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Short Communication

GENE PROTECTION (GP) TECHNOLOGY

In the last few weeks there have been numerous reports appearing on the sensationally entitled "Terminator Gene". Monsanto would prefer to term this as "Gene Protection Technology". A number of concerns have been raised in which Monsanto has been implicated. Monsanto does not use GP technology in any of its products. Therefore, your co-operation in presenting a true perspective on this issue to dispel the following concerns would greatly be appreciated.

Illegal entry of the "Terminator Seeds" in India

The fact is that as of now the so called "Terminator Seed" does not exist in reality. Although it would be premature to comment on the Delta & Pine Land technology before it has been thoroughly tested, since Monsanto does not own Delta and Pine Land, it is speculative to discuss their activities in general or those related to the "Terminator Gene" in specific.

Monsanto's current understanding of the "Terminator Gene" is that it is a theoretical Gene Protection Technology and does not exist in the real sense. D&PL and the USDA have applied for a prophetic patent, which really means a conceptual patent. In this case, the idea was to develop a process that would provide gene protection in plants, in this case tobacco, a commonly used experimental plant. However, it is still very much theoretical and not yet proven.

Monsanto will not provide any technology that will adversely effect the environment, current agricultural practices or force farmers to use any technology we provide. New products and technology must increase farmer wealth and if they do not do so, will not be used by farmers. New technology is monitored and supported by the Government regulatory bodies. We respect the expertise of the Indian regulatory authorities and are confident that they will effectively monitor the entry of new gene traits and related technologies to ensure that these are available choices to farmers.

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Cross-Pollination leading to sterility of other crops

At the present time there is simply no data to indicate whether or not this would happen since there is no existing trait to examine for these effects. When and if GP traits become available, these questions and concerns will be examined in detail and no crop will be offered by Monsanto, or accepted by the Indian Regulatory System, which would have unacceptable implications to Indian agriculture or the Indian environment. At that time, we would have real data to use a basis for decisions. At the present time, speculation is premature and counter productive to the discussion, research development and efforts of increasing the productivity of Indian agricultural using valuable biotechnology tools.

Monopoly of MNCs in the Indian market

With reference to claims made that MNCs would dominate the Indian seed market and that Gene protection technology would limit the Indian farmer's choice and result in a total monopoly. The truth is that biotechnology as a whole will significantly increase the alternatives that farmers have. It will in no way take away the availability of current seeds, pesticides or any other inputs that farmers use today. Biotechnology, by being delivered in the seed, allows farmers to make minimal changes in their current farming practices. Further, biotechnology is expected to be the next major step in integrated management systems offering farmers the maximum number of choices in their farming operations. No MNC, nor anybody else, should or will be able to force farmers to use biotechnology products or any other technology. The choice will always rest with the farmers, as it does today, where farmers can and do choose from a wide range of hybrid and other improved seeds for better productivity.

It is worth noting that hybrid seeds today provide the farmer with only one productive growing season. Second generation use of hybrids will result in poor yields and low productivity, yet farmers choose to use these highly productive first generation seeds every year.

No incremental value to the farmers by using this technology

Monsanto is committed to developing new technologies to present to farmers that will increase farmer income and wealth. It is fundamental that the farmer sees value, only then will he buy and utilise this technology, if not he will always be free to utilise alternative product offerings, or the traditional farming practices that have always and will continue to be available. The introduction of new technology in no way takes away current choices available to farmers, it just expands them.

Sterile seeds leading to socio-economic disaster if farmers cannot re-plant their own seeds

No seeds or technology that would impact the seed resource of India or the environment would be released by Monsanto nor would be regulatory authorities allow this. Gene Protection Technology is no different to regulating the entry of any other gene trait in the country, which is monitored by the regulatory authorities to assess future impact on the environment.

Seed-protection methods (of which GP methods may be one in the future), may become a key part of the overall commitment to the careful management of agricultural biotechnology. An effective and socially accepted seed-protection method could meet the diverse interest of all concerned, including:

- Minimization of outcrossing with related plant species
- Providing farmers with more seed variety choices while preserving their existing varieties
- Farmers' rights
- Provisioning of consistently high quality seeds
- Development of the best varieties of seed as they are improved year after year
- Maintenance of the desirable characteristics of those varieties or strains that are grown for more than one year

Monsanto, like many other public and private research organisations, translates knowledge, information and research materials to different places around the world. It is critical that the public and private sectors work together and heed farmers' concerns and ensure that the farmer's right to choose the most appropriate technology is preserved. The current concerns being expressed around the GP technology must not impact the development of new technologies that will significantly contribute to the food production and farmers' well being and choice in India. Agricultural land and food production is not only a national security issue but also a national treasure to be protected. Monsanto is totally committed to do no harm and to work together with other organisations to transfer useful technology to India, through local Indian institutions and companies, in the right way.

Biotechnology is a vast world of science that has already brought many benefits to a wide variety of communities around the world. In agriculture, *particularly, biotechnology improved seeds and crops will :*

- Provide farmers with more choices
- Enhance the available options for insect control, thus increasing yield and optimising input costs

- Provide new methods of plant disease control
- Introduce new and enhanced nutritional and quality characteristics to the food that farmers produce

With India's expanding population, can we afford to forego the responsible use of these important agricultural technologies in the face of speculation? Especially when, the Government of India has excellent regulatory bodies to manage the responsible introduction of biotechnology seeds and agricultural technology.