

Are all Organisms with Altered DNA Considered as Genetically Modified?

Some plants grow smaller than usual and these plants are irradiated using gamma rays, thus some genes that are important for the vertical growth of plants have been deactivated. Can these plants be considered as GMOs?

In response to this question, the term GMO must first be clearly defined. In general, a GMO must be transgenic. This means that the organism must retain both its own genetic material and a gene from another organism. When a certain plant is irradiated, the radiation may alter or mutate its DNA, but there is no introduction of a gene from another organism. Therefore, these plants are not considered as GMOs. As the World Health Organization (WHO) defines, "Genetically modified organisms (GMOs) can be plants, animals or microorganisms in which the genetic material (DNA) has been altered in a way that does not occur naturally by mating and/or natural recombination. The term also includes organisms called "modern biotechnology" or "genetically modified organisms" (GMOs) created using "recombinant DNA technology" or "genetic engineering". It allows selected individual genes to be transferred from one organism into another, also between non-related species (e.g., from a bacterium to a plant).