



**Greenpeace Comments on proposed legislation for
the implementation of the Biosafety Protocol**

Greenpeace welcomes the HK governments' commitment/intention to implement the Convention on Biological Diversity and the Cartagena Biosafety Protocol. However, Greenpeace has some concern on the proposed legislation. Greenpeace believes that several articles are not in line with the intention and requirements of the biosafety protocol.

The main areas of concerns are:

1) Precautionary Principle:

The Cartagena Biosafety Protocol is based on the precautionary principle, this principle is clearly referred to in the preamble of the Protocol, and in the objectives, it is also clearly operationalized in the decision making section (Article 10 of the Protocol).

2) Scope of the Risk to be assessed (environment)

The legislation proposes to restrict the risk assessment to direct effects on biodiversity e.g. excluding water. This restriction is not scientifically justifiable, and not in line with recent scientific findings. LMOs (or genetically engineered organisms) may of course have an effect for example on water by causing direct or indirect effects on aquatic biodiversity. For example a science study has shown that pollen dispersed from transgenic crops in to water system may have effects on aquatic organisms¹. In case the LMO is genetically engineered aquatic species or micro-organisms that risk to aquatic organisms is of course obvious.

3) Scope of the Risk to be assessed (human health)

The legislation excludes the human health risk assessment from the scope of the legislation by making reference to Codex Alimentarius Commission under the Food and Agriculture Organisation). Hong Kong government has not implemented a pre-commercial use GE food and feed safety assessment regime in line with the agreed Codex Alimentarius Guideline for the conduct of food safety assessment of foods derived from recombinant-DNA plants².

Numerous scientific studies show the risks of LMOs to human health (see attachment). The contamination – unintended spread of LMOs into the environment and food chain can causes major economic damage to the industry and other stake holders. For example the contamination incident caused by Bayers genetically engineered rice in the USA The other major incident involved Bayers' GE rice caused estimated economic lose range from US\$741 to US\$1.285 billion that affected farmers, food industry and trade³. In case this incident had resulted in negative human health effects the costs would have been drastically increased. Preventive and precautionary measures are urgently needed. In the absence of a mandatory food safety assessment and in line with precautionary approach health risks assessment needs to be included under the biosafety legislation In addition, LMOs can have course have an effect on human through direct exposure e.g. respiratory tract exposure to pollen from GE crops or GE micro-organisms.

4) Confidential information

The proposed legislation does not specify which information cannot be kept confidential, any information relates to risk and safety assessment, on emergency response actions, on type and description of LMO, and of the notifier can of course not be kept confidential. This needs to be specified in the legislation. In addition, the notifier needs to be obliged to justify and provide reason why certain information needs to be kept confidential. In case the same LMO has been notified in other parties to protocols territories, the notifier should also provide evidence that the same information has been kept confidential.

5) Threshold adventitious

The protocol does not foresee threshold, specifically in absence of a mandatory health assessment regime and the serious risks some LMOs can pose to health, the thresholds need to be adjusted. For LMOs that have gone through health safety assessment, and have received a safety clearance in line with HK standards the threshold should be set on the lowest internationally accepted standard of 1%. For LMOs that have not gone through a health safety assessment or failed to get a safety clearance a zero tolerance must apply.

6) Review of decisions

The proposed legislation should strengthen this part since the long-term effects of this technology on biodiversity including health is unclear and the technology is quickly developing. Recent scientific research shows that long-term negative effects for biodiversity including human health may be serious for example long-term feeding studies conducted with GE crops, the fertility of mice fed with GE maize was found to be severely impaired, with fewer offspring being produced than by mice fed on natural crops⁴. Other studies found that GE crops may have negative effects on for example, predatory species⁵, may lead to more serious outbreaks of pests that were not a major problem before^{6,7}. Further science study show that GE crops are often more susceptible to plant diseases^{8,9} and may lead to contamination of non-GE crops and of related wild species^{10,11,12,13}

7) Transition period

The legislation proposes an extended transition period Greenpeace suggest to foresee such transition period only for export related parts of the legislation, but not for import and release related sections. 140 countries have already implemented the protocol, all major exporting nations are already adapted to the requirements and obligation under the protocol, exporters can easily provide necessary documentation and information requirements.

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- ² Codex Alimentarius Guideline for the conduct of food safety assessment of foods derived from recombinant-DNA plants *CAC/GL 45-2003* ftp://ftp.fao.org/es/esn/food/guide_plants_en.pdf <30th October 2004>
- ³ Neal Blue, E., 2007, Risky Business, Economic and regulatory impacts from the unintended release of genetically engineered rice varieties into the rice merchandising system of the USA, by Neal Blue Consulting, a report commissioned by Greenpeace International, The Netherlands.
<http://www.greenpeace.org/raw/content/international/press/reports/risky-business.pdf>
- ⁴ Velimirov A., Binter C., Zentek J., (2008) Biological effects of transgenic maize NK603xMON810 fed in long term reproduction studies in mice, *Forschungsberichte der Sektion IV, Band 3/2008*, Bundesministerium für Gesundheit, Familie und Jugend, Sektion IV, Radetzkystraße 2, 1031 Wien,
http://www.bmgfj.gv.at/cms/site/attachments/3/2/9/CH0810/CMS1226492832306/forschungsbericht_3-2008_letztfassung.pdf
- ⁵ Hillbeck, A., Baumgartner, M., Fried, P.M. & Bigler, F., 1998. Effects of transgenic *Bacillus thuringiensis* corn-fed prey on mortality and development time of immature *Chrysoperla carnea* (Neuroptera: Chrysopidae). *Environmental Entomology* 27: 480-487;
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- ⁶ Wang, S., Just, D.R. & Pinstrup-Andersen, P. 2006. Tarnishing silver bullets: Bt technology adoption, bounded rationality and the outbreak of secondary pest infestations in China. Presentation at the American Agricultural Economics Association Annual Meeting Long Beach, CA, July 22-26, 2006. Available at: <http://www.grain.org/research/btcotton.cfm?links>. See also: <http://www.news.cornell.edu/stories/July06/Bt.cotton.China.ssl.html>
- ⁷ Catangui M.A. & Berg R.K. 2006. Western bean cutworm, *Striacosta albicosta* (Smith) (Lepidoptera: Noctuidae), as a potential pest of transgenic Cry1Ab *Bacillus thuringiensis* corn hybrids in South Dakota *Environmental Entomology* 35 1439-1452.
- ⁸ 徐文华等, 2007, 棉花枯萎病在盐城农区的发生演变与原因分析, *江西农业学报* 2007, 19(10): 56~59
- ⁹ Kremer, R.J. and N.E. Means. 2005. Herbicidal impacts on crop-soil microbial interactions and potential plant disease. In (T. Yamada, ed.) *Proceedings of the Symposium on Relationships Between Plant Nutrition and Disease Incidence*. [CD-ROM] POTAFOS, Piracicaba, S-P, Brazil. Kremer R.J., Means N.E. and Kim S. (2005). Glyphosate affects soybean root exudation and rhizosphere micro-organisms, *International Journal of Environmental Analytical Chemistry* 85: 1165-1174
- ¹⁰ Song, ZP, Lu, B-R, Zhu YG, & Jchen, K., 2003. Gene flow from cultivated rice to the wild species *Oryza rufipogon* under experimental field conditions. *New Phytologist* 157: 657-665
- ¹¹ Lu, B-R., 2004. Gene flow from cultivated rice: ecological consequences. ISB News Report. Available at: <http://www.isb.vt.edu> <28th October 2004>
- ¹² Chen, L.J. Lee, DS, Song, ZP, Suh, HS. & Lu, B-R., 2004. Gene flow from cultivated rice (*Oryza sativa*) to its wild and weedy relatives. *Annals Bot* 93: 67-73.
- ¹³ Song, Z.P Lu, B-R & Chen JK., 2004. Pollen flow of cultivated rice measured under experimental conditions. *Biodiversity and Conservation* 13(3): 579–90.