

Biosafety News

Chinese Scientists Develop High Antioxidant Purple Rice through Genetic Engineering

Scientists from South China Agricultural University successfully developed purple rice rich in antioxidants. The results of the study are published in Molecular Plant journal.

Rice rich in beta-carotene and folate were successfully developed through genetic engineering. Previous attempts to develop rice rich in anthocyanin were unsuccessful because the biosynthetic pathway involved is very complex.

Yao-Guang Liu of South China Agricultural University and colleagues initially analyzed the sequences of anthocyanin pathway genes in various varieties of rice and identified the nonfunctional genes in japonica and indica rice that do not produce anthocyanins. Based on the analysis, they developed a transgene stacking strategy for expressing 8 anthocyanin pathway genes in the endosperm. This led to the development of the first genetically engineered purple endosperm rice with high anthocyanin and antioxidant activity in the endosperm.



The researchers plan to develop other cereal crops enriched with anthocyanin.

Read more details from [Science Mag](#) and [Molecular Plant](#).