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Paper title:

Acceptance of Genetically Modified rice in Shanxi Province, China.

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Abbreviations

GMF: Genetically Modified Food

GMR: Genetically Modified Rice

NTD: Neural-Tube Defects

WTA: Willingness-to-accept

Neural-Tube Defects (NTD) are considered to be the most common congenital malformations and account for up to one-third of stillbirths and infant mortality in China. Shanxi Province, a poor region in the North of China, has one of the highest reported prevalence rates of NTD's in the world (Li et al. 2007). Periconceptional use of multivitamins containing folic acid can reduce a woman's risk of having a baby with a NTD. Folic acid fortification of rice can be considered as an excellent alternative to pills intake in this region (Storozhenko et al. 2007). Implementing this kind of GM rice in Shanxi Province can be the answer to the high NTD's and the low folate intake. Nevertheless, without consumer's acceptance of GM rice, promoting its production is useless.

The aim is to analyse willingness-to-accept GM rice (WTA GMR) of consumers in Shanxi Province in order to justify the implementation of GM rice. Furthermore, the effect of possible negative rice attribute changes on acceptability is investigated. The theoretical framework explores the relations between socio-demographic indicators, consumer characteristics (knowledge, consumer perceptions on benefits, risks, safety, price) and willingness-to-accept GM rice.

As method standardised questionnaires are used and the consumer survey comprises 944 face-to-face interviews with rice consumers in Shanxi Province, China. Multivariate analyses consist of multinomial logistic regression and hierarchical cluster analysis.

The results are indicating that consumers generally are willing to accept GM rice, with 62,2 % of the respondents accepting and only 11,2 % rejecting. Multinomial logistic regression shows that acceptance is positively influenced by objective knowledge and consumer' perceptions on benefits and risks, with socio-demographic indicators influencing these concepts. Furthermore, cluster analysis reveals a segmentation of Shanxi consumers into "optimistic" and rather "neutral" consumers, representing respectively 22,8 % and 77,2 % of the sample. With respect to attribute change, a bad taste and a larger environmental impact are the most important reasons for consumers to reject GM rice. The acceptance of these rice attributes is associated with the perceived importance of rice attributes.

In general, most of the consumers from Shanxi Province accept GM rice. Based on the results, there is a need to focus on improving knowledge and consumers' perceptions on GM food. Communication towards the use of GM rice should target mainly on high-risk groups within Shanxi Province, in particular low educated women.

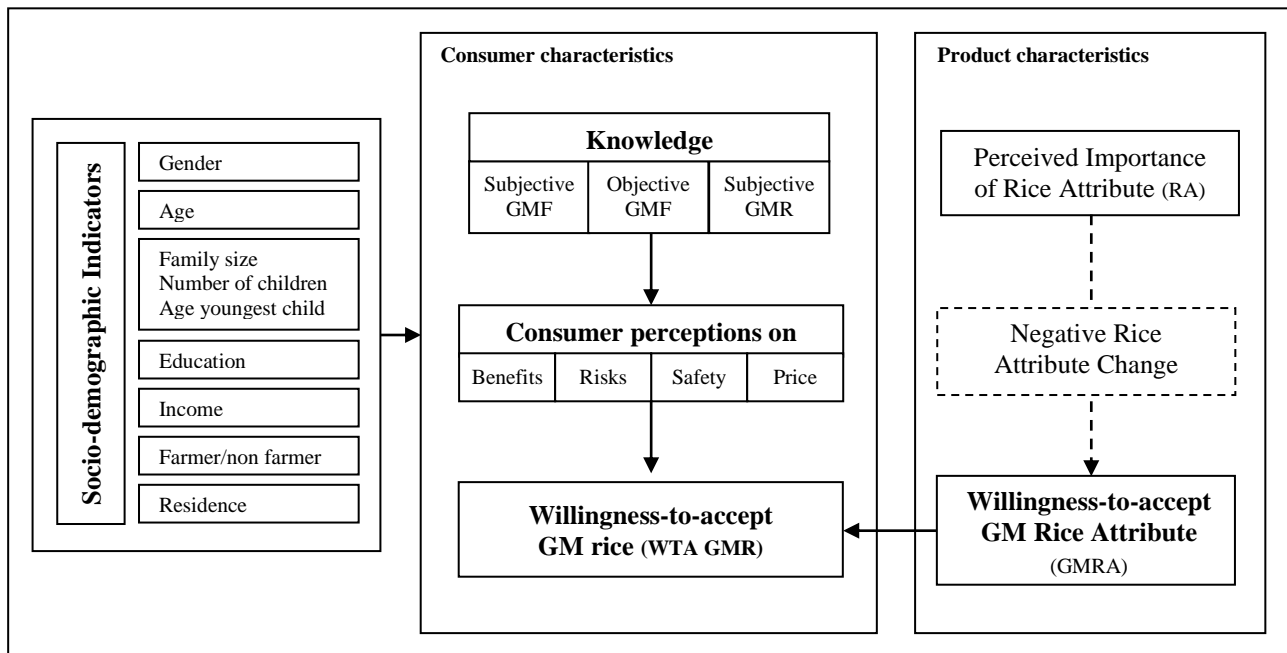


Figure 1. Theoretical framework of consumer acceptance of GM rice

Describe briefly why your submission should be selected for this year’s program. Please indicate “what’s new” in your presentation, speaker credentials, or any other supporting factors (Limit of 200 characters)

*Next to the more biotechnical papers, a paper of willingness to accept GM rice in China to avoid neural-tube defects is relevant.
This research is a further step after the development of the GM folate rice at Ghent University in Belgium.*

Do you plan to make any public announcements in connection with this presentation that might be of interest to media? If so, please describe.

It is possible to give a short public announcement about the ongoing results of the project during about 5 years “Increasing folate in rice: an analytical, molecular and economic research”.

References

Li, Z., A. Ren, L. Zhang, J. Liu and Z. Li (2007). "Periconceptional use of folic acid in Shanxi Province of northern China." Public Health Nutrition **10**(5): 471-476.

Storozhenko, S., V. De Brouwer, M. Volckaert, O. Navarrete, D. Blancquaert, G.-F. Zhang, W. Lambert and D. Van Der Straeten (2007). "Folate fortification of rice by metabolic engineering." Nature Biotechnology: 1-3.