

Design of Rosella Spice Tea Functional Drink Processing Unit
(Perancangan Unit Pengolahan Minuman Fungsional Teh Rosella Rempah)
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ABSTRACT

*Functional beverages and foods are basic human needs. Consumers want beverages that are varied, tasty, refreshing, and beneficial to the body. Over time, rosella flowers (*Hibiscus sabdariffa* L) were discovered, which can be brewed like tea with added spices. Spice tea is tea that contains various types of spices with good properties for the body, mainly due to its antioxidant activity that protects the body from free radical damage. Rempah Rosella Flower Tea Factory will be planed in Kediri Regency, East Java, has a production capacity of 20,000 pcs/day with 60 kg/day of red rosella flowers. To produce this tea, spices such as cardamom, cloves, ginger, sappan wood, and cinnamon are required. The factory operates for 262 days per year with a working time of 8 hours per day, involving 18 factory workers and 8 office workers. The rosella spice tea processing unit consists of several departments: raw material reception, raw material warehouse, production room, packaging room, storage room, office, water source, and waste treatment. Analysis of the factory layout using the Blocplan application resulted in the selected Layout II with an R-score of 0.80. The total area of the rosella spice tea processing unit is 670 m². Raw materials of 60 kg/day are used to produce 20,000 pcs/day of spiced rosella flower tea bags, with the need for 24 machines.*

Keywords : Capacity plant location, machinery equipment, process operation map, process flow map, plant lay out