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**Notification 2017-087**

# Submission by the EU and its Member States to CBD Notification 2017-087: Finnish measures to limit contact of living modified organisms with environment

*DRAFT Chapeau*

## Legislation

The Gene Technology Act (377/1995) and Government Decree on Gene Technology (928/2004) implementing EU Directive 2009/41/EC provide for the general requirements concerning contained use. In addition to these, Finland has additional legal instruments considering contained use:

•Decree of the Ministry of Social Affairs and Health on principles of risk assessment of the contained use of genetically modified micro-organisms, on classification of the contained use, and on containment and other protective measures (1053/2005)

•Decree of the Ministry of Social Affairs and Health on notifications and applications relating to the contained use of genetically modified organisms, on keeping a record of the contained use and on an emergency plan (272/2006)

•Decree of the Ministry of Social Affairs and Health on principles of risk assessment of the contained use of genetically modified animals, on classification of the contained use, and on containment and other protective measures (771/2014)

## Guidance

Several recommendations by the national competent authority, the Board for Gene Technology (*available in Finnish only*) supplement the legal instruments:

•Ohje muuntogeenisten virusten suljetun käytön luokituksesta ja eristystoimista (*on classification and containment measures of GM-viruses*)

•Geenitekniikan lautakunnan suositus n:o 3 "Geenitekniikalla muunnettujen (GM-) kasvien suljettu käyttö" *(on contained use of GM-plants)*

•Ohje muuntogeenisen kasvimateriaalin jätehuoltoon suljetussa käytössä *(on waste management of contained use of GM plants)*

•Geenitekniikan lautakunnan periaatepäätös "GM-perunan suljetun käytön luokitus ja noudatettavat eristys- ja suojatoimenpiteet" *(on classification and containment procedures for GM potato)*

•Geenitekniikan lautakunnan periaatepäätös "GM-lituruohon suljetun käytön edellytykset ja ilmoituskäytännöt" *(on containment requirements and notification procedures for GM Arabidopsis)*

## Examples of containment methods

In addition to these documents, please find below some examples of containment measures that have been used by the GMO operators in Finland:

### Genetically modified microorganisms

#### Physical containment measures:

* gas /UV sterilization of working premises
* personal protective equipment (e.g. lab coat, gloves, safety goggles, masks...)
* laminar flow hoods
* minimizing aerosol formation (e.g. capped tubes for vortexing, sentrifugation, sonication etc.)
* avoiding use of sharp objects / safety procedures and safety bins when using sharps
* cleaning and covering of puncture wounds
* containment of discharges after surgical procedures or injections
* clinical trials:
  + using negative pressure wound therapy to collect potentially infective discharge
  + collecting urine/feces for chemical inactivation
* waste management: autoclaving / boiling (samples)/steaming

#### Biological containment measures:

* vaccinations for laboratory personnel
* replication-defective viruses
* use of auxotrophic or non-sporulating strains
* lentivirus work: testing of primary cells to exclude presence of HIV infection
* ensuring inactivating temperatures are reached if waste is composted

#### Chemical containment measures:

* detergents
* inactivation of waste by suitable chemicals: disinfectants, alkali, acids, lime flocculation etc.
* fixation of tissues (for microscopy)

### Genetically modified plants

#### Physical containment measures:

* growing in pots (especially vegetatively reproducing plants)
* trays / adhesive carpets to collect seeds
* seed harvesting / collecting devices
* pollination bags
* insect meshes
* inactivation of septic tank waste
* removing flowers / emasculation
* filters in floor drains / ventilation channels
* insect traps
* greenhouse doors not opening simultaneously
* protective clothing dedicated to greenhouse work
* phytotrons / growth chambers

#### Biological containment measures:

* preventing flowering / vegetative cultivation
* male-sterile or non-flowering lines
* terminator genes
* temporal isolation (cultivation/flowering scheduled outside the flowering period of wild relatives)

#### Chemical containment measures:

* inactivation of seeds with suitable chemicals
* herbicides

### Genetically modified animals

#### Physical containment measures:

* insects: using mesh in windows and ventilation systems / fly traps
* aquatic animals: using filters in the outlets of hatching tanks
* rodents: Scantainers / barriers
* using double-packing for transport
* marking /tagging of GM-animals individually or on their containers (if individual marking impossible))
* waste inactivation: freezing /autoclaving / burning /steaming of carcasses or reproductive material

#### Biological containment measures:

* using species that cannot survive and have no relatives in the surrounding environment
* using juvenile individuals that have not reached sexual maturity

#### Chemical containment measures:

* chloroform
* inactivation with chlorine (for *Caenorhabditis elegans)*
* bait traps for insects