# biotechnology

Letters may be edited for space and clarity. They should be addressed to: Correspondence Nature Biotechnology 345 Park Avenue South New York, NY 10010-1707, USA or sent by e-mail to biotech@natureny.com Please include your telephone and fax numbers.

### CGIAR statement on UN treaty

#### To the editor:

Recently, the Genetic Resources Policy Committee of the Consultative Group on International Agricultural Research (Washington, DC; CGIAR) met in the Philippines to consider a wide range of policy and legal matters of interest to the CGIAR.

The Committee is composed of people from diverse backgrounds (governments, the private sector, and NGOs as well as the CGIAR itself) who serve in their personal capacity. The Committee held an

The Committee held an intensive discussion of the new International Treaty on Plant Genetic Resources, during which unanimous support for its adoption was expressed. Immediately before the meeting, there was a separate work-

shop (attended by senior management and board representatives of the different CGIAR centers) to consider the Treaty. All centers expressed their satisfaction with the Treaty and agreed on the next steps needed to associate themselves formally with the Treaty.

During the course of our meeting, we also discussed the Business & Regulatory News Analysis "CGIAR under pressure to support seed treaty" published in the February issue (*Nat. Biotechnol.* 20, 103–105, 2002). We wish to draw your attention to several inaccuracies in this article. Indicative of the importance we place on setting the record straight, this letter has been reviewed and endorsed by the Directors General of all CGIAR centers holding collections of plant germ plasm.

The following statement represents the views of CGIAR centers:

• We welcome the adoption of the Treaty and intend to work with the international community to implement it. During the entire course of the Food & Agricultural Organization (Rome; FAO) negotiations, we have consistently worked toward the creation of a multilateral system for access and benefit sharing for plant genetic resources for food and agriculture.

• We do not believe that the Treaty represents

a "loss of autonomy for CGIAR centers." To

the contrary, it re-affirms the fact that we are holding genetic resources "in trust" for the international community and confirms the relationship between centers and the international community that was contained in previous agreements with the FAO.

• We do not concur with the notion that CGIAR policy-making on genetic resources matters is "over-centralized." The composition of our Committee is but one piece of evidence that refutes such a view. You might also look at the composition of the CGIAR itself, which encompasses more than 40 countries, and at the heterogeneous composition of the individual center Boards of Trustees, which are ultimately responsible for center policies. In addition, staff of virtually every center attended and represented their centers at one or more negotiating sessions on the International Treaty at the FAO.

• We are satisfied and grateful for the high quality of representation the CGIAR has had throughout the negotiations.

CGIAR centers currently hold more than 500,000 accessions "in trust" under the auspices of the FAO for the international community. This is a significant proportion of all crop diversity held in *ex situ* conditions. Thus, we consider it important that your readers (many of whom access these

materials for scientific research and plant breeding) understand our position on matters concerning the management and disposition of this diversity.

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## Regulatory oversight in developing nations

#### To the editor:

Reports of illegal planting of *Bacillus thuringiensis* (*Bt*) transgenic cotton by Indian farmers<sup>1</sup> is a sign of the sort of weak regulatory mechanisms found many developing countries. This regulatory weakness will undermine the basic premise of insect-resistance management (IRM) in regard to *Bt* toxins in prolonging the sustainability of *Bt* crops. The fundamental issue for field deployment of *Bt* crops is whether a *Bt*-resistance management designed for resource-rich farmers will be suitable for resource-poor farmers.

In the United States, the Environmental Protection Agency (EPA; Washington, DC) enforces IRM strategies for Bt crops by imposing a 4–50% refuge area (Bt toxin–free por-

tion) surrounding *Bt*-planted fields<sup>2</sup>. Farmers are required to sign contracts to provide such refuges when buying *Bt* seeds from companies, and the EPA also requires companies to educate farmers on the proper use of the *Bt* crops. The implementation of similar IRM strategies for smallholding farmers is extremely complex, because they will operate in a completely different socio-economic background. There are three major challenges in implementing IRM strategies:

• Lack of regulations on IRM for *Bt* crops. Developing countries generally have no regulatory laws and IRM committees for *Bt* crops that would impose the policy of creating structured refugia. In the United States, 29% of farmers using *Bt* failed to comply with *Bt* IRM requirements because of willful noncompliance or a failure to understand the refuge size and maximum required distance between *Bt* and non-*Bt* fields<sup>3</sup>. These noncomplying US farmers are better informed and equipped and more commercially oriented than are resource-poor farmers in developing countries.

• Limited land resources. Small farms are usually less than a hectare in area, unlike farms in developed countries that can occupy hundreds of acres. Small-scale farmers will not be able to sacrifice 4–50% of their cropland for insects to happily feed on because this would represent a major loss.

• Lack of trained manpower. There is an acute shortage of entomologists and ecologists with in-depth knowledge of the management of *Bt* resistance, and such management has not been given a high priority by governments and other stakeholders in developing countries.

Several actions are required to overcome these constraints. First is the establishment of an IRM working group for developing countries to develop IRM tactics and regulations that are suitable for resource-poor farmers. Second is research by national universities and international agricultural research centers (IARCs) to close the knowledge gaps in pest genetics and ecology related to IRM for Bt crops in developing countries. The International Rice Research Institute (IRRI) has done a great deal of work (funded by Rockefeller Foundation; New York, NY) on resistance management for Bt rice and has come up with some practical recommendations for field deployment<sup>4,5</sup>. This demonstrates the potentially fruitful role of IARCswhich have more funding and highly trained manpower than do local research institutes in developing countries-in leading research on transgenic crops. Third and finally is the implementation of regulations on the deployment of Bt crops: Bt crops should only be grown in areas where benefits will be greatest, and farming communities, as well as exten-

