Abstract

Potatoes are cultivated in conventional as well as in organic farming systems and although the production area itself is not large as compared to other crops (e.g. 1.17 % of arable land in the Czech Republic, 2.14 % in Germany, but also 14.89 % in the Netherlands), in terms of production and subsequent food usage they belong to the most important crops not only in Europe. Farming system, which is used for their cultivation, can be one of the main factors affecting the production of greenhouse gases. The work is focused on monitoring and calculating the value of emissions expressed in CO_2 equivalent (CO_2-eqv = 1x CO_2 + 23x CH_4 + 298x N_2O) which is produced within the cultivation of potatoes in conventional and organic farming system. The results show that when comparing emission load within the agricultural production of potatoes there is an evident difference between conventional and organic farming systems, while different values can be observed in all parameters (field emission, planting, fertilizing, agrotechnical operations, pesticides). Although agrotechnical procedures themselves, including fertilization, are very similar in conventional and organic farming, the emission load produced per one kilogram of conventional potatoes is 0.145 kg CO_2e while the load produced per one kilogram of ecological potatoes is for the amount of 0.126 kg CO_2e by around 13 % lower.

Key words: greenhouse gases emissions, potatoes, farming syste