

# China approves clinical trial of albumin from rice

China's food and drug authority has approved a clinical trial of human blood protein yielded from transgenic rice seeds, which could lead to large-scale production of much-needed plasma.

Human serum albumin is widely used in surgery. A Chinese research team led by Yang Daichang, an expert on China's national "Thousand Talent" program, has researched using rice seeds to produce human serum albumin for 12 years.

Wuhan Healthgen Biotechnology Corp. for Human Health, a private Chinese firm that specializes in developing and marketing innovative animal-free products for pharmaceutical use, has invested 200 million yuan (29 million U.S. dollars) to support the research.

The company, based in the Wuhan National Bio-Industrial Base in Wuhan, capital of central China's Hubei Province, is eyeing large-scale production of human serum albumin from rice.

With the drug trial approval, the albumin will be put into clinical use in August, and it can be expected to hit the market in four to five years.

There is a huge shortage of human serum albumin in China, estimated at 100 tonnes a year, and 60 percent of the country's yearly demand of 420 tonnes relies on imports.

Safety is also a concern with plasma from human donors as blood diseases such as HIV/AIDS and hepatitis still pose a threat.

Yang's team transplanted human serum albumin into rice seeds. As the seeds grow, they continue to generate the protein, which has been tested to have purity of 99.9999 percent and a productivity rate of 10 grams per kilogram of rice grain.

The Center for Drug Evaluation under China Food and Drug Administration said that rice-extracted human blood protein is "safe and effective," and its quality can be easily controlled.