

Sample Sp2 containing apple puree, carrot puree, lingonberry pulp juice, apple juice, red beetroot puree, overall had the lowest mineral compound coverage of RDI. The 10% margin per sample serving of mineral compounds was met by content of potassium (K) and copper (Cu) for both men and women, and of magnesium (Mg) for men.

The evaluation of bioactive compound content did not show substantial differences between the samples, slightly larger differences in content of total carotene were detected between samples Sp2 (apple puree, carrot puree, lingonberry pulp juice, apple juice, red beetroot puree) and Sp3 (apple puree, strawberry pulp juice, red beetroot juice, pumpkin puree, red raspberry pulp juice).

Acknowledgment

This research was supported by program 'Scientific Capacity Building at LLU' project A05-06 'Development of special dietary foods with high bioavailability'

References

- Andrés V., Villanueva M. J., Tenorio M. D. (2016) The effect of high-pressure processing on colour, bioactive compounds, and antioxidant activity in smoothies during refrigerated storage. *Food Chemistry*, Vol. 192, p. 328–335.
- Chhikara N., Kushwaha K., Sharma P., Gat Y., Panghal A. (2019) Bioactive compounds of beetroot and utilization in food processing industry: A critical review. *Food Chemistry*, Vol. 272, p. 192–200.
- Cilla A., Bosch L., Barberá R., Alegría A. (2018) Effect of processing on the bioaccessibility of bioactive compounds – A review focusing on carotenoids, minerals, ascorbic acid, tocopherols and polyphenols. *Journal of Food Composition and Analysis*, Vol. 68, p. 3–15.
- DTU Fodevareinstituttet. (2019) [accessed on 11.02.2019]. Available at: <https://frida.fooddata.dk/?lang=en>
- Iborra-Bernad C., Tárrega A., García-Segovia P., Martínez-Monzó J. (2014) Comparison of vacuum treatments and traditional cooking using instrumental and sensory analysis. *Food Analytical Methods*, Vol.7(2), p. 400–408.
- Ieteicamās enerģijas un uzturvielu devas Latvijas iedzīvotājiem (2017) [accessed on 11.02.2019]. Available at: http://www.vm.gov.lv/images/userfiles/Tava-veseliba/Ieteicamās_enerģijas_un_uzturvielu_devas.pdf
- ISO 20483:2013 - Cereals and pulses - Determination of the nitrogen content and calculation of the crude protein content - Kjeldahl method. [accessed on 31.01.2019] Available at: <https://www.iso.org/standard/59162.html>
- Jin P., Wang Y., Gao H., Chen H., Zheng Y., Wang C. Y. (2012) Effect of cultural system and essential oil treatment on antioxidant capacity in raspberries. *Food Chemistry*, Vol. 132, p. 399–405.
- Kays S. J., Nottingham S. F. (2007) *In: Biology and Chemistry of Jerusalem Artichoke Helianthus tuberosus L.* Chemical Composition and Inulin Chemistry. CRC Press, Taylor & Francis Group, p. 53–96.
- Kivimäki A. S., Siltari A., Ehlers P. I., Korpela R., Vapaatalo H. (2013) Lingonberry juice lowers blood pressure of spontaneously hypertensive rats (SHR). *Journal of Functional Foods*, Vol. 5(3), p. 1432–1440.
- Lee C. Y. (2012) Common nutrients and nutraceutical quality of apples. *New York Fruit Quarterly*, Vol. 20(3), p. 8–8.
- Lukša J., Vepškaitė-Monstavičė I., Yurchenko V., Serva S., Servienė, E. (2018) High content analysis of sea buckthorn, black chokeberry, red and white currants microbiota – A pilot study. *Food Research International*, Vol. 111, p. 597–606.
- Mohammad S., Gharibzadeh T., Jafari S. M. (2017) The importance of minerals in human nutrition: Bioavailability, food fortification, processing effects and nanoencapsulation. *Trends in Food Science & Technology*, Vol. 62, p. 119–132.
- Nile S. H., Park S. W. (2014) Edible berries: Bioactive components and their effect on human health. *Nutrition*, Vol. 30(2), p. 134–144.
- Nutrition and Athletic Performance (2016) *Medicine & Science in Sports & Exercise*, Vol. 48(3), p. 543–568.
- Ozola L., Kampuse S. (2017) The effect of vacuum cooking on enteral food made from fresh and semi-finished ingredients. *In: Research for Rural Development*, Vol. 1, p. 208–214.
- Ozola L., Kampuse S. (2018) Influence of heat treatment methods on bioactive compound concentrations in pumpkin-guelder rose (*Viburnum opulus*) sauces. *Proceedings of the Latvian Academy of Sciences. Section B. Natural, Exact, and Applied Sciences*, Vol. 72(2), p. 97–102.
- Ozola L., Kampuse S., Galoburda R. (2017) The effect of high-pressure processing on enteral food made from fresh or semi-finished ingredients. *In: 11th Baltic Conference on Food Science and Technology*, p. 80–85.
- Phillips S. M., Luc, Van Loon J. C. (2011) Dietary protein for athletes: From requirements to optimum adaptation. *Journal of Sports Sciences*, Vol. 29(1), p. 29–38.
- Potgieter S. (2013) Sport nutrition: A review of the latest guidelines for exercise and sport nutrition from the American College of Sport Nutrition, the International Olympic Committee and the International Society for Sports Nutrition. *South Africa Journal of Clinical Nutrition*, Vol. 26(1), p. 6–16.
- Selenium. (2018) [accessed 06.02.2019] Available: from <https://ods.od.nih.gov/factsheets/Selenium-HealthProfessional/>
- Sharma K. D., Karki S., Thakur N. S., Attri S. (2012) Chemical composition, functional properties and processing of carrot-a review. *Journal of Food Science and Technology*, Vol. 49(1), p.22–32.
- Wang J., Wang J., Ye J., Kranthi Vanga S., Raghavan V. (2018) Influence of high-intensity ultrasound on bioactive compounds of strawberry juice: Profiles of ascorbic acid, phenolics, antioxidant activity and microstructure. *Food Control*, Vol. 96, p.128–136.
- Yang L., He Q. S., Corscadden K., Udenigwe C. C. (2015) The prospects of Jerusalem artichoke in functional food ingredients and bioenergy production. *Biotechnology Reports*, Vol. 5(1), p. 77–88.
- Yu L., Perret J., Harris M., Wilson J., Haley S. (2003) Antioxidant properties of bran extracts from “Akron” wheat grown at different locations. *Journal of Agricultural and Food Chemistry*, Vol. 51(6), p. 1566–1570.
- Полюдек-Фабини Р., Бейрих Т. (1981) Органический анализ. В: *Химия* (p. 499–500). Ленинград.