Table of Contents

Res. Agr. Eng.

Šima T., Nozdrovický L., Krištof K., Krupička J.:

Impact of the size of nitrogen fertiliser application rate on N_2O flux

Res. Agr. Eng., 60 (2014): 24-29

The application rate of a nitrogen fertiliser is one of the most important factors that affect the nitrous oxide (N_2O) flux. Calk ammonium nitrate with 27% nitrogen content was spread by a fertiliser spreader VICON RS-L connected with a tractor Zetor 16145 and incorporated into the soil by a power harrow Pöttinger Lion 301 six hours after spreading. Monitoring points were selected based on the size of application rate 0, 100, 200 and 300 kg/ha and were measured 7, 14, 21 and 28 days after fertiliser application and incorporation into the soil. Nitrous oxide emissions were measured by a photoacoustic field gas monitor INNOVA 1412 with a multipoint sampler INNOVA 1309. Based on the data obtained, there were found statistically significant differences among time intervals and among the size of the application rate at a 95.0% confidence level. Results have shown impacts of the size of fertiliser application rate and time interval after fertilisation on nitrous oxide flux.

Keywords:

nitrous oxide; soil emissions; fertilising; fertiliser spreader

[fulltext]