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# OPTIMIZATION OF SPRAY-DRYING PARAMETERS FOR 'BINTANGOR' ORANGE (*CITRUS RETICULATA* BLANCO X *CITRUS AURANTIUM* L.) JUICE

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**ABSTRACT**

'Bintangor' orange is a type of mandarin-orange hybrid, that has orange-colored pulp, but green-colored peel. The objective of this study was to determine the effects of maltodextrin concentrations (5% w/w to 25% w/w) and inlet temperatures (140°C to 180°C) on the properties of spray-dried 'Bintangor' orange powder. Color, moisture content, hygroscopicity, bulk density and wettability of powder were analyzed. Also, 'Bintangor' orange juice and the reconstituted powder were compared in color, viscosity, total soluble solids (TSS), and pH value. When 'Bintangor' orange juice was spray-dried with different maltodextrin concentrations, moisture content, color, hygroscopicity, bulk density and wettability increases as the maltodextrin concentration increase. On the other hand, there was no significant difference ($p>0.05$) in the color, moisture content, and hygroscopicity of spray-dried 'Bintangor' orange powder produced at different inlet temperatures, except bulk density. Optimum inlet temperature (170°C) and optimum maltodextrin concentration (20% w/w) produced powder with 0.11±0.00 water activity and 20.02±1.00 g/ 100 g hygroscopicity. When comparing reconstituted optimized powder with 'Bintangor' orange juice, the color, viscosity, TSS, and pH value of 'Bintangor' orange juice were higher than the optimized reconstituted powder. 'Bintangor' orange powder produced have 2.21±1.91% fat, and 2.44±0.00% protein.