中国农业科技导报 2007, 9(3) 4-8 DOI: ISSN: 1008-0864 CN: CN 11-3900/S

专论

从实验室到田间：中国农业生物技术的发展及其影响

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摘要：

在过去的三十年间，中国从事农业生物技术研究的科技工作者已经培育了数百个适合中国自然生长条件并满足其它不同农业需求的新型农作物新品种。其中，有的可以更有效地抵抗害虫和病害爆发，有的可以节约水分和肥料，有的则具有更高的营养价值。许多这样的作物品种是通过转基因技术培育而成，也就是有目的地将供体的遗传物质转移到受体作物中，而毋需通过传统的杂交育种手段。这样一种转基因技术在一些国家引发了广泛的争议。在中国，尽管转基因技术研究在实验室内正在广泛开展，但到目前为止，只有转基因抗虫棉真正在农业生产上发挥着作用。在名为中国“农业生物技术：兴起和前景”的新书中，笔者首先介绍了目前在中国正蓬勃开展的农业生物技术研究产业，然后详细论述了中国对农业生物技术的投资在中国国内和全球范围内所产生的影响，这种影响如何依赖于实验室之外的一些因素：传统农业研究和生物技术方面的所获基金支持及其成效，中国对于生物安全性所持谨慎态度的影响，种子流通渠道的效率，以及国内外公众对转基因产品的接受程度。

关键词： 生物技术 中国 农村发展 转基因作物

From Lab to Field： The Development and Impact of Agricultural |Biotechnology in China

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Abstract:

Over the past three decades, researchers in China′s agricultural biotechnology laboratories have developed hundreds of novel crop varieties suited to China′s growing conditions and agricultural challenges. Among them are varieties designed to more effectively resist pest and disease outbreaks, requiire less water or fertilizer, and supply higher nutritional value than their predecessors. Many of these crops have been developed using transgenic techniques, which allow for highly specific transfer of genetic material through methods other than conventional cross-breeding. These techniques have generated controversies in some parts of the world. Despite their widespread application in China′s laboratories, only one transgenic crop, insect-resistant cotton, is widely planted on farms. In a new book entitled Agricultural Biotechnology： Origins and Prospects, the origins of China′s emerging agricultural biotechnology research system are introduced. How the impact of China′s investment, both locally and globally, depends on factors beyond the laboratory are explained： the funding and performance of both biotechnology and conventional agricultural research, the strength of China′s biosafety oversight, the effectiveness of seed delivery channels, and public acceptance of the technology in China and abroad.

Keywords: biotechnology China rural development transgenic crops

收稿日期 2007-05-09 修回日期 网络版发布日期

DOI:

基金项目:

通讯作者:

作者简介:

作者Email:

参考文献：

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