

RINGKASAN

Rosela (*Hibiscus sabdariffa*) merupakan komoditas pertanian Indonesia yang melimpah dan memiliki manfaat bagi kesehatan manusia, khususnya sebagai antioksidan. Namun, rosela kurang diminati oleh masyarakat dan konsumsinya masih terbatas bentuk seduhan teh kelopak rosela. Aplikasi rosela dalam berbagai jenis olahan pangan tanpa menghilangkan fungsional rosela termasuk dalam upaya diversifikasi pangan rosela. Salah satu upaya diversifikasi pangan rosela yaitu dalam pembuatan permen *gummy* rosela. Hal ini disebabkan karena permen memiliki tempat tersendiri dalam konsumsi makanan manis, namun terdapat beberapa masalah yaitu stereotipe permen yang tinggi gula sehingga dinilai tidak baik untuk kesehatan, serta permasalahan formulasi permen *gummy* yang perlu disesuaikan dari faktor jenis pemanis dan proporsi bahan pengental yang digunakan yang didasarkan pada peraturan atau standar mutu yang berlaku. Oleh karena itu, dilakukan penelitian yang bertujuan untuk 1) mengetahui pengaruh kombinasi perlakuan variasi jenis pemanis dan proporsi bahan pengental terhadap karakteristik sensoris permen *gummy* rosela, dan 2) untuk mengetahui karakteristik kimia permen *gummy* rosela dengan formulasi terbaik berdasarkan standar SNI.

Penelitian dilaksanakan di Laboratorium Teknologi Pertanian, Fakultas Pertanian, Universitas Jenderal Soedirman, Purwokerto. Penelitian ini berlangsung pada bulan November 2023 – Maret 2024 menggunakan rancangan acak lengkap (RAL) faktorial. Faktor yang diujikan dalam penelitian ini adalah variasi jenis pemanis (A) (gula pasir, gula stevia, dan gula singkong) serta proporsi bahan pengental (B) (gelatin 15 gr : karagenan 1 gr; gelatin 20 gr : karagenan 1,5 gr; gelatin 25 gr : karagenan 2 gr). Penelitian dibagi menjadi 2 tahap yaitu tahap pertama merupakan tahap pengujian karakteristik sensoris permen *gummy* rosela (tekstur, tingkat kemanisan, warna, aroma, dan cita rasa) yang dianalisis menggunakan *Friedman test* dan DMRT. Penentuan kombinasi perlakuan terbaik dilakukan dengan uji indeks efektifitas, kemudian dilanjutkan pada tahap kedua yaitu pengujian karakteristik kimia permen *gummy* rosela (vitamin C, antosianin, kadar air, kadar abu, kadar gula reduksi, dan kadar sukrosa) terbaik secara sensoris.

Hasil penelitian menunjukkan bahwa kombinasi perlakuan variasi jenis pemanis dan proporsi bahan pengental memberikan pengaruh terhadap karakteristik permen *gummy* rosela. Peningkatan proporsi bahan pengental menyebabkan kenaikan nilai atribut tekstur dan cita rasa, serta menyebabkan penurunan nilai atribut warna, aroma, dan tingkat kemanisan permen *gummy* rosela. Gula pasir memberikan pengaruh yang baik terhadap tekstur permen *gummy* rosela, namun penggunaan gula stevia dan gula singkong lebih baik dalam memperbaiki atribut warna, aroma, cita rasa, dan tingkat kemanisan. Formulasi permen *gummy* rosela terbaik berdasarkan karakteristik sensoris yaitu sampel permen *gummy* rosela gula stevia dan gelatin 20 gr : karagenan 1,5 gr. Karakteristik kimia permen *gummy* rosela terbaik yaitu mengandung 8,07 mg/g vitamin C; 0,01705 mg/g antosianin; 0,01% gula reduksi; 0% sukrosa; kadar air 63,5%; dan kadar abu 0,77%.

SUMMARY

Roselle (Hibiscus sabdariffa) is an Indonesian agricultural commodity and has benefits for human health, especially as an antioxidant. However, roselle is less popular in the public, and its consumption is still limited to the form of roselle petal tea. The application of roselle in various types of food preparations without eliminating the function of roselle is included in efforts to diversify roselle application in foods. One effort to diversify roselle food is making roselle gummy candy. This is because candy has its own place in the consumption of sweet foods, but there are several problems. There is a stereotype that candy is high in sugar, so it is considered bad for health, as well as the problem of gummy candy formulation, which needs to be adjusted based on the type of sweetener and the proportion of gelling agents used to meet applicable regulations or quality standards. Therefore, research was carried out that aimed to 1) determine the effect of combination treatments of various types of sweeteners and proportions of gelling agents on the sensory characteristics of roselle gummy candy, and 2) determine the chemical characteristics of roselle gummy candy with the best formulation based on SNI standards.

Research was carried out at the Agricultural Technology Laboratory, Faculty of Agriculture, Jenderal Soedirman University, Purwokerto. This research will take place in November 2023 – March 2024 using a factorial completely randomized design (RAL). The factors tested in this research were variations in the type of sweetener (A) (granulated sugar, stevia sugar, and cassava sugar) as well as the proportion of gelling agent (B) (gelatin 15 gr : carrageenan 1 gr; gelatin 20 gr : carrageenan 1.5 gr; gelatin 25 gr : carrageenan 2 gr). The research was divided into 2 stages, the first stage was the testing of the sensory characteristics of roselle gummy candy (texture, sweetness level, color, aroma, and taste) which were analyzed using the Friedman and DMRT tests. Determining the best treatment combination was carried out using an effectiveness index test, then continued with the second stage, testing the chemical characteristics of the best roselle gummy candy based on sensory characterization (vitamin C, anthocyanin, water content, ash content, reducing sugar content, and sucrose content).

The results of the research showed that the combination of treatment with variations in the type of sweetener and the proportion of gelling agents had an influence on the characteristics of roselle gummy candy. An increase in the proportion of gelling agent causes an increase in the texture and taste attribute values, as well as a decrease in the color, aroma, and sweetness attribute values of roselle gummy candy. Granulated sugar has a good influence on the texture of roselle gummy candy, but the use of stevia sugar and cassava sugar can improve the attributes of color, aroma, taste, and sweetness level. The best roselle gummy candy formulation based on sensory characteristics is sample roselle gummy candy with stevia, gelatin 20 gr : carrageenan 1.5 gr. The chemical characteristics of the best roselle gummy candy are that it contains 8.07 mg/g vitamin C; 0,01705 mg/g anthocyanin; 0.01% reducing sugar; 0% sucrose; water content 63.5%; and ash content 0.77%.