Short Communication

Pakistan J. Sci. Ind. Res., Vol. 29, No. 2, April 1986

EFFECT OF GAMMA IRRADIATION ON THE SURVIVAL OF SEED-BORNE FUNGI

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(Received March 17, 1984; revised November 28, 1985)

Different fungicides are in use for the last many years as seed protectants, but such treated grains cannot be used for food or feed purposes because of toxicological factors. Sufficient information regarding the use of ionizing radiation for the preservation of fruits and vegetables in other countries [1-4] is available but the information about the effect of radiation on the extent of fungal infestation in cereal grains is lacking.

Seed samples of wheat (Mexipak), rice (Basmati), maize (Neelam) and sorghum (Red) with 3 months storage period were collected from government godowns of Faisalabad during January-February 1976. About 250 g seed samples were taken at random in polythene bags for exposure to different doses of gamma irradiation from a Co 60 source (gamma cell-220) with a strength 1707 Ci and dose rate 153 Krad/hr. The doses were obtained by varying the exposure time. The seeds giving out fungus mycelium were considered as infested.

Less variation was observed in the extent of infestation in the samples irradiated upto 300 Krad as compared to unirradiated samples. However, there was a slight decrease in fungal infestation when the seeds were exposed at 500 Krad. At 600 Krad a significant inhibitory effect was observed and a complete inhibition of the seed-borne fungi was noticed at 700 Krad. Out of the storage fungi, species of *Aspergillus* were common and among the field fungi species of *Alternaria* and *Helminthosporium* were frequently isolated from the seeds even exposed at 600 Krad.

In general it was observed that with increase in radiation dose, there was a corresponding decrease in fungal infestation. Studies thus indicate that radiation is not at all a feasible method for seed desinfestation.

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