INTISARI

Suplemen kesehatan dalam bentuk permen masih sedikit dikembangkan karena nilai gizinya yang rendah. Suplemen dipercaya dapat memelihara kesehatan tubuh, salah satunya dalam bentuk *gummy bear* yang mengandung antioksidan. Inovasi dilakukan dengan penggantian gula menjadi madu dan stevia untuk mengurangi kandungan gula yang tinggi. Penelitian ini bertujuan mengevaluasi aktivitas antioksidan madu serta mengetahui pengaruh madu dan stevia terhadap karakteristik fisik dan atribut sensoris *gummy bear*.

Madu varian Multiflora dan Rain Forest diuji untuk mengetahui madu dengan aktivitas antioksidan terbaik. Bunga krisan diekstraksi dengan maserasi, lalu ekstrak kental yang dihasilkan diuji aktivitas antioksidanya. Formula *gummy bear* dibuat dengan variasi madu dan stevia, dilanjutkan uji karakteristik fisik, pengukuran warna, dan hedonik. Hasil uji dianalisis dengan *simplex lattice design* untuk penentuan formula optimum, dengan memasukkan respon kadar air, *hardness, gumminess, chewiness, adhesiveness,* dan hasil uji hedonik. Analisis formula optimum dilakukan dengan *one sample t-test.*

Madu Multiflora memiliki aktivitas antioksidan lebih baik dibandingkan Rain Forest, sehingga digunakan sebagai pemanis dalam formulasi. Variasi kombinasi madu dan stevia memiliki pengaruh terhadap karakteristik fisik dan atribut sensoris *gummy bear*. Formula optimum yang didapatkan adalah kombinasi 18,547 gram madu dan 1,453 gram stevia. Verifikasi formula optimum menunjukkan tidak ada perbedaan signifikan antara hasil pengujian dengan nilai prediksi pada *software.*

Kata kunci: madu, stevia, antioksidan, *gummy bear*

ABSTRACT

Health supplements in the form of candies are still underdeveloped due to their low nutritional value. Consuming supplements is believed to improve the cognitive function of the brain, one of the supplement is *gummy bear*. Innovation is carried out by replacing sugar with honey and stevia to reduce the high sugar content. This study aims to evaluate the antioxidant activity of honey, also determine the effect of honey and stevia on the physical characteristics and sensory attributes of *gummy bear*.

Multiflora and Rain Forest honey variants were tested to determine the honey with the best antioxidant activity. Chrysanthemum flowers were extracted using maceration method, then the resulting thick extract was tested for antioxidant activity. *Gummy bear* formula was made with variations of honey and stevia, followed by physical characteristics, color measurement, and hedonic test. The test results were analyzed using simplex lattice design method to determine the optimum formula, by including the responses of moisture content, hardness, gumminess, chewiness, adhesiveness, and hedonic test results. Analysis of the optimum formula was carried out with one sample t-test.

Multiflora honey had a better antioxidant activity than Rain Forest honey, so it is used as a sweetener in *gummy bear* formulation. Varried combination of honey and stevia had an influence on physical characteristics and sensory attributes of *gummy bear*. The optimum formula obtained was a combination of 18,547 gram of honey and 1,453 gram of stevia. The verification of optimum formula showed that there is no significant difference between the test result in this study and the predicted value based on software.

Keyword: honey, stevia, antioxidant, *gummy bear*