

# nature biotechnology

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## Biotechnology and world agriculture

By now, pretty much everyone has an opinion about agricultural biotechnology. Genetically modified (GM) crops will either be the salvation of unborn billions, or wreak havoc on human health and global ecology. But one thing we can all agree on is that the stakes are high and getting higher. Intensive agricultural practices are yielding ever more meager returns at a great cost to the environment. And two billion new souls are due for arrival on earth by 2020.

Balancing global nutrition with environmental concerns is a colossal challenge for agriculture, science, and technology, under the best of circumstances. And now public opposition has raised serious questions about whether technologies that had once been taken for granted will ever be implemented outside of the US.

Now may be the time for all sides to take a deep breath and examine the risks and benefits of agricultural biotech with the highest degree of scientific rigor and communication between disciplines. With this goal in mind, *Nature Biotechnology* will hold its first conference on agricultural biotechnology on November 14–16 in London.

“Biotechnology and World Agriculture” ([www.bioedge.net](http://www.bioedge.net)) will host leading scientists and opinion makers from industry, academia, and private foundations, to engage in discussion that will, it is hoped, help make headway in distinguishing the realities from the rhetoric.

Researchers will evaluate the potential of new technologies for increasing crop yields by engineering pest, disease, and stress resistance, and for enhancing the nutritive value of crops. Successful implementation of these technologies will depend on addressing concerns about the socioeconomic, environmental, and safety issues of GM food, so experts in biotech risk assessment, agricultural economics, public perception, and environmental conservation will do just that.

Clearly, agricultural biotechnology is not a panacea for the world’s food security concerns, but applied appropriately and judiciously, agbiotech can make real improvements in quality of life on a global scale. We hope that some of you will be able to join us in London to consider its potential.

## Our interest in conflict

Academic conflicts of interest have long been a concern in the peer review process at scholarly journals. The growing industrial application and development of biomedical research and biotechnology have only added to this the problem of commercial and financial conflicts-of-interest. During a recent gathering of the editorial staff of the *Nature* family of journals in Bournemouth, UK, it was decided that new policies are needed to respond to these growing challenges to the system. Given the increasing evidence of scientific misconduct (see *Nat. Med.* 5, 713–718, 1999, *Science* 276, 523–525, 1997), transparency becomes more and more desirable.

*Nature Biotechnology* is committed to providing the most rapid and fair review as is practicable, and to the protection of the peer review process and the individuals involved. Nevertheless, we realize that we have neither the time nor the resources to police the scientific community and that the responsibility for the integrity of the system rests solidly with the individual authors and referees. As we have in the past, we will continue to ask potential reviewers to reveal any academic or commercial interests that would prevent them from providing a fair review. What can be done further, however, is to make the disclosure of both author’s and reviewers’ interests, commercial as well as academic, mandatory.

Our aim in this initiative is to respond to the needs of the research communities that we serve. Before any changes to our policies are made, we would like to hear from you, our authors and readers. The key questions to entertain are: should full disclosure of all potential conflicts of interest (academic, commercial, and perhaps even financial) be a requirement for participation in the peer review system? Would such a mandate prevent you from submitting your work, or contributing commentary to a journal that adopted such a policy? Your thoughts on these matters can be sent to us at [conflicts@natureny.com](mailto:conflicts@natureny.com).

## The board game

The big news this month is that Susan Polgar is to join the scientific advisory board of Infected (Sharon, PA). Polgar is the women’s world chess champion and the rationale behind her appointment is that as a “brilliant strategist,” she can help direct the entrepreneurialism of a medical technology company like Infected. Chess-like logical thinking and planning many moves ahead are, of course, two of the more prominent attributes of a well-run biotechnology company. But other indoor pastimes may also serve as training grounds.

Biotechnology patent counsels, for instance, should practice Monopoly. Poker-playing CFOs will be able to tell potential investors that the target-binding compounds the company discovered last week were “on the verge of advanced clinical trials” with a straight face.

The CSO, meanwhile, will have honed his talents at the darts board. Keeping a proscribed distance from the sharp end of research, he will nevertheless insist on throwing everything at just a single target, even though there is a high probability that most of his shots will miss. Our CEO would probably excel at a game like Pictionary: In your very brief time with investors, you have to convey a picture of your company’s prospects that is convincing even though it is derived from an ill-defined notion drawn from an obscure corner of science.

But the game that biotechnology executives like to play when they are actually at work is Jenga. A start-up company in its early days has a clearly defined, solidly interlocking shape, and the task of management is to grow it in a particular direction. This is usually done by removing components lower down in the structure that seem to be nonessential and promoting them to the top. Eventually and inevitably, however, the whole top-heavy edifice collapses and a new management team comes in to pick up the pieces.

What is the ideal game background for a venture capital investor? A lifetime at children’s parties practicing “pinning-the-tail-on-the-donkey” might be just the thing.