Supporting immunity with fortified rice

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How optimal nutrition can improve immune function

Immune health is more topical than ever before, and the link between nutrition and immune function is increasingly highlighted by public bodies. Good nutrition plays a key role in supporting a healthy immune system that can protect the body from infections and aid faster recovery during illness.

When an individual cannot access or afford nutritious foods, like those already suffering from 'hidden hunger', they do not meet the recommended levels of essential vitamins and minerals needed to boost their immune system. Because of this, they are more exposed to infectious diseases, as well as longer periods of illness and severity of disease. In addition, the body uses more vitamins and minerals to tackle infection, meaning that nutrient stores are depleted and must be replenished. In undernourished populations, this contributes to further malnutrition and increases the burden of disease.

The World Health Organization's (WHO) recent dietary guidance, in the context of the COVID-19 pandemic, states that good nutrition is crucial for health, particularly in times when the immune system might need to fight back.[1]

Supporting immunity at scale with rice fortification

So how can governments ensure that people get the nutrition they need, especially when many individuals worldwide only have access to staple foods? One of the most effective, safe and cost-efficient ways to tackle deficiencies in populations worldwide is fortification. It enhances the nutritional value of staple foods by adding or replacing micronutrients that may have been lost during processing.

Consumed by more than 50% of the world's population, rice is an ideal vehicle for fortification that can easily reach the general population and improve nutrient intake. Made more nutritious by adding fortified kernels produced by hot extrusion, it looks, cooks and tastes the same as its non-fortified counterpart. Because of its wide-reaching benefits and consumer acceptance, rice fortification is recommended by the WHO.[2,3]

A snapshot of the latest science: specific nutrients and immunity

Recent evidence indicates that multiple micronutrient supplementation may modulate immune function and lower the risk of infection.[4] Vitamin D supplementation, for example, lowers the risk of acute respiratory tract infections, while vitamin A can help protect the body from measles and diarrheal infections. Iron and zinc also play a key role in immunity by supporting immune cells in fighting invading microorganisms.

One study also showed that anemia, the common cold, urinary tract infections and fever were reduced in a vulnerable population receiving rice fortified with multi-micronutrients, as part of a nutrition program.[5] A second study reported similar findings, showing that consumption of fortified rice for one year was linked to reduced anemia and fever-related illnesses.[6]

Taking action to support immune health

Nutrition is an essential pillar of immunity and good health. To minimize the effects of widespread illness in the future, a comprehensive, multi-sectoral approach to nutrition needs to be actioned across health systems, food systems and protection systems. By improving the nutritional value of rice via the addition of specific nutrients, governments can address micronutrient deficiencies at scale, supporting public health and ultimately immunity. This involves close collaboration between governments, non-governmental organizations (NGOs), the private sector and academia, as well as civil society, to plan and implement combined nutritional strategies, including rice fortification.

How DSM can support

DSM has decades of experience in rice fortification, providing its partners with its technical and scientific capabilities, and its high-quality, reliable and safe extruded fortified rice kernels and premixes. For more information on how DSM can help you implement rice fortification programs to improve public health and support immunity, visit **www.nutritionimprovement.com.**

References

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