Characterization of Alginate and Chitosan Beads Formed By Ionotropically Crosslinked Gelation

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SUMMARY

BIOENCAPSULATION is a novel technology which uses bioactive molecules to be inserted, immobilized on specific supports (matrices). Encapsulation technology is now well developed and accepted within the pharmaceutical, chemical, cosmetic, foods and printing industries (Augustin et al., 2001; 2003; Heinzen, 2002). It appears that bioencapsulation has a strong potential in most biotechnology fields and especially in agriculture and food.

Different concentrations of alginate (AG) and chitosan (CH) (1%, 1.5%, 2% w/v) were used to beads using as technique coacervation (Fig. 1). The obtained bead sizes, areas, perimeters, elongation and compactness were measured using the UTHSCSA ImageTool software.

Fig. 1. Beads empty obtained from:
A. alginate 2% and B. chitosan 2%

The concentration of the AG and CH influenced all the parameters of the beads. Increasing concentrations of the matrices (from 1 to 2%) determined harder bead (Fig. 2).

Fig. 2. Comparative graphic representation of characteristics of alginate and chitosan beads obtained

REFERENCES