Total nitrogen (N) content of the samples was determined by the Kjeldahl method, using a VEPL DK 6 Heating Digester (VELP Scientifica, Usmate, Italy) and a semi-automatic distillation unit UDK 132 (VELP Scientifica, Usmate, Italy), while the crude protein was calculated from the multiplication of N by 6.25. Crude fat was determined by the Soxhlet method, using an ANKOM XT15 extractor (ANKOM Technology, Macedon NY, USA). Crude fibre was determined by the Henneberg-Stohmann method, with an ANKOM 2000 automatic fibre analyser (ANKOM Technology, Macedon, NY, USA), and ash was determined by combustion in a SNOL 8.2 / 1100 muffle furnace at 600°C (AOAC, 2020).

Following a documented procedure (Zagułaet al*.*, 2017), we determined the composition of chemical elements in the herbaceous forages and arboreal forages (tree leaves and twigs) with an ICP-OES spectrometer (Schaumburg, IL, USA), Thermo iCAP Dual 6500 with horizontal plasma, and capacity for detection along and across the plasma flame (radial and axial). Each sample was digested in 65% extra pure nitric acid (Merck) under high pressure microwave digestion system (MIllestone, Ethos One, Italy). Each time, 0.2 g of each sample was put in each digestion vessel and filled up with 8 mL of the nitric acid as a reagent. The same procedure was used with a blank sample (acid and water clean control procedure). After digestion procedure, each sample vessel was filled up to 50 mL with deionized water (<0,05 µS cm-1). The threshold of detection for each element was >0.01 mg kg-1 (spectrometer detection capacity was over 1 µg L-1). Calibration curves were created in two concentration variants (i.e., 10000 mg L-1 for Ca, Fe, Mg, K, P and 1000 mg L-1 for Al, Mn, S, Sr, Zn) using certified Merck models. In each case, we used a three-point calibration curve for each assessed element, with optical adjustment applying the method of internal models, in the form of yttrium and ytterbium ions, at 2 mg L-1 and 5 mg L-1 concentrations, respectively. We used two independent tests and Certified Reference Materials (INCT-TL-1 and NIES CRM No. 7 Tea Leaves) were used to validate the analytical methods, while the recovery obtained for each of the elements is presented in Table S1. Finally, the method of adding a model with known concentration was used to identify the relevant measurement lines and prevent potential interferences (Environmental analysis, Method 200.7, US EPA, Drinking water).

Table S1: The lengths of measurement lines and the recovery obtained for each mineral element

|  |  |  |  |
| --- | --- | --- | --- |
| Element | Measurement Line, nm | Recovery According to CRM, % | Recovery According to Known Addition Method, % |
| Al | 167.079 | 98 | 100 |
| Ca | 317.933 | 101 | 99 |
| Fe | 259.490 | 98 | 99 |
| K | 766.490 | 102 | 98 |
| Mg | 279.533 | 102 | 101 |
| Mn | 257.610 | 98 | 100 |
| P | 177.495 | 101 | 99 |
| S | 180.731 | 97 | 100 |
| Sr | 407.771 | 99 | 101 |
| Zn | 213.856 | 99 | 97 |

Zaguła, G.; Zardzewiały, M.; Saletnik, B.; Bajcar, M.; Czernicka, M.; Grabek-Lejko, D.; Kasprzyk, I.; Puchalski, C. Effects of fertiliser use and pre-sowing seed stimulation with a magnetic field on the mineral content and yield of three varieties of sugar beet roots. *Journal of Elementology* **2017**, 22(4), 1401-1414. DOI: 1410.5601/jelem.2017.1422.1401.1361