V. CONCLUSION AND RECOMMENDATION

A. CONCLUSION

Spray drying process causes chemical and volatile compound changes in green tea. Inlet temperature and feed concentration significantly affected the quality of green tea powder. Generally, increased temperature (up to 200 °C inlet temperature) decreases amount and type of volatile compound, particularly ketone, total polyphenol, teaine content, solubility, and bulk density. On the other hand, increasing feed concentration increases L value, b value, gallic acid, teaine, and catechin content. The best green tea powder is the one with 6% total solid in feed and 180 °C inlet temperature. It has low water activity (0.20 ± 0.01), lowest a value (3.8 ± 0.35) low b value (18.87 ± 0.14) high hygroscopicity (98.79 ± 0.53 %) low solubility (9.09 ± 0.94 %) and low bulk density (0.51 ± 0.18 g/ mL). It also has low moisture content (4.17 ± 0.02 %), high total polyphenol content (26.42 ± 0.07 g/100 g db), high teaine content (7.06 ± 0.01 g/100 g db), and highest catechin content (26.16 ± 0.13 g/ 100 g db). Besides, it has highest amount of terpene and also contains hydrocarbon and aldehyde which resembles to green tea leaf.

B. RECOMMENDATION

Green tea powder quality is affected by the drying process. Some recommendation of this study are using a filter before feeding the solution to spray dryer to prevent clogging, using a vacuum aluminum package to pack the powder, and always keep the green tea powder in the dry place. Further research to support this research can be done, include study about carrier selection to produce the best quality of green tea powder, sensory evaluation of green tea powder, and effects of drying process on the functional properties of green tea powder.