

Healthier Red Rice Discovered By Malaysian Researchers Hits Store Shelves

Universiti Kebangsaan Malaysia



Malaysia – where rice is a staple in daily meals – has one of the highest rates of diabetes in the world. While working to increase the yield ceiling of rice using a wild rice species as a parent in the breeding programs, researchers at Universiti Kebangsaan Malaysia (UKM) and Malaysian Agricultural Research and Development Institute (MARDI) found a new type of rice that had a lower glycaemic index value (GI) levels, which ultimately became Primera® Red Rice.

While generally considered healthy, certain varieties of white rice have a moderate to high GI of over 55. Foods with high GI levels are processed in the body more quickly, leading to a blood sugar spike followed by a slump, whereas low-GI foods are processed more slowly and stabilize blood sugar. High-GI foods can be particularly problematic for people with diabetes, as one meal can be the difference between perfectly healthy and very ill.

One of the main differences between white and red rice is how they are farmed and prepared for sale. White rice is sold with its husk, bran and germ removed, leaving just the endosperm. Overall, it also has fewer vitamins and minerals. Red rice, on the other hand, often keeps the hull and germ and has more nutritious benefits, like high levels of antioxidants and fiber.

The color of Primera® Rice, a deep red, comes from anthocyanins, which are a good source of antioxidants. Antioxidants protect your cells from substances called free radicals, which are produced when you break down food. Because of this, Primera® is also beneficial in preventing diseases like cancer and heart disease, among others.

In addition, when Primera® is sprouted, meaning the rice has begun germinating, glutamic acid in protein is converted to gamma aminobutyric acid (GABA) by activated hydrolytic enzymes, increasing the nutrient value. Researchers worked to optimize the benefits of Primera rice by experimenting with different sprouting conditions. Sprouted rice also has high levels of GABA, and Primera® Red Rice has the highest levels of GABA compared to other rice strains. When digested, GABA produces a calming feeling, helping with stress and anxiety, and improves motor control and motor learning. The rice also has a high zinc content, which is useful for cell repair and a healthy immune system.

UKM exclusively licensed the rice variety to Nomatech Sdn. Bhd to develop, commercialize and promote the new variety of rice. Dr. Wickneswari Ratnam, Managing Director of Nomatech, created the new variety by crossbreeding two types of rice, *Oryza rufipogon*, also known as brownbeard or red rice, and a *Oryza sativa* Malaysian cultivar. The result, Primera Red Rice, has a low GI value of 46%, which means it can help stabilize and lower blood sugar after consumption.

Since licensing Primera, Nomatech has given almost \$9,000 back to the university to encourage further research and student collaboration. Nomatech is responsible for getting Primera® Red Rice on store shelves, and it is now available in chain stores across Malaysia such as Lotus's, Hero Market and Giant.

In 2021, the Ministry of Health certified that Primera Rice is a non-genetically modified food. A genetically modified organism (GMO) is a plant, animal, microorganism or other organism whose genetic makeup has been modified in a laboratory using genetic engineering or transgenic technology.

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