Foreword

Publication of this specific edition of *Animal Production Science* marks a very special milestone in the life of the ProSafeBeef programme (http://www.prosafebeef.eu/) funded by the European Community. This edition reports the presentations, discussion and outcomes from an International Workshop entitled 'Animal Production in a Changing World' held in Clermont-Ferrand on 9–10 September 2009 and organised by INRA (France) under the auspices of the ProSafeBeef programme. More than 50 scientists from 20 different countries participated. This diversification in the participants permitted different points of view from various geographical regions to be considered. The main objective was to discuss the foremost challenges for the future within the livestock sector taking into account major changes in the world context. Among the chief consideration is the recognition that our natural resources are being exploited in an unsustainable manner to maintain growth in our livestock production systems. This must be urgently addressed. The emergence of global climate change as a major challenge is a further problem for agriculture and society as a whole. Animal production systems must preserve and enhance our environment. At the same time, the consequences of global change on livestock systems should be taken into account in agricultural research. The second element is the economics of animal production systems. Ensuring acceptable income for producers is vital to sustaining vibrant rural communities. A third important point is a requirement to ensure animal production systems deliver foods which are safe and contribute positively to human nutrition, helping to prevent disease and promoting wellbeing. At the same time, products must provide essential elements for life and also pleasure with excellent eating quality experiences. It is also important that the global scientific community works collectively to address the urgent pressures on our animal production systems. Within the workshop, after a general presentation of this complex problem ('Animal production in a changing world' by Professor Nigel Scollan), four key lectures addressed the major challenges of animal production: (i) environmental issues ('Mitigating the greenhouse gas balance of ruminant production systems through carbon sequestration in grasslands' by Dr Jean-François Soussana, France: see Soussana *et al.* 2010), (ii) efficiency of production ('Improving the efficiency of energy utilization in cattle – Opportunities and challenges' by Professor Chris Reynolds: see Reynolds *et al.* 2011) and quality of animal products ('Current and futures issue facing red meat quality in a competitive market' by Professor David Pethick, Australia: see Pethick *et al.* 2011; and 'Improving nutritional quality of animal products through animal feeding: special focus on fatty acids' by Dr Michel Doreau, France: see Doreau *et al.* 2011). These lectures highlighted the synergies between scientific objectives concerning the improvement of food quality and safety and the reduction of the environmental impact of ruminant livestock production. After the lectures, and based on their associated discussions, participants were divided into two discussion groups to highlight the main research priorities for the future. Their conclusions are described in the paper entitled 'Future research priorities for animal production in a changing world' (see Scollan *et al.* 2011).

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References

Doreau M, Bauchart D, Chilliard Y (2011) Enhancing fatty acid composition of milk and meat through animal feeding. *Animal Production Science* **51**, 19–29. doi:10.1071/AN10043

Pethick DW, Ball AJ, Bankds RG, Hocquette JF (2011) Current and future issues facing red meat quality in a competitive market and how to manage continuous improvement. *Animal Production Science* **51**, 13–18. doi:10.1071/AN10041

Reynolds CK, Crompton LA, Mills JAN (2011) Improving the efficiency of energy utilisation in cattle. *Animal Production Science* **51**, 6–12. doi:10.1071/AN10160

Scollan ND, Greenwood PL, Newbold CJ, Yáñez Ruiz DR, Shingfield KJ, Wallace RJ, Hocquette JF (2011) Future research priorities for animal production in a changing world. *Animal Production Science* **51**, 1–5. doi:10.1071/AN10051

Soussana JF, Tallec T, Blanfort V (2010) Mitigating the greenhouse gas balance of ruminant production systems through carbon sequestration in grasslands. *Animal* **4**, 334–350. doi:10.1017/S1751731109990784

