

ERRATUM

Characterization and Possible Agricultural Application of Polyacrylamide/Sodium Alginate Crosslinked Hydrogels Prepared by Ionizing Radiation

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When first published, an error was found in the Experimental section, on page 3573 (left column, second paragraph). The correct sentence is shown below:

Appropriate weights of wetted Na-alginate were put in polyethylene bags (the thickness of the bags filled with the polymer was 3 mm) and irradiated at different doses up to 100 kGy (20 kGy dose was given in each pass) using an electron beam accelerator of 1.5 MeV (maximum beam current: 25 mA, power: 37.5 kW).

An error was also found in the Results and Discussion section, on page 3574 (right column, near bottom). The correct sentence is shown below:

The reactions between H and/or OH radicals (formed during water radiolysis) and alginate molecules accelerated the molecular chain scission of the latter.

Finally, errors were found in Figures 1, 2, 4, 5, 7, 9, 10 and 11. The correct Figures and legends are shown below:

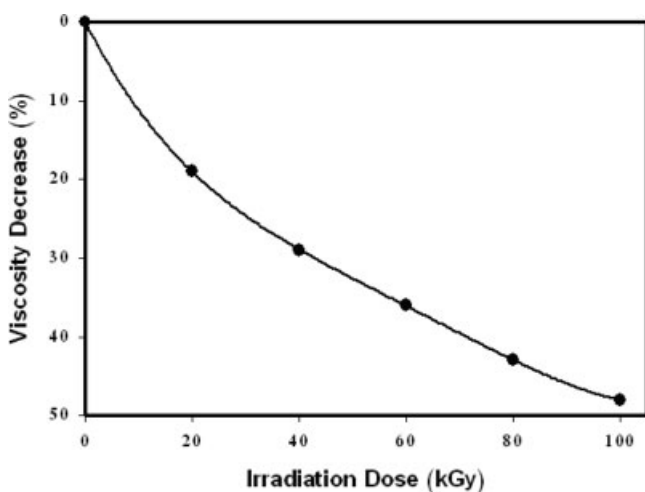


Figure 1 Effect of different irradiation doses on the relative viscosity of the Na-alginate.

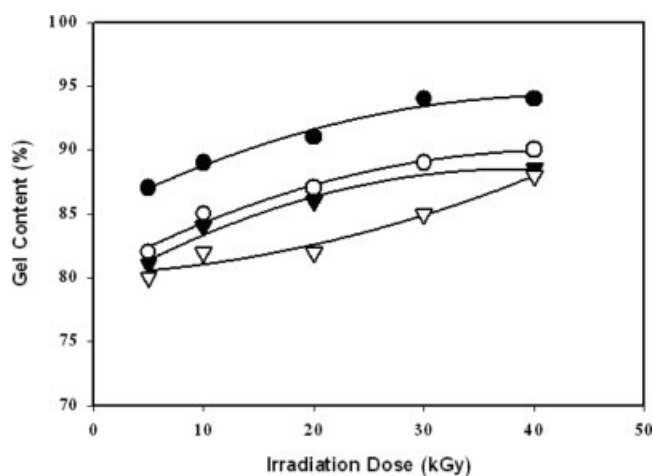


Figure 2 Gel content of PAAm/Na-alginate copolymers of different compositions prepared at various irradiation doses. PAAm/Na-alginate copolymers of composition (●) 97.5/2.5, wt/wt; (○) 95/5, wt/wt; (▼) 90/10, wt/wt; and (▽) 80/20, wt/wt.

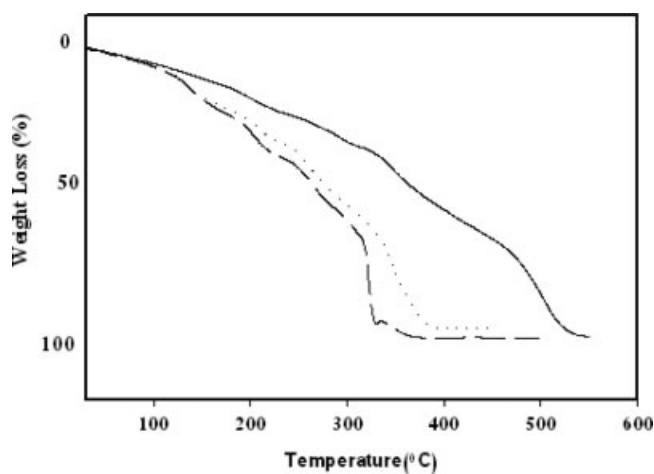


Figure 4 TGA thermograms of irradiated polyacrylamide and PAAm/Na-alginate copolymer. (—) PAAm, (···) PAAm/Na-alginate copolymers of composition (90/10, wt/wt); and (---) PAAm/Na-alginate copolymers of composition (80/20, wt/wt).

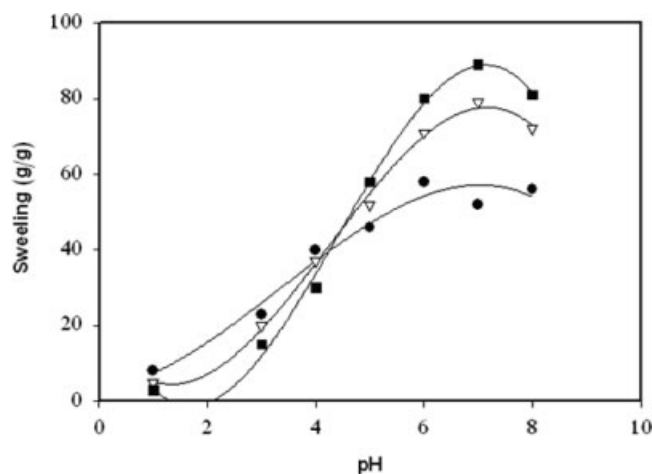


Figure 7 Swelling of PAAm/Na-alginate copolymers of different compositions immersed in different pH solutions; the hydrogel was prepared at 10 kGy irradiation dose. (●) PAAm, (▽) PAAm/Na-alginate copolymers of composition (90/10, wt/wt); and (■) PAAm/Na-alginate copolymers of composition (80/20, wt/wt).

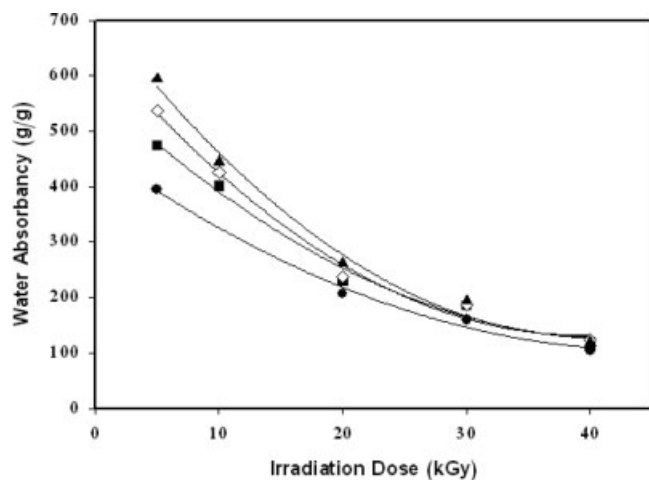


Figure 5 Water absorbency of PAAm/Na-alginate copolymers of different compositions prepared at various irradiation doses. (●) PAAm, (■) PAAm/Na-alginate copolymers of composition (95/5, wt/wt); (□) PAAm/Na-alginate copolymers of composition (90/10, wt/wt); and (▲) PAAm/Na-alginate copolymers of composition (80/20, wt/wt).

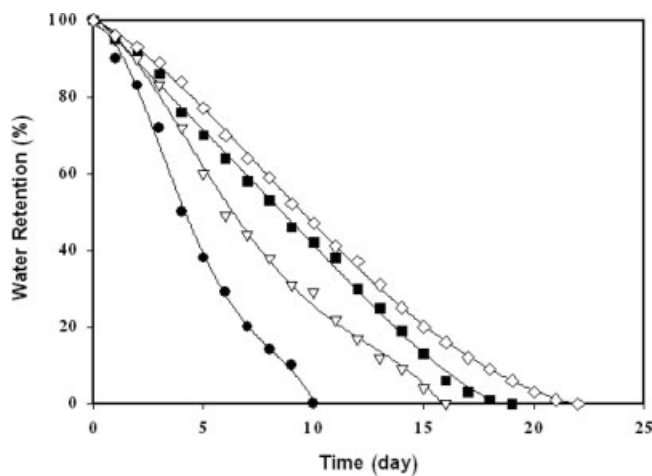


Figure 9 Water retention of sandy soil containing different amounts of PAAm/Na-alginate hydrogel: (●) sandy soil without hydrogel (control); (▽) containing 0.5%, (■) containing 1%, and (□) containing 2% PAAm/Na-alginate composition (80/20 wt/wt).



Figure 10 Faba bean plant planted in soil 9 weeks after planting. (A) untreated (control); (B) treated PAAm; (C) treated with PAAm/Na-alginate.



Figure 11 Faba bean plant planted in soil (A) untreated (control); (B) treated PAAm/Na-alginate gel. PAAm/Na-alginate of composition (80/20, wt/wt) prepared at 10kGy irradiation dose. The hydrogel rate concentration of the hydrogel in the soil was 0.1 g, and 200 g in sand.