



Addressing biodiversity, hidden hunger and malnutrition

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For those of you that regularly read this column, you will be aware of my concern regarding the narrowing choice of grains as feedstock for millers of food and feed. The rate of change in cereal production and its reduction to just three principle crops of maize, wheat and rice is ultimately to the consumers loss in terms of food

and feed value, as well as animal and human nutrition and health. In 2018 Milling4Life will be working with various initiatives to reverse this trend of reducing biodiversity, and also to aid research in major opportunities for previously ignored crops as feedstocks for the industry. We will be doing this, as these are more often than not the crops that smallholder and subsistence farmers in developing countries both understand and rely upon for their survival. What is missing is the investment in plant breeding and agronomy for these crops that the 'big three' of wheat, rice and maize have received over the last century. One initiative you will be hearing more about during 2018 is the African Orphan Crops Initiative (AOCC), which we will be working closely. Nutrition is at the core of AOCC and that consortium is working to address hidden hunger, malnutrition and stunting in Africa through the use of nutritious local food crops. Many of these crops are rich in vitamins, micronutrients, anti-oxidants and medicinal ingredients. Due to non-standard and unimproved cultivars grown in the countryside, it is possible that they vary in their nutritional compositions and this may not help in getting the right nutrition in the correct proportions. AOCC aims to make these nutritious crops already grown at scale in Africa productive.

Another initiative whose work we will be supporting is the Global Crop Diversity Trust (GCDT). Crop diversity is essential for life on earth as it underpins nearly everything we eat and drink, but that diversity is rapidly disappearing. The Crop Trust is responding to the crisis threatening the foundation of our food, and is the only international organisation dedicated solely to conserving and making available crop diversity.

We will also be looking at developments in cereal processing technologies like extrusion, and how the benefits of these developing technologies can be incorporated into and for the benefit of smallholder production in developing countries. Encouraging grower co-operatives and the adoption of modern milling technology has the potential to be life changing in these situations.

The result of this strategy will be seen in Milling4Life's

involvement in several practical on the ground projects to the benefit of all of the above initiatives and organisations. We will be working with leading universities and research establishments and ground building work in respect of building these networks, which place in 2017. We will for instance be working with food processors, shippers and logistics experts in several Far Eastern countries to promote trade and development that favours smallholders and ordinary citizens in these developing countries. We will also look to closely work with the grain storage and processing industry for the establishment of exemplar units than can be rolled out in developing countries.

Many of the latest developments in grain milling are indeed old ideas that have been revisited in recent times because of advances in manufacturing technology. A prime example is the application of double grinding without intermediate sieving. There are three main categories where advances have been made, machine capacities, machine construction, and new machine technologies.

The current stimulus for development in flour milling technology is the flour miller's requirement to produce the highest quality products at minimum cost. This has been achieved in the past through investment in new technologies, which are supplied by a small number of equipment manufacturers.

Most recent development work has centered on the optimisation of machine design and capacity and the application of these machines to existing processing strategies. One result has been the development of more compact flourmills in recent years, but all these are employing conventional processing strategies. This kind of optimisation can only be pursued to a finite degree and the introduction of new grain feed stocks.

Add to all of the above the current global grain industry trends in meeting the demands of changing eating habits, the demand for more convenient food with an increasing demand for healthy and safe eating together with the availability particularly in developed countries of luxury and life style products. Also recent trends in the supply chain with new supply sources, quality variation, contamination and the effect of disease together with operational challenges, energy prices and the availability of (qualified) labour, all makes for the need for clear and concise strategies for the industry moving forward.

Milling4Life will be doing its best to positively contribute to great outcomes for the industry coupled with serving the nutritional and health aspirations of millions of people in developing countries.