

ASSOCIATION OF APPLIED BIOLOGISTS

President: Professor Trevor J Hocking, BSc, PhD, FSB



A two day conference

at the Great North Museum at the Hancock,
Newcastle upon Tyne, UK

on 20–21 December 2011

Programme &
Booking Form

**Making Crop Rotations
Fit for the Future**

Association of Applied Biologists
Warwick Enterprise Park
Wellesbourne, Warwick CV35 9EF
Registered Charity No. 275655
Tel: +44 (0)2476 575195
Fax: +44 (0)1789 470234
<http://www.aab.org.uk>
Rebecca@aab.org.uk

Photographs reproduced by kind permission of SAC

Making Crop Rotations Fit for the Future

at the Great North Museum at the Hancock,
Newcastle upon Tyne

on 20-21 December 2011

(BASIS Points have been applied for)

Provisional Programme

TUESDAY 20 DECEMBER 2011

10.00-11.10 REGISTRATION AND COFFEE

11.10-11.20 INTRODUCTION

Session 1: Why Rotate?

11.20-12.00 *Keynote speaker:*

Below-ground interactions for sustainable cropping systems

MICHAEL GOSS (University of Guelph, Canada), ISABEL BRITO, MÁRIO CARVALHO (University of Évora, ICAAM, Évora, Portugal), SABARUDDIN KADIR (University of Sriwijaya, Faculty of Agriculture, Jl, South Sumatra, Indonesia) & AMARILIS DE VARENNES (Technical University of Lisbon, Instituto Superior de Agronomia, Lisbon, Portugal)

12.00-12.30 **Rotating options for wildlife; successful management of antagonists and soil fertility in game covers and environmental stewardship prescriptions**

ALASTAIR LEAKE (The Allerton Project, Game & Wildlife Conservation Trust, Loddington, UK)

12.30-13.00 **DISCUSSION – Are rotations really necessary?**

13.00-13.45 **LUNCH**

Session 2: Does it all add up - do rotations deliver in practice

13.45-14.25 *Keynote speaker:*

New farming systems research (NFS project): long term research seeking to improve the sustainability and resilience of conventional farming systems

RON STOBART & NATHAN MORRIS (NIAB TAG, Wymondham, Norfolk, UK)

14.25-14.45 **The use of crop yields & gross margin data to optimise arable rotations and farm financial output**

JAMIE MACKAY (Jamie Mackay Agronomy, Dunmow, Essex, UK)

14.45-15.05 **The impact of break-crop and cereal rotations on crop performance and profit margin**
DERMOT FORRISTAL (Teagasc, CELUP, Oak Park, Carlow, Ireland) & JIM GRANT (Teagasc, CELUP, Dublin, Ireland)

15.05-15.25 **Effects of diverse and cereal-intensive crop rotations on crop yields and soil fertility - reflections after the first cycle of the Nafferton long-term trials**
JULIA COOPER, M BARANSKI, A CARMICHAEL, R CHAPMAN, M EYRE, G HALL, L LUECK, L REMPELOS, C SCHMIDT, D SREDNICKA-TOBER, P N SHOTTON, C TETARD-JONES, S WILCOCKSON & C LEIFERT (School of Agriculture, Food and Rural Development, Newcastle University, Nafferton Farm, Stocksfield, UK)

15.25-15.45 **DISCUSSION – Do rotations make sense on farms?**

15.45-16.10 **TEA**

Session 3: Studying and designing crop rotations

16.10-16.30 **Delivering the barebones for designing more weed suppressive crop rotations**
LAMMERT BASTIAANS (Crop and Weed Ecology Group, Centre for Crop Systems Analysis, Wageningen University, Wageningen, the Netherlands)

16.30-16.50 **An investigation of crop choice through crop rotation**
WEIQI LUO & NIGEL BOATMAN (The Food and Environment Research Agency, Sand Hutton, York, UK)

16.50-17.10 **The design of a new cropping system experiment to be used as a research platform – maize and winter wheat in monocultures and rotations**
INGRID ÖBORN, BIRGITTA BÅTH & GÖRAN BERGKVIST (Swedish University of Agricultural Sciences, Dept of Crop Production Ecology, Uppsala, Sweden)

17.10-17.30 **Sustainability Trial in Arable Rotations (STAR project): a long term farming systems study looking at rotation and cultivation practice**
RON STOBART & NATHAN MORRIS (NIAB TAG, Wymondham, Norfolk, UK)

17.30-17.50 **Long-term field experiments in Sweden – what are they designed to study and what could they be used for?**
GÖRAN BERGKVIST & INGRID ÖBORN (Swedish University of Agricultural Sciences, Dept of Crop Production Ecology, Uppsala, Sweden)

17.50-18.00 **DISCUSSION – Can we study rotation in field experiments?**

18.45 **POSTERS AND DRINKS RECEPTION** (Sponsored by NiRES, Newcastle University) (TBC)

19.30 **CONFERENCE DINNER - After Dinner Speaker SIMON HENDERSON**

WEDNESDAY 21 DECEMBER 2011

08.45-09.15 **REGISTRATION**

09.15-09.20 **WELCOME**

Session 4: Managing crop rotations

09.20-10.00 *Keynote speaker:*
Using legumes to drive crop rotations and sustainable farming systems
FRED STODDARD (University of Helsinki, Helsinki, Finland)

10.00-10.20 **Age of grass-clover sward: does it affect the predictions N fixed for subsequent crops?**
CAIRISTIONA F E TOPP (SAC, Crop and Soil Systems, Edinburgh, UK) & CHRISTINE WATSON (SAC Aberdeen, Bucksburn, Aberdeen, UK)

10.20-10.40 **The benefits and limitations of white clover N₂ fixation as a N input into mixed cropping rotations and dairy pastures: a case study of the recent agricultural intensification in the Canterbury Plains, New Zealand**
M ANDREWS, B A McKENZIE & J L MOIR (Faculty of Agriculture & Life Sciences, Lincoln University, Lincoln, New Zealand)

10.40-11.00 **Fertility building strategies on organic crop rotations**
FRANCIS RAYNS (Garden Organic, Ryton Gardens, Coventry, UK)

11.00-11.20 **Implication of green manure crop cultivation with rock phosphate in organic rotations**
OLIVER KNOX (SAC Crop & Soil Systems, Edinburgh, UK), ROBIN WALKER, TONY EDWARDS (SAC Aberdeen, Bucksburn, Aberdeen, UK), ALISTAIR McVITTIE (SAC Land Economy, Edinburgh, UK) & PHILLIP MASKEL (SAC, Crop and Soil Systems, Edinburgh, UK)

11.20-11.40 **COFFEE**

11.40-12.00 **Trace elements in agricultural systems**
CAIRISTIONA F E TOPP (SAC, Crop and Soil Systems, Edinburgh, UK), INGRID ÖBORN (Swedish University of Agricultural Sciences, Dept of Crop Production Ecology, Uppsala, Sweden) & CHRISTINE A WATSON (SAC Aberdeen, Bucksburn, Aberdeen, UK)

12.00-12.20 **The long-term effects of widely differing soil pH on the yields of an eight course crop rotation established in 1961**
ROBIN WALKER, CHRISTINE WATSON, TONY EDWARDS (SAC Aberdeen, Bucksburn, Aberdeen, UK)

12.20-12.40 **Effects of organic and conventional crop management and potato genotype on nutrient use efficiency parameters**
JULIA COOPER (School of Agriculture, Food and Rural Development, Newcastle University, Nafferton Farm, Stocksfield, UK)

12.40-13.10 *Keynote speaker:*
Can we make crop rotations fit for a multi-functional future?
ELIZABETH STOCKDALE (School of Agriculture, Food & Rural Development, University of Newcastle, Newcastle upon Tyne, UK) & CHRISTINE WATSON (Land Resources Department, Scottish Agricultural College, Bucksburn, Aberdeen, UK)

13.10-13.30 **DISCUSSION – What next? Research and policy gaps**

13.30 **LUNCH AND CLOSE OF CONFERENCE**

POSTERS

Assessing the economic value of cereal-legume intercrops in low-input rotational cropping systems

JOHN A BADDELEY (SAC Crop and Soil Systems, Craibstone Estate, Aberdeen, UK), VALENTINI A PAPPA (SAC, Crop and Soil Systems, Edinburgh, UK), ROBIN L WALKER, C.A WATSON (SAC Crop and Soil Systems, Craibstone Estate, Aberdeen, UK) & ROBERT M REES (SAC, Crop and Soil Systems, Edinburgh, UK)

The effect of preceding crop and tillage system on winter wheat

GÖRAN BERGKVIST (Swedish University of Agricultural Sciences, Dept of Crop Production Ecology, Uppsala, Sweden), HANNA FRIBERG (Swedish University of Agricultural Sciences, Dept of Forest Mycology & Plant Pathology, Uppsala, Sweden), & JOHAN ARVIDSSON (Swedish University of Agricultural Sciences, Dept of Soil & Environment, Uppsala, Sweden)

The importance of beetle banks for small mammals

BRIAN BOAG & BRIAN FENTON (The James Hutton Institute, Dundee, UK)

The importance of no-till in the development of cropping systems to maximise benefits of arbuscular mycorrhiza symbiosis

ISABEL BRITO, MÁRIO CARVALHO (University of Évora, ICAAM, Évora, Portugal) & MICHAEL J GOSS (University of Guelph, Ontario, Canada)

The use of intercrops in rotations

VALENTINI A PAPPA, ROBERT M REES (SAC, Crop and Soil Systems, Edinburgh, UK) & CHRISTINE A WATSON (SAC Crop and Soil Systems, Craibstone Estate, Aberdeen, UK)

The effects of crop rotation and soil management on worm activity and general soil health

ROBIN WALKER, CHRISTINE WATSON, GEOFF ARMSTRONG, TONY EDWARDS, BRUCE BALL *ET AL.* (SAC Aberdeen, Craibstone Estate, Aberdeen, UK)

Improving barley yields in organic stockless farming systems through innovations in green manure

SISSEL HANSEN (Bioforsk, Økologisk, Tingvoll, Norway)

Making Crop Rotations Fit for the Future At The Great North Museum, at the Hancock, Newcastle upon Tyne, UK

On 20-21 December 2011

We have negotiated, through BGC Events, some reduced rates at the following hotels in Newcastle. Please use the reservation codes listed when booking.

HOTEL NAME	Rate: Sole occupancy B & B	Rate: Double occupancy B & B	Reservation Code	Telephone Number	Distance from Great North Museum and driving time	Car Parking
Caledonian Hotel 3 Star	£70	£80	BGC Events '61233'	0191 2817881	1.3 miles 5 minutes	50 places on site FREE
Holiday Inn Jesmond 4 Star	£82	£82	'BGC Events'	0191 2125503	0.9 miles 4 minutes	On site FREE
County by Thistle 3 Star	£89	£99	'BGCE191211'	0871 3769029	1.4 miles 8 minutes	19 spaces on site £10 per 24 hrs then NCP nearby



