

| | | |
|-------------------------------|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Title (6) | : | Ameliorative effects of microencapsulated <i>Spirulina platensis</i> in beverage; physicochemical, simulated release, and organoleptic properties |
| Journal | : | Nutrition and Food Science, 2023 |
| Document Type | : | Article |
| Publisher | : | Emerald Publishing Limited |
| UniKL Author | : | Nur Ain Syuhada Zamri |
| Link to Full Text | : | https://www.emerald.com/insight/content/doi/10.1108/NFS-02-2023-0041/full/html |
| Link to Scopus Preview | : | https://www.scopus.com/inward/record.uri?eid=2-s2.0-85161599550&doi=10.1108%2fNFS-02-2023-0041&partnerID=40&md5=28b7f0f72374201947de54523bffc7e2 |
| Abstract | : | <p>The use of <i>Spirulina</i> sp. in food is limited by its bitter flavour and low absorption in the gastrointestinal system. The purpose of this study is to develop encapsulated <i>Spirulina</i>-alginate beads and to determine the physicochemical properties, the release efficiency in the simulated gastrointestinal fluid and the sensory acceptance of the beads when added into a rose syrup beverage. Design/methodology/approach: <i>Spirulina</i>-alginate beads were prepared based on 3 × 3 factorial experiments consisting of three concentrations (1%, 2% and 3%) of plain sodium alginate and three concentrations (1, 3 and 5%) (w/v) of <i>Spirulina</i>. Encapsulated <i>Spirulina</i>-alginate beads were evaluated for their encapsulation effectiveness, size, texture, morphology, colour, in vitro release rate and sensory properties. Findings: Sample H (3% sodium alginate + 1% <i>Spirulina</i>) had higher encapsulation efficiency (82.3%) but less protein (38.2 ppm) than Sample J (3% sodium alginate + 5% <i>Spirulina</i>) which produced more protein (126.4 ppm) but had lower encapsulation efficiency (54.5%). Alginate was the primary factor affecting bead size, and the texture became harder at 3% sodium alginate but softer at 5% <i>Spirulina</i>. As the concentration of <i>Spirulina</i> increased, the intensity of the green colour diminished. The encapsulated samples released test was better than the control samples, and Sample B (1% sodium alginate + 1% <i>Spirulina</i>) was preferred by the panellists in the sensory study. Originality/value: This newly developed encapsulated <i>Spirulina</i> will improve the beverage acceptability, minimize the bitterness and increase the release percentage of <i>Spirulina</i> in simulated gastrointestinal.</p> |