

KARAKTERISTIK SENSORIS, FISIKOKIMIA, DAN VIABILITAS SEL PADA *JELLY CANDY* PROBIOTIK SPIRULINA DENGAN HIDROKOLOID GELATIN DAN GLUKOMANAN

INTISARI

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Gelling agent yang paling banyak digunakan untuk membuat *jelly candy* adalah gelatin karena mampu membuat tekstur *jelly candy* lebih elastis, stabil, dan konsisten. Namun, gelatin memiliki keterbatasan, yaitu memiliki sifat higroskopisitas yang tinggi, isu terkait kehalalan gelatin, ketersediaan yang terbatas, adanya kualitas yang bervariasi, memiliki harga yang relatif tinggi, dan selama penyimpanan mengalami perubahan konsistensi tekstur. Oleh karena itu, harus dicari *gelling agent* lain untuk *jelly candy* yang mampu mengganti gelatin. Selain itu, sebagian besar masyarakat sekarang semakin sadar tentang pentingnya kesehatan sehingga saat ini banyak yang mengonsumsi pangan fungsional. Maka dari itu, pada *jelly candy* ditambah spirulina hijau dan probiotik. Penelitian ini dilakukan untuk mengetahui pengaruh gelatin dan glukomanan porang sebagai *gelling agent* terhadap karakteristik sensoris, fisikokimia, dan viabilitas sel *Lactiplantibacillus plantarum* Dad-13 yang ada dalam *jelly candy* probiotik green spirulina.

Dalam penelitian ini, dibuat *jelly candy* yang ditambah spirulina hijau dan probiotik *Lactiplantibacillus plantarum* Dad-13 dengan *gelling agent* gelatin dan glukomanan porang formulasi terpilih. Lalu, dilakukan pengujian viabilitas sel probiotik pada *jelly candy* yang disimpan di suhu 4°C dan 30°C setiap lima hari selama 25 hari penyimpanan. Berdasarkan hasil viabilitas sel, dicari umur simpan *jelly candy* dengan metode *Extended Storage Studies* (ESS). Selain itu, dianalisis pula tekstur, a_w , warna, pH, dan karakteristik fisikokimia *jelly candy*. Selama 25 hari penyimpanan di dua suhu berbeda, viabilitas sel *Lactiplantibacillus plantarum* Dad-13 dalam *jelly candy* selalu menurun sehingga memiliki umur simpan 31 hari jika disimpan di suhu 4°C dan 20 hari jika disimpan di suhu 30°C. Selain itu, terjadi perubahan tekstur, a_w , warna, dan pH selama penyimpanan.

Kata kunci: *gelling agent*, glukomanan porang, probiotik, spirulina hijau, *jelly candy*

SENSORY CHARACTERISTICS, PHYSICOCHEMICAL, AND CELL VIABILITY OF SPIRULINA PROBIOTIC JELLY CANDY WITH GELATIN AND GLUCOMANNAN HYDROCOLLOID

ABSTRACT

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The gelling agent most widely used to make jelly candy is gelatin because it can make the texture of jelly candy more elastic, stable, and consistent. However, gelatin has limitations, namely it has high hygroscopicity, issues related to halal gelatin, limited availability, varying quality, relatively high price, and changes in texture consistency during storage. Therefore, another gelling agent must be sought for jelly candy that can replace gelatin. Apart from that, most people are now increasingly aware of the importance of health, so many people now consume functional foods. Therefore, green spirulina and probiotics are added to jelly candy. This research was conducted to determine the effect of gelatin and porang glucomannan as gelling agents on the sensory, physicochemical characteristics and cell viability of *Lactiplantibacillus plantarum* Dad-13 in green spirulina probiotic jelly candy.

In this research, jelly candy was made which added green spirulina and the probiotic *Lactiplantibacillus plantarum* Dad-13 with selected formulations of gelling agent gelatin and porang glucomannan. Then, probiotic cell viability testing was carried out on jelly candy stored at 4°C and 30°C every five days for 25 days of storage. Based on the cell viability results, the shelf life of jelly candy was searched using the Extended Storage Studies (ESS) method. Apart from that, the texture, a_w , color, pH and physicochemical characteristics of jelly candy were also analyzed. During 25 days of storage at two different temperatures, the viability of *Lactiplantibacillus plantarum* Dad-13 cells in jelly candy always decreased so that it had a shelf life of 31 days if stored at 4°C and 20 days if stored at 30°C. In addition, changes in texture, a_w , color and pH occur during storage.

Keywords: gelling agent, porang glucomannan, probiotic, green spirulina, jelly candy