

1. **Names:** Halberg, Niels
2. **Address:** ICROFS, Forskningscenter Foulum, Blichers Allé 20, Postboks 50, 8830 Tjele
3. **Year of Birth:** 1961
4. **Nationality:** Danish
5. **Civil Status:** Married with three children, age 14, 20 and 23

6. **Education and employment overview:**

Degree: M. Sc., Years of study: 1982-1988,
Name of Institution: Royal Veterinary and Agricultural University, Copenhagen

Degree or Diploma: Ph. d., Years of study: 1994-1997,
Name of Institution: Royal Veterinary and Agricultural University, Copenhagen

Additional courses: 1996: Project Management I and II (Sant + Bendix A/S).
1999: Logical Framework Approach, DJØF/Rambøll
2002: Theory of Organisations, Viborg ErhvervsAkademi
2003: Business economics, Viborg ErhvervsAkademi
2005: Advanced statistical modelling: Mixed models
2006: Research Management (Copenhagen Business School)

Employment:

1988-1992: Extension officer in Local farmers organisation (Ribe Landboforening)
1992-1998: Researcher, Danish Institute of Animal Sciences
1998-present: Senior researcher: Dept AgroEcology and Environment, Faculty of Agricultural Sciences, University of Aarhus)
2001-2002: Advisor, School of Agriculture Prek Leap, Cambodia. (On leave)
2007-present: Director, International Centre for Research in Organic Food Systems (ICROFS)

7. **Main areas of activity:**

Niels Halberg is presently the director of ICROFS and thus the programme coordinator and responsible for the 15 research projects in the 170 mio. kr. research programme "DARCOF III (2006-2010).

He is also the coordinator of the EraNet "CORE Organic" and theme coordinator in the European Technology Platform "TPorganics". Vicepresident in ISOFAR (International Society of Organic Agriculture Research.

His main tasks include:

- Coordination of research programmes (DARCOF III, CORE Organic II)
- Monitoring of research projects and liaising with researchers supporting dissemination of research results
- Initiation of research
- Liaising with stakeholders and keeping dialogue with researchers
- International collaboration and supporting networks
- Preparing research-based material for policy makers and stakeholders in the sector

- Coordinator of ERA-net CORE Organic
- Vice-president in ISOFAR
- Theme coordinator in TP Organics

8. Key Qualifications and research areas:

Niels Halberg has more than 15 years of experience in the *research and modelling of organic and conventional farming systems* including agronomy, economics and resource use and environmental impact (energy use, nutrient/manure management and emissions of e.g. greenhouse gasses/effect on climate change). He has conducted on-farm research since 1992 and published several papers comparing organic and conventional farming. Halberg initiated and coordinated the Danish project "Life Cycle Assessment of basic food" (2000-2004; www.lcafood.dk/).

Moreover, Dr. Halberg has 14 years of experience in project management and *co-ordination of multidisciplinary work* between several institutions. The cross-disciplinary projects have included –besides different agricultural/livestock specialists - biologists, statisticians, economists, political scientists, sociologists, and professional philosophers. Halberg initiated the international, cross-disciplinary research project titled: "Sustainability of organic farming in a global food chains perspective" (2006-2009; www.globalorg.dk). Niels Halberg has co-ordinated several research projects using LCA for environmental impact assessment including a work-package in the EU FP6 IP "Qporkchains" (<http://www.q-porkchains.org/>). Halberg has experience with international scientific collaboration and has been responsible for an international conference on Life Cycle Assessment of Food (LCA) http://www.lcafood.dk/lca_conf/ and most recently co-responsible for the scientific part of the organic world conference in 2008 with more than 450 papers.

Niels has experience with international scientific collaboration through working periods abroad (INRA, Toulouse, 6 months; SAPL, Cambodia, 2 years) and participation in several EU projects and projects in tropical countries. He was an external "research fellow" to Asian Development Bank Institute, Tokyo in a study called "*Contribution of organic agriculture to food security, poverty alleviation and the Millennium Development Goals*" 2006-2007). Most recently he has finalised a 4-year policy oriented study of livelihood, economics and nutrient balances of smallholder dairy systems with different degree of intensification in Uganda (with ILRI and NARO, web-site: www.ugandadairy.dk).

Thus, Dr. Halberg has gained thorough experience with planning and performing research within agricultural systems under European and Tropical conditions. Halberg is currently supervisor of 2 PhD students.

Niels has experience in evaluation of research proposals in Denmark and internationally (Norway, Austria, France) and has participated in the international evaluation of the department SAD of INRA in France in 2007.

Halberg has been involved in and appraised projects concerning agri-environmental issues and legislation such as plans for implementing the EU Nitrate Directive in Baltics.

Niels Halberg has also worked 3 years as an extension officer and 2 years as educational advisor to agricultural teachers in Cambodia. Thus, he has experience with *capacity building within curriculum development*, teaching and research in developing countries and has been supervisor for Ph.D. students in Uganda. Halberg has experience with stakeholder involvement and has published on the issue of *participatory research for development* and has been involved in *farmer group training* activities in DK and abroad.

He has also broad experience in planning of courses and *dissemination* to farmers, extension workers, scientific colleges, teachers and students and experience in the preparation of material for political decision-makers.

9. Language Skills:

(Scale 1 to 5 with 5 = fully competent)

Language	Reading	Speaking	Writing
Danish (Mother Tongue)	5	5	5
English	5	5	4
French	4	4	3
Spanish	4	3	2
German	3	2	1

10. Membership of Professional Associations:

- International society for Ecological Economics,
- International society of Organic Agriculture Research (ISO FAR), Member Executive Board
- Jordbrugsakademikerne (Danish Agriculturalists society)

Number of papers in peer reviewed journals: 18**Number of other scientific contributions: >75 (publications)****Selected papers in peer reviewed journals:**

Dalgaard R, Schmidt J, Halberg N, Christensen P, Thrane M, Pengue W (2007): LCA of soybean meal. Int J LCA. Available on-line, DOI: <http://dx.doi.org/10.1065/lca2007.06.342>

Halberg, N.; Dalgaard, R.; Olesen, J.E. and Dalgaard, T. (2008) Energy self-reliance, net-energy production and GHG emissions in Danish organic cash crop farms. Renewable Agriculture and Food Systems 23(1):pp.30-37.

S L Mubiru, J S Tenywa, N Halberg, D Romney, W Nanyeenya, I Baltenweck and S Staal: Categorisation of dairy production systems: A strategy for targeting meaningful development of the systems in Uganda. Livestock Research for Rural Development 19 (7) 2007

Aagaard-Hansen, J ; Larsen, C E Schou ; Halberg, N ; Hjortsø, C N ; Gausset, Q ; Kabirizi, J, 2007. Main-streaming participatory and cross-disciplinary approaches in animal science research in developing countries , African Journal of Agricultural Research. ; Vol. 2, No. 4, p. 119-130

Dalgaard, R., Halberg, N., Kristensen, I.S. & Larsen, I., 2006. Modelling representative and coherent Danish farm types based on farm accountancy data for use in environmental assessments. Agriculture, Ecosystems and Environment, 117, 223-237.

Halberg, N., van der Werf, H.M.G., Basset-Mens, C., Dalgaard, R. & de Boer, I.J.M., 2005. Environmental Assessment tools for the evaluation and improvement of European livestock production systems. Livestock Production Science. 96, 33-50.

Halberg, N., G. Verschuur and G. Goodlass, 2005: Farm level environmental indicators; are they useful? A Review of Green Accounting Systems for European farms. Agriculture, Ecosystems and Environment 105, 195-212.

Noe, E., Halberg, N. & Reddersen, J., 2005. Indicators of biodiversity and conservational wildlife quality on Danish organic farms for use in farm management: A multidisciplinary approach to indicator development and testing. Journal of Agricultural and Environmental Ethics 18, 383-414.

Goodlass, G., Halberg, N. & Verschuur, G., 2003. Input output accounting systems in the European community - an appraisal of their usefulness in raising awareness of environmental problems. European Journal of Agronomy, 20 (1-2)

- Dalgaard, T., Halberg, N. & Porter, J.R., 2001. A model for fossil energy use in Danish agriculture used to compare organic and conventional farming. *Agriculture, Ecosystems & Environment* 87(1): 51-65.
- Sørensen, J.T., Sandøe, P. & Halberg, N., 2001. Animal welfare as one among several values to be considered at farm level: The idea of an ethical account for livestock farming. *Acta Agric. Scand., Sect. A, Animal Sci. Suppl.* 30, 11-16.
- Halberg, N., 1999. Indicators of resource use and environmental impact for use in a decision aid for Danish Livestock Farmers. *Agriculture, Ecosystems and Environment* 76, P. 17-30.
- Dalgaard, T., Halberg, N., Kristensen, I.S., 1998. Can organic farming help to reduce N-losses? Experiences from Denmark. *Nutrient Cycling in Agroecosystems* 52. P. 277-287.
- Refsgaard, K. Halberg, N., Kristensen, E.S., 1998. Energy Utilization in Crop and Dairy Production in Organic and Conventional Livestock Production Systems. *Agricultural Systems*, Vol. 57, No. 4, pp. 599-630.

Recent peer reviewed book chapters

- Neuhoff, Daniel; Halberg, Niels; Alföldi, Thomas; Lockeretz, William; Thommen, Andreas; Rasmussen, Ilse A.; Hermansen, John; Vaarst, Mette; Lück, Lorna; Corporali, Fabio; Jensen, Henning Høgh; Migliorini, Paola and Willer, Helga, Eds. (2008) *Cultivating the Future Based on Science. Proceedings of the Second Scientific Conference of the International Society of Organic Agriculture Research (ISO FAR)*, held at the 16th IFOAM Organic World Congress in Cooperation with the International Federation of Organic Agriculture Movements (IFOAM) and the Consorzio ModenaBio, 18-20 June 2008 in Modena, Italy. International Society of Organic Agriculture Research (ISO FAR), c/o IOL, DE-Bonn, Research Institute of Organic Agriculture FiBL, CH-Frick.
- Halberg, N. 2008 Comparative environmental assessment of three systems for organic pig production in Denmark. In: *Organic Agriculture in Asia. ISO FAR International Symposium on Soil Fertility. International Symposium on Organic Agriculture*. U. Köpke and S.M. Sohn (Eds.). Proceedings. Dankook University, Korea. 13-14 March 2008.
- Halberg, N., Knudsen, M.T., Alrøe, H.F. and Kristensen, E.S. (Eds.) 2006. *Global Development of Organic Agriculture: Challenges and Promises*. CABI publishing. 384 pp.
- Halberg, N., Sulser, T.B., Høgh-Jensen, H., Rosegrant, M.W. & Knudsen, M.T. (2006). The impact of organic farming on food security in a regional and global perspective. Chapter 10. In: Halberg et al. 2006. Also available on-line: <http://ecowiki.org/GlobalPerspective/ReportOutline> .
- Knudsen, Marie Trydeman ; Halberg, Niels ; Olesen, Jørgen E. ; Byrne, John ; Iyer, Venkatesh ; Toly, Noah. Global trends in agriculture and food systems. In Halberg et al.: *Global development of organic agriculture : Challenges and prospects*. CABI publishing, 2006. s. 1-48
- Hermansen, John Erik ; Noe, Egon ; Halberg, Niels. Exploring the multifunctional role of farming systems In: *Changing European farming systems for a better future : New visions for rural areas. The Netherlands : Wageningen Academic Publishers, 2006. s. 242-246*
- Hermansen, John Erik ; Kristensen, Troels ; Halberg, Niels. Achievements of research in the field of livestock systems In: *Animal production and animal science worldwide : WAAP book of the year 2005*. Bd. 9076998671 Wageningen Academic Publishers, 2005. s. 109-116
- Halberg, N. (ed.), 2004. Life cycle assessment in the agri-food sector. Proceedings from the 4th International Conference, October 5-8, 2003, Bygholm, Denmark. Danish Institute of Agricultural Sciences. DIAS report, *Animal Husbandry*, 61, 168-181
- Halberg, N., 2004. How may quality assurance systems in food chains include environmental aspects based on life cycle methodology? In: Halberg, N. (ed.), 2004. Life cycle assessment in the agri-food sector. Proceedings from the 4th International Conference, October 5-8, 2003, Bygholm, Denmark. Danish Institute of Agricultural Sciences. DIAS report, *Animal Husbandry*, 61, 168-181
- Dalgaard, R., Halberg, N., Kristensen, I.S. & Larsen, I., 2004. An LC inventory based on

representative and coherent farm types. In: Halberg, N. (ed.), 2004. Life cycle assessment in the agri-food sector. Proceedings from the 4th International Conference, October 5-8, 2003, Bygholm, Denmark. Danish Institute of Agricultural Sciences. DIAS report, Animal Husbandry, 61, 98-106.

Dalgaard, T., Halberg, N. & Fenger, J., 2002. Can organic farming help to reduce national energy consumption and emissions of greenhouse gases in Denmark? In: van Lerland, E.C. & Lansink, A.O. (eds.) Economics of sustainable energy in agriculture. Kluwer Academic Publishers, Dordrecht, The Netherlands. ISBN 1-4020-0785-X. Economy and Environment

Noe, E. & Halberg, N., 2002. Research experience with tools to involve farmers and local institutions in developing more environmentally friendly practices. In: Hagedorn, K., 2002. Environmental cooperation and institutional change. ISBN 1 84064 841 4, 143-161.