

Book review

Gaseous Nitrogen Emissions from Grasslands

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The title of this book suggests that readers are in for a treatise on gaseous nitrogen emissions from grasslands throughout the world. However, this is not the case. This book is a collection of chapters and posters on gaseous N emissions from European grasslands, where 54% of the book is devoted to N emissions from grasslands amended with animal waste products. The editors state that 100 scientists from 14 countries attended the conference, and this may be so. However, this representation does not carry over into book chapters where, in all but 4 cases, the first author was from a European country. Indeed, a better title would have been 'Gaseous nitrogen emissions from European grasslands following urine and manure applications'. However, such a title may have been less appealing to a worldwide audience.

The book contains 35 chapters and 22 poster abstracts. Of these, 19 chapters and 6 posters discuss N losses from animal wastes applied to grasslands. The first 6 chapters and 4 of the first 5 posters are concerned with the control of emissions of N gases from grassland soil, but again from a European viewpoint, and nothing new is

actually revealed. There are 5 chapters on scaling and modelling which I consider the most important in the book. The techniques used to measure gaseous N emissions are well known, but scaling up from microplot, with some degree of confidence, is an area where much more work is required. Some discussion occurs in these chapters on methods which could be used to alleviate this problem. A major omission from the modelling chapters is a lack of reference to the nitrification and denitrification model of Parton *et al.* (1996) which presents a general model for N₂ and N₂O formation. The remaining chapters and poster abstracts report on individual experiments which again apply to the European situation.

Overall, I consider the book covers the European situation reasonably well, with good use of illustrations and a clarity of expression. A major omission is the lack of data on N₂ emissions from grasslands via denitrification which I consider would be quite high under conditions where wastes are applied. I think the coverage of N emissions from grasslands outside Europe is poor (only one chapter attempts to cover this) which would lead me to conclude that the book would be of limited use to workers outside of Europe.

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