**δ15N AND δ13C VALUES AS POSSIBLE MARKERS FOR DISTINGUISHING BETWEEN ORGANIC AND CONVENTIONAL GRAINS (Times 12p, bold, Uppercase)**

**δ15N UN δ13C VĒRTĪBAS KĀ IESPĒJAMIE MARĶERI BIOLOĢISKO UN PARASTO GRAUDU ATŠĶIRŠANAI**

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Organic plant products are believed to be safer, healthier and environmentally friendlier than conventionally grown ones. However, it is still challenging to distinguish between organic and conventional products using everyday methods. Stable isotope ratio mass spectrometry (SIRMS) is offered as an alternative method [1].

In the research wheat and barley samples from conventional and organic cornfields were analysed. The conventional grain samples were collected form commercial mills all over the country, whereas the organic grain samples were obtained from Latvia State Institute of Agrarian Economics, State Stende Cereals Breeding Institute.

The analyses were carried out with Nu Horizon SIRMS at the University of Latvia, using certified inorganic reference materials USGS-40 and USGS-41 (L-Glutamic acid). The δ13C values are expressed relative to VPDB and the δ15N values relative to AIR.

**Fig. 1.**  δ15N values of conventional and organic wheat grains. (Times 11p)

The preliminary results show that the δ15N values of some biological wheat samples are enriched, compared to conventionally grown wheat, as the cornfields are usually fertilized using organic manures that have significantly higher δ15N values that synthetic fertilizers [1]. **(All text Times 12)**

***References: (Times 11p)***

[1] Laursen K.H., Mihailova A., Kelly S.D., Epov V.N., Bérail S., Schjoerring J.K., Donard O.F.X., Larsen E.H., Pedentchouk N., Marca-Bell A.D., Halekoh U., Olesen J.E., Husted S. *Food Chem.* **2013**, *141*, 2812-2820. (**Times 11p**)

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