

ABSTRACT

FORMULATION AND EVALUATION OF EFFERVESCENT GRANULE SUSPENSION FROM CHITOSAN MANGROVE CRAB SHELL (*Scylla serrata*) AS A CHOLESTEROL-LOWERING SUPPLEMENT WITH SUSPENDING AGENT VARIATIONS AVICEL AND COMBINATION AVICEL – CMC-NA

Afifah Nur Aini

*Chitosan has benefits for lowering cholesterol levels in the blood. This study utilizes mangrove crab shell chitosan (*Scylla serrata*) as an active ingredient in effervescent granule suspensions using variations of suspending agent formula 1 avicel (1%) and formula 2 avicel (½%) – CMC-Na (½%) combination. This study aims to determine the chitosan of mangrove crab shells (*Scylla serrata*) can be formulated into effervescent granule suspensions and determine the physical characteristics of granule suspensions with differences in suspension agents.*

*The shells of mangrove crabs (*Scylla serrata*) that have become chitosan are tested. Chitosan test parameters include deacetylation, organoleptic, yield, ninhydrin, moisture content, and ash content tests. The results of the degree of deacetylation (68.93 ± 0.08), organoleptic (textured powder, pale yellow, and odorless), chitosan yield (69.92%), ninhydrin (positive purple), water content ($4.67\% \pm 3.06$), and ash content ($0.2\% \pm 0.09$).*

*Granule testing was carried out before and after reconstitution. Flow speed F1 (24.06 ± 0.59), F2 (21.2 ± 2.42), rest angle F1 ($24.49^\circ \pm 2.73$), F2 ($24.29^\circ \pm 2.10$), moisture content F1 ($3.33\% \pm 1.53$), F2 ($10.67\% \pm 0.58$) and %fines F1 ($4.80\% \pm 0.59$), F2 ($8.98\% \pm 2.47$). Test results after reconstitution of dispersion time F1 (2.13 ± 0.08) F2 (1.43 ± 0.07), foam height F1 (4.73 ± 0.70) F2 (3.33 ± 0.31), pH F1 (5.16 ± 1.02) F2 (6.46 ± 0.70) and viscosity F1 (2.21 ± 0.40) F2 (1.99 ± 0.03). It can be concluded that mangrove crab shell chitosan (*Scylla serrata*) can be formulated into an effervescent granule suspension and there is an effect of different suspending agents on testing moisture content, dispersion time, and foam height. It was found that the best formula from this study was formula 1 with suspending agent avicel.*

Key words : mangrove crab shell chitosan (*Scylla serrata*), cholesterol lowering, effervescent granule suspension, avicel, CMC-Na