P167

Effects of early growth and antioxidant activity with Irradiation Dose and Storge Time in Gamma-Irradiated *Helianthus annuus.* seeds

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ABSTRCT

This study was to elucidate the effect of low dose γ-ray irradiation on the germination, early growth and antioxidant activity in sunflower seeds.

The seed germination of sunflower was remarkably stimulated by low dose γ-ray irradiation compared with that of the control. But the seed germination of storage time for 4 month was decreased at all the low dose γ-ray irradiation Especially, The germination rate of irradiation group was much lower than that of the other groups. The optimum dose for germination was 8Gy. Thought varied with storage time and temperature, early growth rate of sunflower stored at 10℃ for 4 months was promoted at the 1 Gy γ-ray irradiation compared to 25℃.

Antioxidant activity was measured by DPPH(1,1-Diphenyl-2-picryl- Hydraxyl) method, effect of antioxidant activity on sunflower seeds extract were observed that 4Gy irradiation group was significantly increased to as compared to control, respectively.(0month: 53.21%, 4month: 44.93% increased than control)