Irradiation of animal residues.
The effect of gamma radiation on rat bedding waste (RBW) was studied. The material was obtained from an Animal facility, that produces rats (Rattus rattus) for experimentation. The irradiation was done in the Semi Industrial Irradiation Plant (PISI) in CNEA, Argentina (Figure 1. B). The dose rate was 20 kGy.h^{-1} and installed activity

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Potential of Ionizing Radiation Application for Reducing Environmental Risks Related to Solid Residues

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There is a huge capacity of using radiation technology for controlling microorganisms in diverse type of matrices: radiation dose, dose rate, type and level of contamination are essential parameters.

Irradiation of Vehicular air filters (Brazil) and Animal Breedind Residues (Argentina) have been irradiated at distinct cobalt-60 radiation sources:

Data from Argentina:

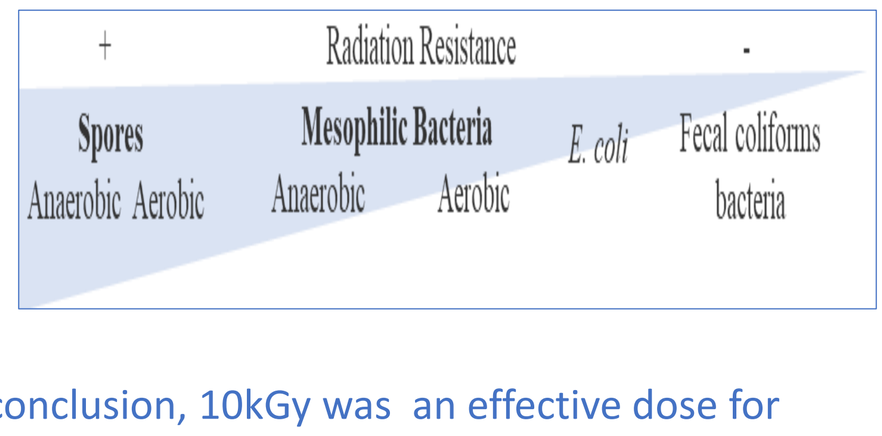
Cobalt-60 Irradiator - PISI CNEA

BIOTERIO ➡ SOLID WASTE, RAT BW

Co-60 ➡ RAT BEDDING WASTE, RBW

IRRADIATED RBW FOR CONTROLLING BACTERIA

IRRADIATED RBW WASTE APPLIED IN SOIL AS A BIOFERTILIZES

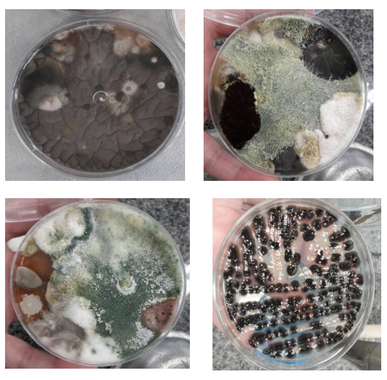


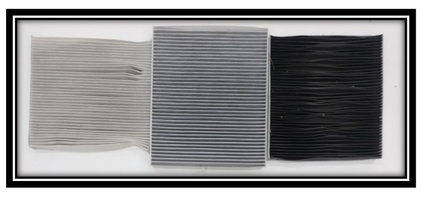
As conclusion, 10kGy was an effective dose for decontamination of such a type of solid residue, Rat Bedding Waste, RBW, that could efficiently be applied for growing plants after treated with gamma radiation.

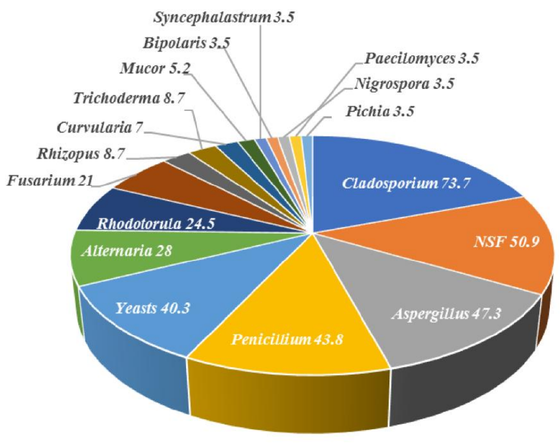
Data from Brazil:

a) Initial Counting/Filters

b) Fungi removed from vehicular filters - air







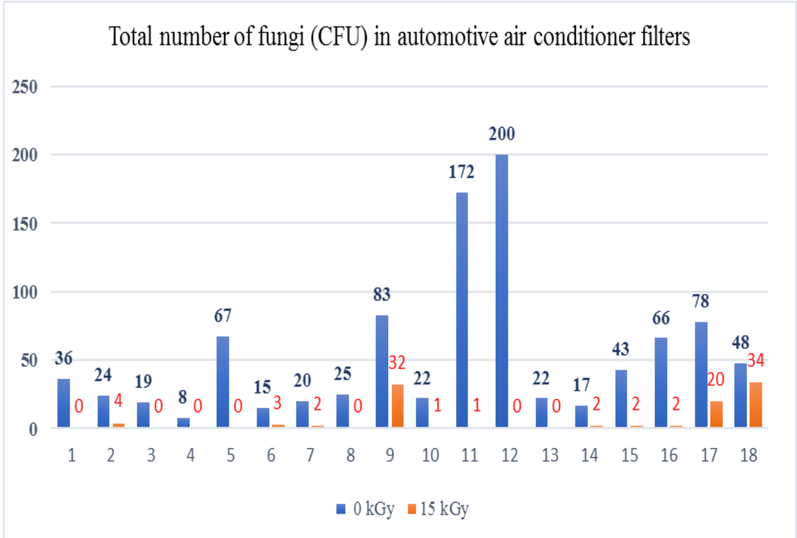
Vehicular Air Filters

(Diversity in types)

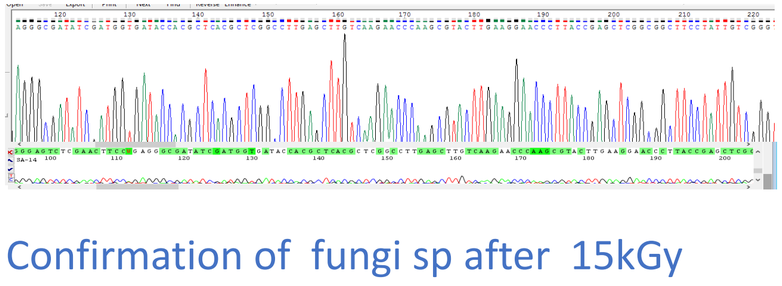
FUNGI CONTROL

Multiporpuse Cobalt-60 Irradiator

IPEN/CETER



Irradiated veicular filters for controlling fungi: 12 up to 20 kGy.



Confirmation of fungi sp after 15kGy through molecular biology techniques

We conclude that 15kGy drastically reduced initial fungi counting, and this technique may be applied as a possibility for filters decontamination, allowing one reuse of such a type of material.

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