## 玄紫効果の大学研究商品化に成功

同社は、

肥満やメタ

P

アオリザー

をよ

残る玄米の発酵の調整 もので、胚芽や表皮が 米を甘酒風に仕上げた 会津産ひとめぼれの女 を開発し、 飲料「玄米オリザー 牛に発売した。 平成二十 商品は

ボの抑制効果がある? ルを多く含む玄米発酵 (ガンマ) オリザノ う」とコメントした。 り多く含む加工法を、 評価されうれしく思 益崎教授や県ハイテク のために産学官連携で 風評払拭(ふっしょく) 取り組んできたことが ノラザと連携し てきた。 満田社長は 「県内の して模索

一に掲載された記 「玄米オリザーノあま

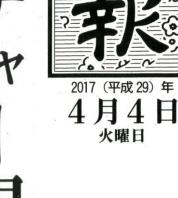
を持つ満田主任

ざけ」

害に苦しむ食品加工企業の挑戦が評価された。 紹介された。東京電力福島第一原発事故以降、 よる玄米の健康への効果研究を発酵飲料として商品化 したことが、英科学誌「ネイチャー」三月三十日号で (満田盛護社長)は、琉球大医学部の益崎裕章教授に 会津若松市でみそなどを製造している会津天宝醸造 風評被

本食の機能性研究特集 記事はネイチャーの日

42000 ら販売し ている。 代主任が効果的な使 合企画部長と満田昌 用方法を講演し の金本淳 開発に携わった同社 一部として掲載され ている。 一取締役総 合わせは なが 商品



国際学術誌 Nature で 紹介されました

# Japan's culinary restoration

How the science behind the washoku food tradition could ease the burden of an ageing society and breathe new life into an ailing agricultural sector.

BY BRETT DAVIS

( **Nature** 30 March, 2017 )

## Brown rice for diabetes

In southern Japan, researchers are working with a food and pharmaceutical company to develop fermentation-based beverages and supplements to prevent and treat obesity-diabetes syndrome. Hiroaki Masuzaki of the University of the Ryukyus in Okinawa and colleagues are investigating brown rice, which has long been known to improve glucose tolerance and prevent the onset of diabetes.

The researchers tested the hypothesis that brown rice specifically contains several metabolically-beneficial

compounds not found in other grains.

The endoplasmic reticulum (ER) is a cellular network of tubules responsible for synthesising, folding and trafficking proteins within cells. In various diseases, 'unfolding' proteins accumulate in the ER. a condition called ER stress. These unfolding proteins are toxic to cells and induce apoptotic cell death. In recent years, studies have shown that the pathophysiology of obesity and diabetes is closely related to exaggerated ER stress in obese-diabetic mice. Notably, the fermentationbased gamma-oryzanol-rich beverage produced by Aizu Tenpo Co.,Ltd. showed strong potential to improve the imbalance of gut microbiota in conjunction with the reduction of ER stress, says Masuzaki.

Unfortunately, the gastrointestinal tract is inefficient in its capacity to absorb gamma-oryzanol. So Masuzaki and his team, including colleagues at SENTAN Pharma Inc., encapsulated the compound in polymer poly (DL-lactide-co-glycolide) nanoparticles. They found that a single bi-weekly oral dose of 'Nano-Orz' markedly improved

glucose and lipid metabolism in obese-diabetic mice compared to regular gamma-oryzanol. It also markedly reduced ER stress in various tissues.

The team is now investigating the potential benefits of gamma-oryzanol in cognitive impairment, decreased physical activity, and addiction to alcohol, nicotine and dietary animal fats, all of which are often associated with obesity and diabetes.