in four African countries in 2013: iron beans in Rwanda and Uganda; provitamin A orange sweet potato in Uganda, provitamin A orange maize in Zambia, and provitamin A yellow cassava in Nigeria.

1. “A complementary strategy to food fortification is biofortification, which involves using the best conventional breeding practices and modern biotechnology to develop high yielding varieties of micronutrient-dense staple crops”

All biofortified crops that are currently being delivered, as well as those in the pipeline for delivery by HarvestPlus and its partners are conventionally bred. Moreover, biofortified varieties of crops are not only bred to have higher micronutrient levels (iron, zinc and vitamin A) but also to have various production and consumption traits farmers and consumers prefer, such as high yield; virus, disease and pest resistance; drought tolerance, and cooking and eating quality, to name a few.

2. “Biofortification strategy effectively reaches the more vulnerable populations in remote rural areas, because biofortified seeds can be supplied to them for cultivation in their family or community gardens. Thus, the main advantage of biofortification over commercial fortification is that the biofortified crops can be grown in the poor and remote communities.”

Biofortified crops are not just for cultivation in family or community gardens for household consumption. Many, if not all, of these crops can also be grown in smallholders’ fields and on larger farms both for subsistence and as cash crops. While the author correctly notes that remote communities may especially benefit from biofortification as they often have limited access to fortified foods or supplements, biofortified varieties of crops are bred to be

suitably grown under various agro-ecological conditions in almost all rural or peri-urban areas of target countries.

3. “The downside of this strategy is that there are still controversies over the long term effect of consuming some biofortified products”

The author does not state what these controversies are. In fact, most biofortified crops are not that different from the non-biofortified varieties other than being richer in certain nutrients. Orange sweet potato (OSP), for example, is widely eaten in many regions of the world. Evidence on the nutritional impact of consuming OSP, the biofortified crop which has been around the longest, indicates that OSP was effective in providing substantial amounts of vitamin A to women and children in Mozambique [1] and Uganda [2]. Similarly, crops like beans and pearl millet are already high in iron. HarvestPlus and its partners are simply breeding varieties that have more iron.

4. “There is, therefore, the need for policy makers and program planners to ensure that only biofortified products approved by WHO, FAO and other reputable international agencies are imported and used in the country.”

This implies that biofortified crops are somehow being imported. Crops are being bred in partnership with CGIAR centers and their partners most of which are located in the regions where these crops are intended. Candidate varieties are first widely tested and evaluated by national agricultural research centers before being approved and released by the appropriate national varietal release committee. When it eventually comes to formally trading products made from biofortified food crops, HarvestPlus is in the process of ensuring that these comply with international Codex as well as national regulations and guidelines on food labeling.

5. “The lack of consumer acceptance of biofortified products has been one of the major obstacles to successful implementation of approved biofortification programs.”

This statement is not valid, since release and delivery/production of biofortified crops are too recent to make such a statement. Consumer acceptance studies conducted to date have shown that for some crops, such as orange maize, consumers prefer biofortified varieties over conventional ones, even in the absence of information about the nutritional benefits of biofortified varieties [3]. All of the consumer acceptance studies conducted to date have shown that when consumers are informed about the nutritional benefits of biofortified crops, they prefer these to conventional ones [3, 4, 5]. In the case of OSP, on average 65% of farmers in the project areas in Mozambique and Uganda willingly adopted the OSP and fed it to their families. It is now being scaled up in both countries.

6. “It is therefore important that, prior to the implementation of such programs, appropriate awareness campaigns be carried out among small and large scale farmers, and that their concerns be noted and addressed before and after disseminating biofortified seeds”

HarvestPlus and its partners work very closely with target countries' agriculture and health authorities as well as with the private sector and civil society organizations to ensure that appropriate awareness campaigns are developed and implemented at all levels. These campaigns are targeted not only at the small scale farmers but also at those household members who are responsible for making food consumption decisions in the households. Moreover care is taken to ensure these campaigns are implemented via the use of the appropriate media (radio, community theatre etc), in the appropriate language, providing the optimal level and amount of information. In addition, in each one of the target countries, mechanisms are in place to receive feedback from both farmers and consumers not only during the crop development phase (e.g., participatory breeding processes, farmer field days and consumer acceptance studies, including organoleptic tests), but also following delivery after each season (e.g., farmer feedback studies, and various Monitoring and Evaluation tools).

Sincerely yours,

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