Executivo Nacional para Contenção do Poliovírus, analisar e validar os resultados da primeira fase do plano, planejar atividades necessárias à conclusão do inquérito laboratorial, assim como realizar debate relativo às propostas para a conclusão das atividades preconizadas para o período de pré-erradicação.

Após a conclusão do inquérito nacional pretende-se estabelecer um processo de preparação e adaptação da rede de laboratórios brasileiros para o novo contexto mundial, o período de póserradicação mundial do poliovírus selvagem.

Transgenic Herbicide-resistant Crops

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Transgenic herbicide-resistant crops, bromoxynil-resistant cotton and glufosinate-resistant canola were initially marketed in 1995. Since then, other transgenic crops made resistant to these two herbicides and transgenic herbicide-resistant crops resistant to glyphosate have been introduced. Among them, glyphosate-resistant soybean and cotton are grown extensively. All bromoxynil-resistant crops have been removed from the market for economic reasons. In all cases of transgenic herbicide-resistant crops, except for some glyphosate-resistant corn varieties, the transgene conferring herbicide resistance has been of bacterial origin.

Glyphosate-resistant

Glyphosate is a very effective non-selective post-emergence herbicide. Glyphosate-resistant soybean, cotton, canola, sugarbeet, and corn are available. Glyphosate-resistant crops have a resistant form of the herbicide target enzyme, 5-enolpyruvyl-shikimate-3-phosphate synthase a key enzyme in the synthesis of aromatic amino acids. In all except some varieties of corn, a bacterial gene from *Agrobacterium* sp. is used. Glyphosate-resistant canola also contains a bacterial gene encoding glyphosate oxidase, an enzyme that degrades glyphosate. Glyphosate-resistant crops have been the most important transgenic herbicide-resistant crop, and glyphosate resistance has been the dominant trait marketed in transgenic crops of all types. Weed resistance is becoming a problem. In some cases, naturally resistant weeds have occupied ecological niches of weeds controlled by glyphosate, such as *Commelina spp.*, *Conyza spp.*, and *Ambrosia spp.* have evolved resistance to glyphosate in glyphosate-resistant crops.

Glufosinate-resistant

Glufosinate is the synthetic version of phosphinothricin, a natural compound from *Streptomyces hygroscopicus*. Glufosinate is also a broad spectrum herbicide that acts through inhibition of the enzyme glutamine synthetase. Canola, cotton, and maize made resistant to glufosinate are commercially available. Glufosinate-resistant crops have been made resistant to glufosinate with the gene from the same microbe that produces phosphinothricin. This enzyme detoxifies glufosinate. Only a very few glufosinate-resistant crops have been commercialized.

Environmental impacts

Glyphosate and glufosinate are not significant environmental contaminants when used at recommended doses, and both herbicides are considered to have low toxicity to non-target organisms, other than plants. The replacement of pre-emergence herbicides with the post-emergence herbicides allowed by these herbicide-resistant crops can also reduce herbicide concentrations in vulnerable watersheds. Glyphosate and glufosinate

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are not usually found in ground water. Many animal feeding studies with glyphosate and glufosinate-resistant crops have found no nutritional or food safety differences between these crops and conventional crops. Potentially, the most long-lasting environmental damage of a transgenic crop is for an ecologically important transgene to escape to other plant species (gene flow).

Problems with agriculture

Some varieties of glyphosate-resistant corn, cotton and soybean have been sufficiently susceptible to glyphosate under some conditions to show phytotoxicity symptoms. These problems have been minor, as evidenced by the increased adoption of these crops. Because herbicide-resistant crops and conventional cultivars of crops cannot be visually distinguished from each other, herbicide drift from herbicide-resistant crops and unintentional spraying of conventional crops has been a bigger problem than when two different crop species are grown in the same area. A more significant problem is gene flow from transgenic to non-transgenic cultivars of the same crop. Preserving non-transgenic canola identity has been a problem in some places in Canada, due to gene flow from herbicide resistant canola to non-transgenic canola.

Future?

Current herbicide-resistant crops are resistant to only two herbicides, glyphosate and glufosinate, both broad spectrum products for post-emergence use. High cost, lengthy development time, and high economic risk have been the primary reasons for the slow development and introduction of new herbicide-resistant crops. Another major consideration in committing resources to introduction of an herbicide-resistant crop is the fear of consumer rejection of herbicide-resistant crops based products.

Recent Literature Suggested

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