

## Preface

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Agricultural production has an ambivalent role with regards to climate change. It is both a source and a sink of greenhouse gases. In order to maintain at least a balance between the two roles, we need extensive research on plant and livestock production as well as on political measures to encourage farm entrepreneurs to favor climate-friendly methods in their production activities. Climate change mitigation efforts should also support other environmental aspects, such as reducing nutrient leaches, increasing biodiversity, and the promotion of animal welfare.

In early 2019, *Agricultural and Food Science* called for submissions for publication in a special issue entitled *Northern Agriculture in Changing Climate*. The issue was targeted at increasing our knowledge about the means of agriculture which could contribute to the fight against climate change in northern regions. The range of topics gathered under the chosen title is very wide and only a small sample of them is represented in the special issue which is now ready for publishing. The articles to be published have been peer-reviewed in accordance with the standards of *Agricultural and Food Science*.

In this special issue, we look at northern agriculture and climate change through articles addressing the following themes: the methane emissions of dairy cows, challenges to arable farming caused by increasing precipitation, biodiversity degradation interconnected with land use and climate change, an increase in perennial forage yields driven by climate change, measures, costs and policies to mitigate climate change in agriculture, and research on the effects of climate change on agricultural production in Finland.

The Editorial Board wishes that you will find this special issue an interesting and useful reading experience. We hope that the articles will provide you with new insights and that the review articles will offer you a comprehensive picture of the research conducted in their subject areas. We also trust that the special issue will generate new research ideas and encourage you to continue your research on adapting to and slowing down climate change. Only in that way can we ensure adequate and responsible food production in the future.

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Editor-in-Chief