

Curriculum Vitae

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PROFILE

Dr Donal Murphy-Bokern is a self-employed agricultural and environmental scientist based in Lohne, near Bremen in Germany. He specialises in the scientific support of public policy development, research strategy development, and research management in agriculture, food, bioenergy and land use.

The research completed since 2007 includes work on food policy and climate change mitigation for the WWF UK and the Committee on Climate Change (UK Parliament) and the UK Department for International Development, the German government, the European Commission, and the European Parliament. He is involved in two EU FP7 projects 'Legume Futures', and 'WATBIO'. He also works closely with the European Commission on agricultural research strategy development and programme evaluation.

The common aim of this work is to achieve excellence in the interactions between innovators, policymakers (including research policy), and research scientists. Maximising the impact of research depends on decisions made in the initiation of research programmes and how they are developed through to the use of research results after the research has ended. Donal Murphy-Bokern supports research strategy and management particularly in the areas of food systems and consumption, the development of farming systems, bioenergy systems, and nutrient cycles.

Dr Murphy-Bokern has a broad agricultural science background extending across sector and policy boundaries and includes economics and social science. This breadth is reinforced by the experience of leading a broad programme of agricultural and food research for the British government where he worked at a senior level for more than eight years in the Department of Food, Environment and Rural Affairs (Defra) in London. He led a wide range of Defra's agricultural research programmes. He also worked closely with policymakers on a wide spectrum of agricultural and environmental policy areas. While in Defra, Dr Murphy-Bokern personally led a number of research areas: novel crop protection products and strategies, organic farming, non-food crops and bioenergy, arable crop genetic improvement and biotechnology, crop physiology and decision support system development, holistic systems analysis and life-cycle assessment. In 2006, he established Defra's new R&D programme covering all Defra agricultural research linked to climate change policy and greenhouse gas mitigation.

Prior to moving to MAFF/Defra, Donal Murphy-Bokern was employed by the German Ministry of Agriculture based in the Federal Centre for Agricultural Research (FAL) at Braunschweig (1993 – 1998). He conducted research on the management of spatial variability in soil using GPS based technology ('precision-farming') in 1993 and 1994. In the period 1995 to 1998, he led a research team conducting several research projects on the use of agricultural materials in the building sector and the application of life-cycle assessment to agricultural systems.

Dr Murphy-Bokern moved from Ireland to the United Kingdom in 1986 to take up his first long-term appointment at the University of Newcastle upon Tyne where he managed the then newly-founded North of England Arable Centre (1986 – 1992). The NEAC pioneered farmer-owned participatory research in an academic environment and Dr Murphy-Bokern managed the development of the NEAC from a membership of 46 farmers in 1986 to 330 in 1992 - the largest such centre in the UK. He developed and delivered an agronomic information service based on research on the crop physiology of winter wheat, barley and oilseed rape. This field research focused on nitrogen fertiliser management and on predicting interactions between new cultivars and the environment of north-east England. The NEAC is now part of The Arable Group (TAG) in the UK.

Donal Murphy-Bokern gained a PhD from the University of Newcastle upon Tyne for his research in the crop physiology of winter barley conducted part-time in addition to his work managing the NEAC there.

He is a graduate of the National University of Ireland (NUI) having studied general agricultural science at University College Dublin between 1978 and 1983. He also obtained a Master's degree from the NUI for agronomic research on cereal cultivar mixtures. As a student, he gained a total of two years practical farm experience, mostly in Co. Carlow and Co. Meath in Ireland.

WORK EXPERIENCE

- 1 April 2007 – Present
Self-employed. 49393 Lohne-Ehrendorf, Germany.
Independent scientist supporting European research strategy and management (Framework Programme 7 and Horizon 2020), research evaluation, and assessments of food and bioenergy systems.
- 1 January 1999 – 30 March 2007
Department of Environment, Food, and Rural Affairs (Defra). Westminster, London, UK.
Various related and overlapping roles in the direction and use of research in government: Head of a Science Unit (1999-2006); Acting Head of Division and Farming and Food Science Co-coordinator; Programme manager for research on greenhouse gas emissions, ammonia emissions, climate change adaptation, and climate change mitigation. Responsible for a wide range of Defra and LINK R&D programmes. Provision of related input into policy working directly with senior policy makers, ministers, and the Defra Chief Scientific Advisor.
- 1 January 1993 – 31 December 1998
Federal Ministry of Agriculture, Federal Agricultural Research Centre (FAL), Bundesallee 50, D 38116, Braunschweig, Germany.
Senior scientist (Wissenschaftlicher Angestellter/Wissenschaftliche Oberrat), research team leader.

January 1993 to 30 March 1995: Working on spatial variation in soil and crop resources ('precision farming'). Thereafter (April 1995 – December 1998), led a new research group specialising in supply chain assessment (LCA), industrial ecology and the role of sustainable consumption in agricultural development. The work was initially focused on the use of agricultural materials in the building sector, particularly for insulation materials. This extended into the application of LCA to the assessment of farming systems.
- 1 January 1986 – 31 December 1992
Department of Agriculture, University of Newcastle upon Tyne, NE1 7RU, UK. Research Associate responsible for developing and managing the North of England Arable Centre Ltd.
- September 1985 – November 1985
Self-employed in various roles:
The Irish Agricultural Development Authority (ACOT) writing video-text material; University College Dublin working on a survey of farmers' quality of life as affected by succession (inheritance) arrangements.
- Six months in 1985
Temporary agronomist in a pesticide and forage-seeds retail business in Ireland.
- 1978 - 1983
Farm experience – a total of two years experience on five farms in Ireland, mostly in Co. Carlow and Co. Meath.

EDUCATION AND TRAINING

Bachelor of Agricultural Science	1978 – 1983. National University of Ireland, University College, Dublin 4. Basic and agricultural/environmental sciences; economics, social science, agricultural policy.
Master of Agricultural Science	1983 – 1984. National University of Ireland, University College, Dublin 4. By research - the thesis is entitled 'An investigation into the merits of the use of cultivar mixtures under Irish conditions'.
Degree of Doctor of Philosophy (PhD)	October 1987 – December 1992. University of Newcastle upon Tyne. Based on a part-time study conducted under University staff regulations. The thesis is entitled 'Crop structure and crop productivity in winter barley, (<i>Hordeum sativum</i>)'.
UK Civil Service	UK civil senior service programmes in leadership and management.

LANGUAGES

English: Native speaker

German: Fluent in speaking and reading; fair in writing.

MEMBERSHIPS

European Society of Agronomy

Fellow of the British Society of Soil Science

German Agricultural Society (DLG)

MAJOR PROJECTS AND ASSIGNMENTS (AS SELF EMPLOYED, 2007 TO PRESENT)

- 2007-2008 WWF UK
[Environmental impacts of the UK food economy with particular reference to WWF Priority Places and the North-east Atlantic](#)
- 2008-2009 WWF UK and the FCRN
[An assessment of greenhouse gas emissions from the UK food system and the scope for reduction by 2050](#). How low can we go? (with Cranfield University).
- 2009 [The environmental performance of native grassland-based livestock production systems](#). A study conducted for the Department for International Development (DFID), UK.
- 2009-2010 The Committee on Climate Change (UK Government)
[The effect of changes in UK food consumption on land requirements and greenhouse gas emissions](#). (with Cranfield University).
- 2010-2011 European Commission
[Impacts of EU Framework Programmes \(2000-2010\) and prospects for research and innovation in agriculture](#), animal health and welfare, and forestry (as Group Chairman and lead author, with eight other scientists).
- 2011-2012 Bundesministerium für Ernährung, Landwirtschaft und Verbraucherschutz (BMELV).
Evaluation of the German Federal Research Programme on Organic Agriculture. (with Interval GmbH, the Organic Research Centre, and Applied University Eberswalde (<http://orgprints.org/22369/>)
- 2011-2012 The European Commission
[The resource use efficiency of the European food cycle. Report for the European Commission](#). With BIOIS (Paris).
- 2013 The European Parliament
[The environmental role of protein crops in the new common agricultural policy](#).
- 2010 - 2014 The European Commission
Legume Futures (www.legumefutures.eu)
- 2012-2017 The European Commission
WATBIO (www.watbio.eu)
- 2012-2013 The European Parliament
[The environmental role of protein crops in the new Common Agricultural Policy](#).
- 2013-2014 Institute for Food Policy Research, Washington (IFPRI). [The impact of corporate responsibility strategies on greenhouse gas emissions from food chains](#)
- 2013-2014 European Innovation Partnership for Agriculture. Member of the Focus Group on Protein Crops

- 2014 The European Commission
Ex-post evaluation of agricultural, forestry, animal health and welfare research in FP7. Evaluation Group Chairman and Rapporteur.
- 2014 The European Commission
Over-view report for the ex-post evaluation of Knowledge-based Bioeconomy Research. Report coordinator. [Report to be presented to the European Parliament.](#)
- 2016-2017 The European Commission
Agriculture expert in the interim evaluation of research in for Societal Challenge 2 in Horizon 2020.

REPORTS AND PUBLICATIONS

REFEREED JOURNAL PUBLICATIONS, MONOGRAPHS

Murphy, D.P.L., Dahab, M.H., Hossain, S., Wyseure, G.C.L. and O'Callaghan, J.R. (1994). The simulation of the effects of shading on the growth and yield of winter barley (*Hordeum sativum*). *Computers in Agriculture* 10:169-174.

Haneklaus, S., Murphy, D.P.L., Novak, G. and Schnug, E. (1994). Effects of the timing of sulphur application on grain yield and yield components of wheat. *Journal for Soil Science and Plant Nutrition* 158:83-85.

Thylen, L. and Murphy, D.P.L. (1996). The control of errors in momentary yield data from combine harvesters. *Journal of Agricultural Engineering Research* 64: 271-278.

Murphy, D.P.L., Behring, H., und Jäger, Ch. (Editors) (1999). *Perspektiven für Dämmstoffen aus heimischen nachwachsenden Rohstoffen (Prospects for insulation materials as industrial crop products)*. Landbauforschung Völkenrode (Refereed monograph 272pp). ISBN 3-933140-25-0.

Murphy, D.P.L., Roever, M. and Heinemeyer, O. (Editors) (1998). *Bewertung der Verfahren der ökologischen und konventionellen landwirtschaftlichen Produktion im Hinblick auf den Energieeinsatz und bestimmte Schadgasemissionen. Evaluation of the conventional and organic agricultural production in terms of primary energy consumption and pollution gas emissions*. Landbauforschung Völkenrode ISBN 3-933140-33-1(Refereed monograph, 206pp).

Graef F, Römbke J, Binimelis R, Myhr AI, Hilbeck A, Breckling B, Dalgaard T, Stachow U, Catacora-Vargas G, Bøhn T, Quist D, Darvas B, Dudel G, Oehen B, Meyer H, Henle K, Wynne B, Metzger MJ, Knäbe S, Settele J, Székács A, Wurbs A, Bernard J, Murphy-Bokern D, Buiatti M, Giovannetti M, Debeljak M, Andersen E, Paetz A, Dzeroski S, Tappeser B, van Gestel CAM, Wosniok W, Séralini G-E, Aslaksen I, Pesch R, Maly S, Werner A (2012): A framework for a European network for a systematic environmental impact assessment of genetically modified organisms (GMO). *BioRisk* 7: 73–97. doi: 10.3897/biorisk.7.1969.

<http://www.pensoft.net/journals/biorisk/article/1969/abstract/a-framework-for-a-european-network-for-a-systematic-environmental-impact-assessment-of-genetically-modified-organisms-gm>

Westhoek, H., Lesschen, J., Rood, T., Wagner, S., De Marco, A., Murphy-Bokern, D., Leip, A., van Grinsven, H., Sutton, M., Oenema, O. 2014. Food choices, health and environment: effects of cutting Europe's meat and dairy intake. *Global Environmental Change* 26, 196-205. <http://www.sciencedirect.com/science/article/pii/S0959378014000338>

Zander, P., Amjath-Babu, T.S., Preissel, S., Recklin, M., Bues, A., Schläfke, N., Kuhlman, T., Bachinger, J., Murphy-Bokern, D., Stoddard, F., Uthes, S. and Watson, C. (2016). The decline and potential recovery of grain legume cultivation in Europe: A review. *Journal of Agronomy for Sustainable Development*.

Clifton-Brown, John; Hastings, Astley; Mos, Michal; McCalmont, Jon; Ashman, Christopher; Awty-Carroll, Danny; Cerazy, Joanna; Chiang, Yu-Chung; Cosentino, Salvatore; Cracroft-Eley, William; Scurlock, Jonathan; Donnison, Iain; Glover, Christopher; Gołab, Izabela; Greef, Joerg; Gwyn, Jeff; Murphy-Bokern, Donal; Harding, Graham; Hayes, Charlotte; Helios, Waldemar; Huang, Lin; Hsu, Tsai-Wen; Jezowski, S, Stanislaw; Kim, Do-Soon; Kiesel, Andreas; Kotecki, Andrzej ; Krzyżak, Jacek; Lewandowski, Iris; Lim, Soo-Hyun; Liu, Jianxiu ; Loosely, Marc; Meyer, Heike; Nelson, Walter; Pogrzeba, Marta; Robinson, George; Robson, Paul; Rodgers, Charlie; Scalici, Giovanni; Schuele, Heinrich; Shafiei, Reza; Shevchuk, Oksana; Schwarz, Kai-Uwe; Squance, Michael; Swaller, Timothy; Thornton, Judith; Truckses, Thomas; Botnari, Vasile; Vizir, Igor; Wagner, Moritz; Warren, Robin; Yamada, Toshihiko; Youell, Susan; Xi, Qingguo; Zong, Junqin; Flavell, Richard, (2016) Progress in upscaling *Miscanthus* biomass production for the European bioeconomy with seed based hybrids. *Global Change Biology Bioenergy*.

SCIENTIFIC PUBLICATIONS - NOT EXTERNALLY REFEREED

Murphy, D.P.L., Evans, E.J. and Sanderson, Anne. (1990).
The effect of nitrogen timing on winter barley. Proceedings of the First Congress of the European Society for Agronomy, Paris.

Kloepfer, F., Murphy, D. und Schnug, E. (1992).
Ertragskartierung zur gezielteren Düngung (Yieldmapping for targeted fertiliser application).
Landtechnik 47: 177-178.

Murphy, D.P.L., Evans, E.J. and Schnug, E. (1992).
A multivariate approach to the analysis of cereal crop structure at harvest. In: Proceedings of the Second Congress of the European Society for Agronomy, Warwick University, England.

Murphy, D.P.L., Frost, D. and Evans, E.J. (1993).
Grain yield and development of winter wheat as influenced by sowing date and cultivar. Aspects of Applied Biology 34: 99-104.

Murphy, D.P.L., Knight, S. and Evans, E.J. (1992).
Spikelet sterility and grain yield in five cultivars of winter wheat (*Triticum aestivum*). Tests of Agrochemicals and Cultivars 13: 132-133. Supplement to Annals of Applied Biology.

Schnug, E., Murphy, D.P.L. and Evans, E.J. (1992). Evaluation of yield mapping techniques for use in combinable crops. In: Proceedings of the Second Congress of the European Society for Agronomy, Warwick University, England. 206-207.

Schnug, E., Murphy, D., Evans, E. Haneklaus, S., and Lamp, J. (1993).
Yield mapping and the application of yield maps to computer aided local resource management. In: Soil Specific Crop Management, 87-93. Eds. Roberts, P.C., Rust, R.H. and Larson, W.E. American Society of Agronomy, Madison, Wisconsin.

Schnug, E., Murphy, D. and Haneklaus, S. (1993).
Local Resource Management in CAF (Computer Aided Farming), a new approach for sustainable agriculture. In: Soil Specific Crop Management pp 94 - 100. Eds. Roberts, P.C., Rust, R.H. and Larson, W.E. American Society of Agronomy, Madison, Wisconsin.

Schnug, E., Murphy, D.P.L., Haneklaus, S. and Evans, E.J. (1992).
Advanced approaches to local resource management in crop production. In: Proceedings of the Second Congress of the European Society for Agronomy, Warwick University, England. 372-374.

Murphy, D. and Schnug, E. (1993).
Applications of Geotechnics and Geostatistics in Agriculture.
Proc. Geotechnica'93: 162-163. Internationale Fachmesse und Kongreß für Geowissenschaften und Geotechnik, Köln, Germany. The Alfred Wegener Foundation, Bonn.

Murphy, D.P. and Schnug, E und Haneklaus S (1994).
Innovative soil sampling and analysis procedures for the local resource management of agricultural soils. Proceedings of the XVth Congress of the International Society of Soil Science 6b: 613-630.

Schnug, E. Haneklaus, S. and Murphy, D. (1993). Impact of sulphur supply on the breadmaking quality of wheat. Aspects of Applied Biology 36: 337-345.

Schnug, E., Haneklaus, S and Murphy, D. (1994).
Equifertiles - an innovative concept for efficient sampling in the local resource management of agricultural soils. Aspects of Applied Biology 37: 63-72.

Murphy, D.P.L. and Scheski, A. (1994).
Impacts of unification and CAP reform on German agriculture. Aspects of Applied Biology 40: 27-34.

Schwarz, K.U., Schnug, E. and Murphy, D.P.L. (1994).
Studies of the growth and yield of *Miscanthus x Giganteus* in Germany. Aspects of Applied Biology

40: 533-540.

Schnug, E. Heym, F and Murphy, D.P. (1995). A boundary line determination technique (BOLIDES). Proceedings of the Second International Conference on Site-Specific Management for Agricultural Systems 899-908. American Society of Agronomy, Madison, WI.

Murphy, D.P., Schnug, E. and Haneklaus, S.
Yield mapping - a guide to improved techniques and strategies. Proceedings of the Second International Conference on Site-specific Management for Agricultural Systems 33-48. American society of Agronomy, Madison, WI.

Murphy, D.P., Schnug, E and Oestergaard, Hans. (1994).
Lokales Ressourcenmanagement - Ergebnisse und Ausblick (Local resource management - results and outlook). Proceedings of a national conference on the management of spatial variation in crops and soils (Technik und Verfahren der kleinräumigen Bestandesführung), 90-101. Kuratorium für Technik und Bauwesen in der Landwirtschaft. Darmstadt, Germany .

Murphy, D.P.L., J.-G. Krentler and H. Georg. (1995). Schnell nachwachsende Rohstoffe im Bauwesen (Arable crop materials in construction). Landtechnik 50: 342 and 355.

Murphy, D. P. L. and Helal, M. H. (1996).
Farming for Energy - Agronomic Principles and Environmental Impacts. 41 - 111. In: Murphy, D.P.L., Bramm, A. und Walker, K. Energy from Crops. Semundo Limited, Cambridge, England. 362pp.

Murphy, D.P.L., Gründel H., Sonnenberg H. und Bramm A. (1997). Biomass for materials and energy - setting priorities for the use of limited resources. Aspects of Applied Biology 49: 261-268.

Murphy, D.P.L., Georg, H. und Bockisch, F.-J. (1997). Development of a fibre crop processing infrastructure. Aspects of Applied Biology 49:321-326.

Thylen, L. and Murphy, D. P. L. (1997). Improving the quality of data for yield mapping. Proceedings of the First European Conference in Precision Farming. Ed. J. V. Stafford. BIOS Scientific Publishers. pp 743-750.

Murphy, D. P. L., Behring, H. and Wieland, H. (1997). The use of flax and hemp materials for insulating buildings. Proceedings of the FAO symposium 'Flax and other bast fibre plants'. Institute for Natural Fibres, Posnan, Poland, 79 - 84.

Murphy, D. P. L., Georg, H. and Bockisch, F.-J. (1997). Infrastructure for the exploitation of bast fibre crops in industry. Proceedings of the FAO symposium 'Flax and other bast fibre plants'. Institute for Natural Fibres, Posnan, Poland 162 - 164.

Wieland, H. and Murphy, D.P.L. (1997). Durability of flax fibre insulation materials in buildings. Proceedings of the FAO symposium 'Flax and other bast fibre plants'. Institute for Natural Fibres, Posnan, Poland 160 - 161.

Behring, H. and Murphy, D. P. L. (1997). Are flax based insulation products environmentally friendly? Proceedings of the FAO symposium 'Flax and other bast fibre plants'. Institute for Natural Fibres, Posnan, Poland 157 - 159.

Murphy, D.P.L., Behring, H., Wieland, H. Höppner, H. (1997). Hanf im Bauwesen (Building with hemp). Tagungsdokumentation der Veranstaltung am 28.8.1997 in Haus Düsse. Landwirtschaftskammer Westfalen-Lippe (Proceedings of a conference held by the agricultural advisory service Hannover in Haus Düsse).

Murphy, D.P.L. und Behring, H. (1998). Arable crop materials for insulation in buildings. Proceedings of the 10th European Congress 'Biomass for Energy and Industry' Würzburg 176 - 179.

Murphy, D.P.L. und Behring, H. (1998). The environmental impact of the use of arable crop materials in insulation. Proceedings of the 10th European Congress 'Biomass for Energy and Industry'

Würzburg 747 - 748.

Murphy, D.P.L., Behring, H., Georg, H. und Wieland, H. Thermal insulation quality of bast fibres. Proceedings of Ag. Eng '98, Oslo.

Murphy, D.P.L., Georg, H. und Bockisch, F.-J. (1998). Processing infrastructure for technical bast fibre. Proceedings of Ag. Eng '98, Oslo.

Behring, H., Murphy, D.P.L. (1998). Environmental impacts of the use of flax for insulation. Proceedings of Ag. Eng '98, Oslo.

Murphy-Bokern, D (2001)
How can crop physiology support MAFF policy?
<http://www.defra.gov.uk/science/Publications/st0146.pdf>

Murphy-Bokern, D. (2010)
Understanding the carbon footprint of our food. Complete nutrition 10/5: 61-63

Rees, RM, Iannetta P, Murphy-Bokern D, Stoddard F, Topp CFE, Williams M, Watson CA and Zander P. (2011) Legume Futures: A research framework for understanding the role of legumes in farming systems (Legume Futures) Proceedings of the Nitrogen and Global Change Conference, Edinburgh

Murphy-Bokern, D. (2011).
The environmental implications of food choices. Proceedings of the Conference: Future Climate 2, The Challenge Continues. Institute of Mechanical Engineers.

Watson, C., Iannetta, P., Murphy-Bokern, D., Rees, R., Stoddard, F., Topp, K., Williams, M., and Zander, P. (2012). Legume-supported crop rotations: A European perspective. Abstracts of ESA12, the 12th Congress of the European Society for Agronomy, 20-24 August 2012, Helsinki, Finland, eds. Stoddard, F.L. & Mäkelä, P. Helsinki, Finland: Department of Agricultural Sciences publication 14. ISSN 1798-744X. <https://helda.helsinki.fi/handle/10138/36048>, pp. 138-139.

Murphy-Bokern, D., Williams, A., De Marco, A., Leip, A., Rood, T., Wagner, S., Westhoek, H. (2012). (2012). The agri-environmental implications of food choices. Abstracts of ESA12, the 12th Congress of the European Society for Agronomy, 20-24 August 2012, Helsinki, Finland, eds. Stoddard, F.L. & Mäkelä, P. Helsinki, Finland: Department of Agricultural Sciences publication 14. ISSN 1798-744X. <https://helda.helsinki.fi/handle/10138/36048>, pp. 264.

Murphy-Bokern, D. Kuhlmann, T., Stoddard, F., Lindstrom, K., Watson, C., Topp, K., Zander, P., Preissel, S., Beus, A. (2013) The environmental effects of protein crops: implications for policy. 3 13ème journée d'étude des productions porcines et avicoles. Centre wallon de Recherches agronomiques. Gembloux (Belgium).

Reckling, M., Preissel, S., Zander, P., Topp, C.F.E., Watson, C.A., Murphy-Bokern, D. and Stoddard, F.L. 2014. Effects of legume cropping on farming and food systems. Legume Futures Report 1.6. Available from www.legumefutures.de

Topp, K., Watson, C., Papa, V. Williams, M., Stout, J., Cass, S., Fischer, J., Böhm, H., Murphy-Bokern, D., Kuhlman, T., Stoddard, F.L. Lindström, K., Reckling, M., Preißel, S., Bues, B., Zander, P., Knudsen, M.T., Olesen, J.E., Hermansen, J.E.M., Schelde, K. 2014. Policy implications of the environmental and resource effects of legume cropping. Legume Futures Report 3.8/6.6. Available from www.legumefutures.de

Murphy-Bokern, D., Watson, C.A. Stoddard, F., Lindström, K., Zander, P., Reckling, M., Preissel, S., Bues, A., and Torres, A. 2014. Outlook for knowledge and technology for legume-supported cropping systems. Legume Futures Report 5.3. Available from www.legumefutures.de

Murphy-Bokern, D. (2016). Bioenergy policy in a resource-constrained world. In Barth, S., Murphy-Bokern, D., and Jones, M. Biomass crops for a resource-constrained world. Springer.

Murphy-Bokern, D., Peeters, A. and Westhoek, H. (in press). The role of legumes in bringing protein to

the table. In: Murphy-Bokern, D., Stoddard, F., and Watson, C. (Eds.). Legumes in cropping systems. CABI.

BOOKS

Murphy-Bokern, D., Stoddard, F. and Watson, C. (in preparation). Legumes in European Cropping Systems. CABI. To be published in 2016.

Barth, S., Murphy-Bokern, D., Taylor, G. and Jones, M. (2016). (in preparation). Biomass crops for a resource-constrained world. Springer.

Murphy, D.P.L., Bramm, A. and Walker, K (1996). Energy from Crops. ISBN 0 9529190 01. Semundo Limited, Cambridge, England. 362pp.

Murphy-Bokern, Kalinina, O. and Barth, Susanne (2015) Book of Abstracts from the International Conference 'Perennial biomass crops for a resource-constrained world'. 7 – 10 September 2015. Hohenheim University, Stuttgart, Germany. www.biomass2015.eu

THESES

Murphy, D.P.L. (1984). The merits of the use of cereal cultivar mixtures under Irish conditions. Thesis presented to the Faculty of Agricultural Science (M.Agr.Sc.), University College, Dublin.

Murphy, D.P.L. (1994).

Crop structure and crop productivity in winter barley (*Hordeum sativum*). Ph.D. thesis. University of Newcastle upon Tyne.

REPORTS

Murphy-Bokern, D. (2009). The climate change impacts of native grassland-based livestock production systems. Report for the UK Department for International Development (DFID). www.murphy-bokern.com

Murphy-Bokern, D. (2010). Environmental impacts of the UK food economy with particular reference to WWF Priority Places and the North-east Atlantic. WWF UK. www.murphy-bokern.com

Audsley, E., Brander, M., Chatterton, J., Murphy-Bokern, D., Webster, C., and Williams, A. (2009). An assessment of greenhouse gas emissions from the UK food system and the scope for reduction by 2050. How low can we go?. WWF-UK and the FCRN. www.murphy-bokern.com

Audsley, E., Chatterton, J., Graves, A., Morris, J., Murphy-Bokern, D., Pearn, K., Sandars, D. and Williams, A. (2010). Food, land and greenhouse gases. The effect of changes in UK food consumption on land requirements and greenhouse gas emissions. The Committee on Climate Change. www.murphy-bokern.com

Murphy-Bokern, D., Gherghinescu, O., Kraigher, H., Lazzeri, P., Peeters, A., Schmid, O., Scudamore, J., Toepfer, S., Westergaard, J. (2011). Impacts of EU Framework Programmes (2000-2010) and prospects for research and innovation in agriculture, animal health and welfare, and forestry. Unpublished report to the European Commission. Summary presentation available at www.murphy-bokern.com

Westhoek, H. Murphy-Bokern, D. et al. (2012). European Nitrogen Assessment. Special report on nitrogen and food. In review in public: <http://www.clrtap-tfrn.org/>

Thompson, S., Gower, R., Darmon, N., Vieux, F., Murphy-Bokern, D., Maillot, M. (2013). A balance of healthy and sustainable food choices for France, Spain and Sweden. WWF UK. (<http://livewellforlife.eu/livewell-plate/reports>)

Moeskops, B., Murphy-Bokern, D., and Levidow, L. (2013). Report on EU Commission Conference Organic and Low Input Agriculture: Implementing innovation to respond to EU challenges. 25 September 2012, Larnaca, Cyprus. http://www.tporganics.eu/upload/Organic_Low_Input_Agriculture_Conclusions.pdf

Bues, A., Kuhlmann, T., Lindstrom, K., Murphy-Bokern, D., Preissel, S., Reckling, M., Stoddard, F.L., Topp, K., Watson, C. and Zander, P. (2013) The environmental role of protein crops in the new common agricultural policy. The European Parliament.
(<http://www.europarl.europa.eu/delegations/en/studiesdownload.html?languageDocument=EN&file=93370>)

Sonigo, P, Bain, J., Tan, A., Johansson, L. Murphy-Bokern, D. Shields, L., Aiking, H., Erb, K., and Kastner, T. (2012). The resource use efficiency of the European food cycle. Report for the European Commission
(http://ec.europa.eu/environment/eusss/pdf/foodcycle_Final%20report_Dec%202012.pdf)

Wiggering, H., Finckh, M., Heß, J., Wehling, Michaelis, T., with P., Bachinger, J., Beste, A., Böhm, H., Braun, J., Deerberg, F., Gierus, F., Groß-Spangenberg, A., Hahn, A., Hubbe, S-S., Kern, J., Klöble, U., Knierim, A., Krieg, S., Lange, S., Link, W., Manthey, R., Möller, D., Mosenthin, R., Murphy-Bokern, D., Prolingheuer, U., Recknagel, J., Rodehutsord, M., Schäfer, B.C., Schönweitz, C., Specht, M., Steingaß, H., Südekum, K-H., Sußmann, D., Szerencsits, M., Weiß, J., Weisz, U., Werner, A., and Zikeli, S. (2012). Science, economy and society – making ecosystem services from legumes competitive. A research strategy of the German Agricultural Research Alliance (DAFA). Wissenschaft, Wirtschaft, Gesellschaft – Ökosystemleistungen von Leguminosen wettbewerbsfähig machen. Forschungsstrategie der Deutsche Agrarforschungsallianz (DAFA) c/o Thünen-Institut Bundesallee 50 38116 Braunschweig www.dafa.de

UNEP (2012). Authors: Alder, J., Barling, D., Dugan, P., Herren, H.R., Josupeit, H., Lang, T., Lele, U., McClennen, C., Murphy-Bokern, D., Scherr, S., Willmann, R., Uphoff, N. [Avoiding Future Famines: Strengthening the Ecological Foundation of Food Security through Sustainable Food Systems. United Nations Environment Programme](#) (UNEP), Nairobi.

Ekert, S; Döring, T., Häring, A.M.; Lampkin, N., Murphy-Bokern, D., Otto, K., Padel, S. and Vieweger, A. (2012). Evaluation of the German Federal Research Programme on Organic Agriculture. BLE (<http://orgprints.org/22369/>).

Murphy-Bokern, D and Kleemann, L. (2014). The role of corporate social responsibility in reducing greenhouse gas emissions from agriculture and food. *Draft for public consultation*. A study for the International Food Policy Research Institute published by Donal Murphy-Bokern. www.murphy-bokern.com

Lewandowski, I., Clifton-Brown, J. and Murphy-Bokern, D. (2016). Developing perennial biomass crops for expanding European bio-based feedstock supply in a resource-constrained world. Summary of the Biomass 2015 Conference at the University of Hohenheim.

CONSULTATION RESPONSES

Murphy-Bokern, D. (2008). Response to consultation informing the Royal Society study on biological approaches to enhance food-crop production (www.murphy-bokern.com)

Murphy-Bokern, D. (2009). Response to the FSA's review of its advice on fish consumption. (www.murphy-bokern.com)

Murphy-Bokern, D. (2009). Written evidence to the House of Commons Select Committee on Environment, Transport and Rural Affairs. Securing food supplies up to 2050: the challenges faced by the UK.

<http://www.publications.parliament.uk/pa/cm200809/cmselect/cmenvfru/213/213we72.htm>

Murphy-Bokern, D. (2010) Response to the BECOTEPS consultation on the BECOTEPS White Paper 'Towards a European bioeconomy that delivers sustainable growth by addressing the grand societal challenges (BECOTEPS) (on behalf of Legume Futures)

Rees, R. and Murphy-Bokern, D (2010). Response to consultation on the 3rd SCAR Foresight Report. (on behalf of Legume Futures).

Murphy-Bokern, D. (2011). Legume Futures response to the European Commission consultation on the bio-based economy for Europe: state of play and future potential. (on behalf of Legume Futures)

Annex 2

LECTURES AND PUBLIC PRESENTATIONS
(not including talks made for Defra (1999-2007))

Mechanised management of local resources in agriculture. Annual meeting of the Institute of Agricultural Engineers, May 1992, Silsoe, Bedfordshire.

Applications of Geotechnics and Geostatistics in Agriculture. Geotechnica. Internationale Fachmesse und Kongreß für Geowissenschaften und Geotechnik. Köln, May 5, 1993.

Impact of sulphur supply on the baking quality of wheat. Association of Applied Biology Conference: Cereal Quality III, Churchill College, Cambridge, December 15, 1993.

Equipfertiles - an innovative concept for efficient sampling in the local resource management of agricultural soils. Sampling to make decisions. Association of Applied Biologists, Churchill College, Cambridge, March 21, 1994

Yield mapping - a guide to improved techniques and strategies. International Conference on Site-Specific Management for Agricultural Systems. Second International Conference on Site-specific Management for Agricultural Systems. American society of Agronomy, Minneapolis, March 27, 1994.

A boundary line determination technique (BOLIDES). International Conference on Site-Specific Management for Agricultural Systems. Second International Conference on Site-Specific Management for agricultural Systems. American Society of Agronomy Minneapolis, March 30, 1994

Lokales Ressourcenmanagement - Ergebnisse und Ausblick (Local resource management - results and outlook). Conference organised by the Kuratorium für Technik und Bauwesen in der Landschaft. Institut für Agratechnik Bornim, Potsdam, Germany. April 14, 1994.

The environmental challenge - a threat or an opportunity for Irish farmers. Address to the Irish Tillage and Land Use Society at Braunschweig, June 15, 1994.

Impacts of unification and CAP reform in East Germany. Meeting of the Association of Applied Biologists on CAP reform, Cambridge, December 12, 1994.

Studies of the growth and yield of *Miscanthus x giganteus* in Germany. Meeting of the Association of Applied Biologists on CAP reform, Cambridge, December 14, 1994.

Hanf Fasern im Bauwesen (Hemp fibres in buildings). Tagung Gesellschaft der Freunden der FAL. (Conference of the Society of the Friends of the FAL). Forum der FAL, Braunschweig, March 21, 1996.

Nachwachsende Rohstoffe als Baustoffe (Industrial crop materials in buildings). Tagung zur Ausstellung „Zukunftsprodukte aus nachwachsenden Rohstoffen (Conference associated with the exhibition 'Future industrial crop products'. TAT Transferzentrum für Angepasste Technologien GmbH. Rheine, Oktober 9, 1996.

Biomass for materials and energy - setting priorities for the use of limited resources. Association of Applied Biology biomass and energy conference. Royal Agricultural College, Cirencester, England. April 8, 1997.

Hanf im Bauwesen (Building with hemp). Hanftag am 28.8.1997 im Haus Düsse. Landwirtschaftskammer Westfalen-Lippe.

Produktionsoptionen (Production options). Workshop organised to discuss the results of the project 'Perspektiven von Dämmstoffen aus nachwachsenden Rohstoffen' (Prospects for insulation materials from industrial crop products). Bundesforschungsanstalt für Landwirtschaft Braunschweig-Völkenrode, March 16 - 17, 1998.

Eignung biogener Fasern für die Wärmedämmung. Markt Innovation HANF Symposium. nova-Institut

Hürth, and Faserinstitut Uni. Bremen (FIBRE) funded by European Social Funds. Bremen. December 9, 1998.

Dämmstoffe aus Hanf- und Flachsfasern: Konkurrenzsituation zu Agrar-Sekundärrohstoffen. Markt Innovation HANF Symposium. nova-Institut Hürth and TAT Transferzentrum für angepaßte Technologie GmbH funded by European Social Funds. Rheine, December 9, 1998.

Poultry production – a life-cycle approach to appraisal and development. British Poultry Council Annual Meeting, Westminster London, 1 May, 2007. www.poultry.uk.com

From research results to policy outcomes: delivering a return on public investment in research. Thoughts on public sector research management and 'bridging the gap'. Presentation to the 4th 'Bridging the Gap' conference on 15 May 2008 in Slovenia. www.murphy.bokern.com

Global environmental challenges and the poultry sector. Presentation to the World Poultry 2009 Conference. 14 May London. www.murphy.bokern.com .

An assessment of greenhouse gas emissions from the UK food system and the scope for reduction by 2050. How low can we go? Presentation to a special meeting of the UK Food and Climate Change Network and WWF UK. 22 June, 2009. Unilever House, London

Biogas und Klima. Presentation to citizens of Damme in Germany. 19 January 2010.

Impacts of EU Framework Programmes (2000-2010) and prospects for research and innovation in agriculture, animal health and welfare, and forestry. Unpublished report to the European Commission. Summary presentation available at www.murphy-bokern.com March 7, 2011.

The environmental implications of food choices. Institute of Mechanical Engineers Conference. Future Climate 2. The Challenge Continues. September 2011.

The agri-environmental implications of food choices. Abstracts of ESA12, the 12th Congress of the European Society for Agronomy, 24 August 2012, Helsinki, Finland.

The environmental role of protein crops in the new Common Agricultural Policy. Presentation to the Agriculture and Rural Development Committee (COMAGRI) of the European Parliament, 25 May 2013. (with Prof. Christine Watson)

The environmental role of protein crops in the new Common Agricultural Policy. Danube Soya and the European Protein Debate. Danube Soya. 26 November, 2013. Augsburg Germany.

The environmental effects of protein crops: implications for policy. Protein autonomy and farm-based biogas production. 13th conference on pig and poultry production. Centre Wallon de Recherches Agronomiques (CRA-W). ISBN 978-2-87286-085-2. Namur, 27 November, 2013.

Biogas und Klima. Presentation to citizens of LK Friesland in Germany. April 2014

Current policy approach for bioenergy: a tale of three countries. 27 November, 2014. Aberystwyth, Wales at the 'Miscanthus Safari' event.

Murphy-Bokern, D. and Kuhlmann, T. 2015. Protein policy in Europe. Danube Soya East West Protein Forum. Berlin, 7 May 2015. <http://www.donausoja.org/>

Murphy-Bokern, D. (2015). Pointers for bioenergy policy in a resource-constrained world.

Annex 3

INDICATORS OF TRUST AND ESTEEM (since 1999)

For the period 1999 to 2007, these activities were in addition to *ex-officio* duties in Defra

2000 – 2005

Member of the Editorial Board of the Journal of Agronomy and Crop Science.

2001

Led the evaluation of Defra's largest science agency (CSL).

2002

On the invitation of the Chief Scientific Advisor in the Department of Agriculture in Northern Ireland represented Defra at a meeting of the Northern Ireland and Republic of Ireland officials who deal with pesticide safety – Carlingford in the Republic of Ireland.

2002 - 2005

Invited member of the British Crop Protection Council Strategy Committee.

2002 – 2005

Member of the DTI's Biotechnology (Agri-business) Group – a government/research/industry policy forum.

2005

Member of the Institute for Grassland and Environment Research (IGER) Research Institute Evaluation Group. (BBSRC Institute Quinquennial Review)

2005

Member of the Rothamsted Research Institute Evaluation Group. (BBSRC Institute Quinquennial Review)

2005

Invited to give evidence to the German Science Council's study of the future of agricultural science in Germany.

2004 – 2006

Member of the BBSRC Crop Science Review Panel.

2005

Invited by OECD to participate in the meeting on 'Opportunities and Challenges in Agri-Food Research (Rome).

2004 – 2006

Defra 'assessor' on the UK Farming and Food Research Priorities Group.

2006-2007

Community Governor to Coombe Hill Infants School, Kingston on Thames.

2007

Invited by the OECD to participate in the meeting on bioenergy policy (Umea, Sweden).

2007-2008

Advisor to the Scottish Executive Environment and Rural Affairs Department in relation to the interim evaluation of the SEERAD Research Programmes.

2008

Invited to join a Scottish-based research group looking at optimizing the use of legumes in farming systems (www.legumefutures.de)

2009

Invited by the Nova Institut to join an advisory committee advising the German government on strategies to develop the non-food use of crops.

2010

Invited to chair the European Commission's expert panel assessing the impact of agricultural, animal health and welfare, and forestry research in the Framework Programmes 5, 6 and 7 (FP5, FP6, FP7).

2011

Invited by the German Agricultural Research Alliance (DAFA) to play a leading role in the formulation of a strategy for research on legume-based cropping systems and supply chains.

2011

Invited to join the European Commission-led delegation to Yangling in China to explore possibilities for collaboration between China and EU.

2011

Invited to join the FCRN/WSPA/CAAS delegation to Beijing to promote dialogue with and within China about the relationship between food consumption change and sustainable development.

2011 – 2012

Member of the organizing committee for the 12th Congress of the European Society of Agronomy.

2012

Invited by the UNEP to review and revise a report on the effect of environmental degradation on the agricultural production base. The report is called 'Avoiding future famines'.

2013

Invited by the European Innovation Partnership in agriculture to join the Expert Focus Group on protein crops.

2014

Invited by the European Commission to chair the ex-post evaluation of research for agriculture, forestry, plant and animal health in the Framework Programme 7. Later asked to lead the preparation of the final report for the European Parliament of the evaluation of the KBBE programme.

2015

Member of the organising committee for the Biomass2015 conference in Hohenheim (www.biomass2015.eu).

2011 to present

Served as external expert to the European Commission assessing research proposals.

2015 – 2016

Invited member of the European Commission Expert Panel for the interim evaluation of research in Horizon 2020 Societal Challenge 2 (Agriculture, food, fisheries and the bioeconomy).

2014 to present

Invited to serve as member of the Scientific Advisory Board of Danube Soya.

2015 to present

Elected deputy-chairman of the nature protection group (NABU group) in Lohne.