Aix*Marseille université cnrs IRD Institut de recherche pour le développement UNIVERSITÉ D'AVIGNON

Institut PYTHEAS
Observatoire des Sciences de l'Univers
Aix*Marseille Université

The Poster Award!

The Organizing Committee

Institut Méditerranéen de Biodiversité et d'Ecologie marine et continentale

The Poster Award

About 60 posters were contributed

Thank you, all of you, for them!

Really all of them would deserve a poster award

Perhaps spending a few days in Aix,
with all these great people,
is a little award in itself?

The Organizing Committee nevertheless tried to select some “particular good posters”

Some criteria

A clear scientific objective of relevance to biodiversity and food security

A focus on interdisciplinarity

Attractive, and legible, design (but no “over-design”)

The human being behind the poster is identifiable – the reader should want to get in touch with you

3 awards

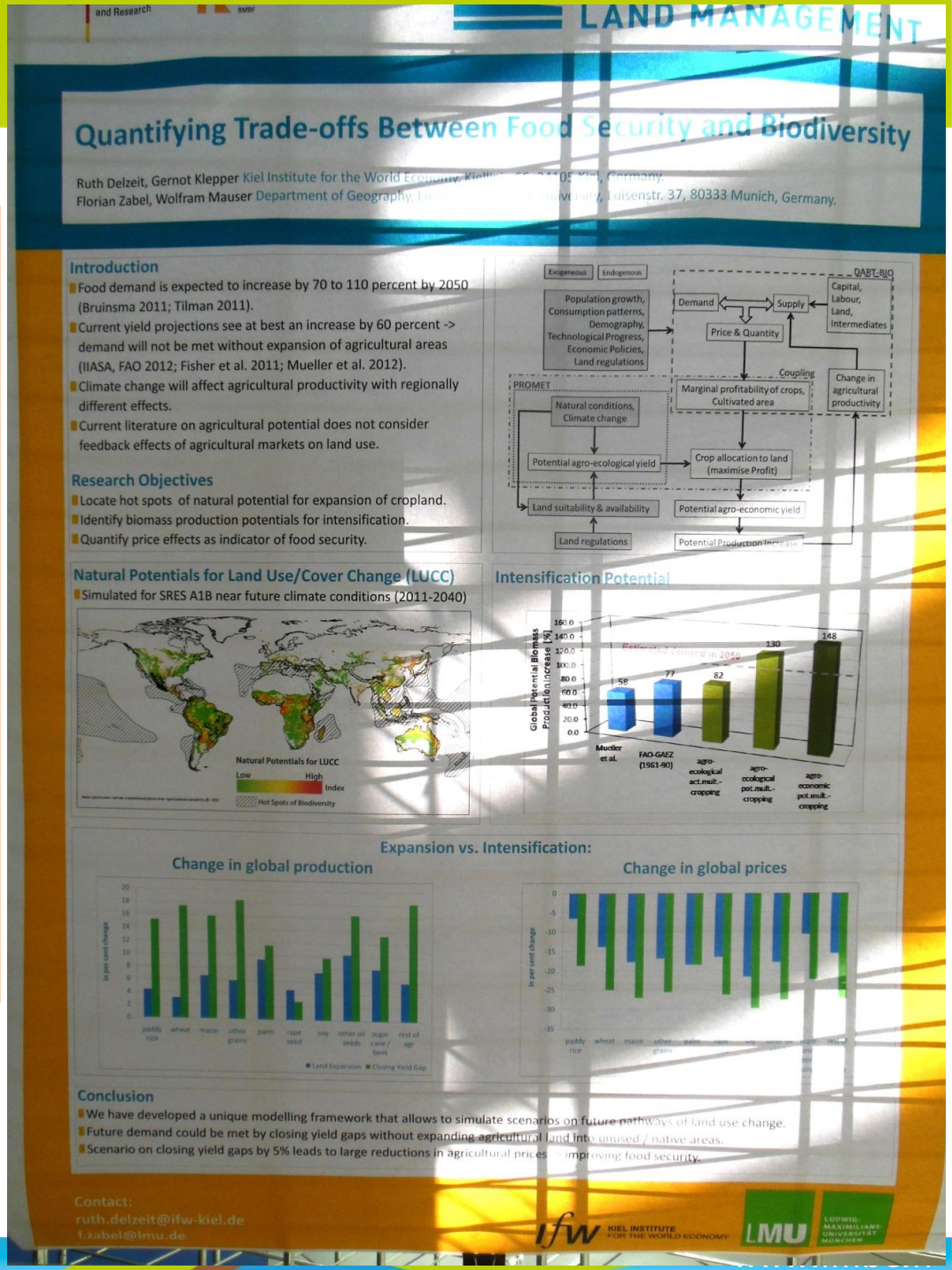
Again: all posters were excellent

We selected two runners-up

Third Prize

Quantifying trade-offs between food security and biodiversity

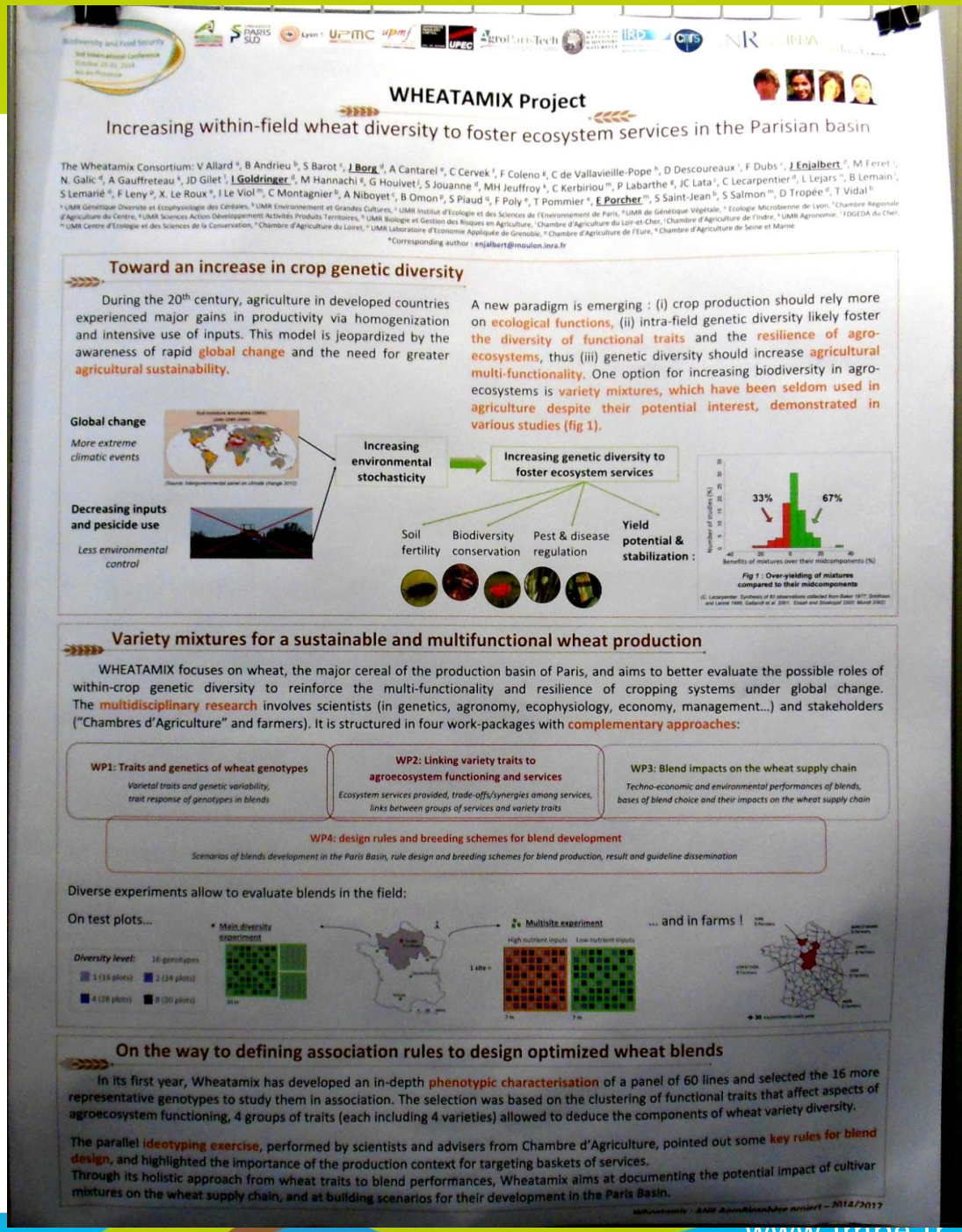
Ruth Delzeit, Gernot Klepper, Florian Zabel, Wolfram Mauser



Second Prize

WHEATAMIX Project – Increasing within-field wheat diversity to foster ecosystem services in the Parisian basin

The Wheatamix Consortium

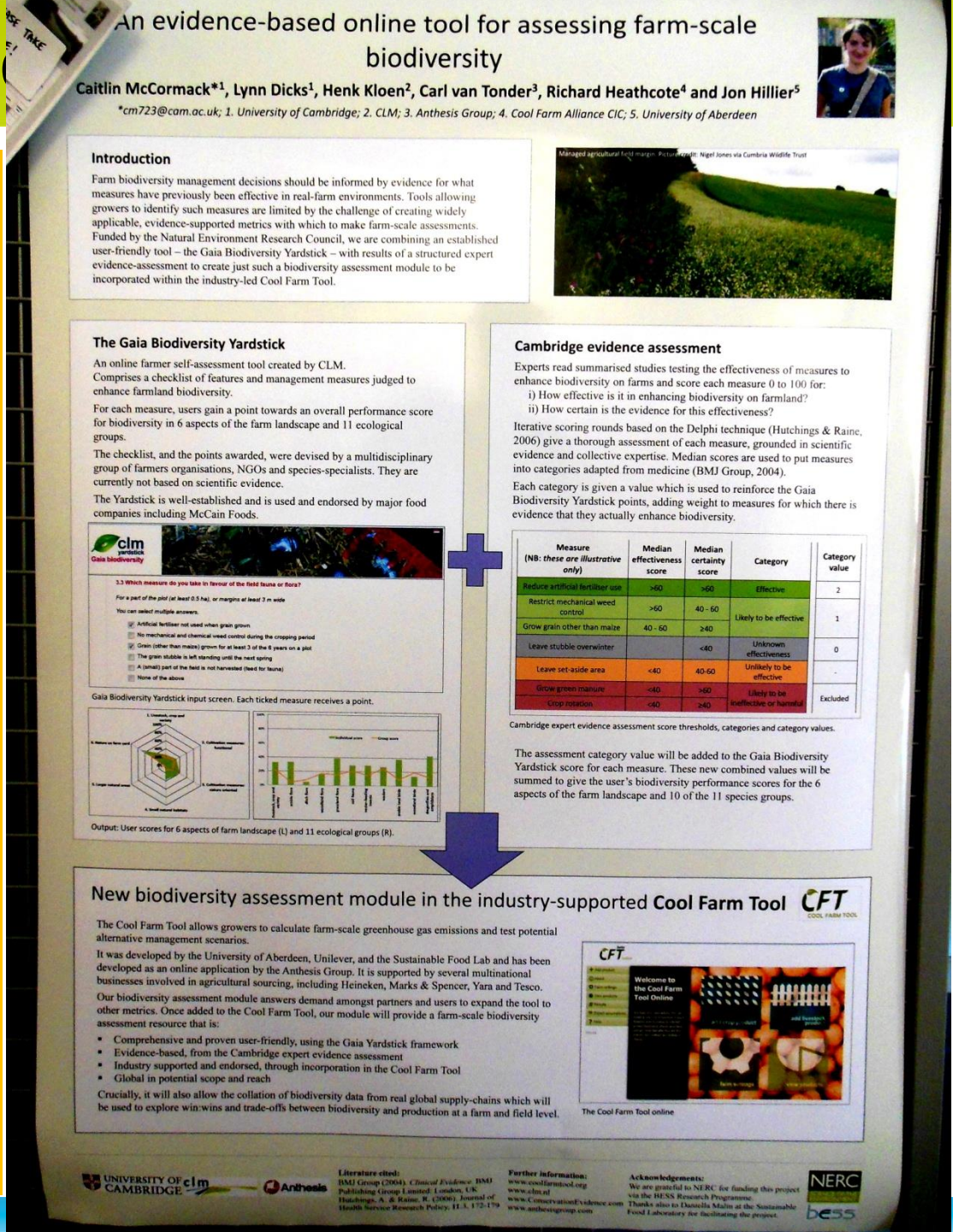


And the Winner is….

The “best poste

An evidence-based online tool for assessing farm-scale biodiversity

Caitlin McCormack, Lynn Dicks, Henk Kloen, Carl van Tonder, Richard Heathcote, Jon Hillier



An evidence-based online tool for assessing farm-scale biodiversity

Caitlin McCormack*[1], Lynn Dicks[1], Henk Kloen[2], Carl van Tonder[3], Richard Heathcote[4] and Jon Hillier[5]

*cm723@cam.ac.uk; 1. University of Cambridge; 2. CLM; 3. Anthesis Group; 4. Cool Farm Alliance CIC; 5. University of Aberdeen

Introduction

Farm biodiversity management decisions should be informed by evidence for what measures have previously been effective in real-farm environments. Tools allowing growers to identify such measures are limited by the challenge of creating widely applicable, evidence-supported metrics with which to make farm-scale assessments. Funded by the Natural Environment Research Council, we are combining an established user-friendly tool – the Gaia Biodiversity Yardstick – with results of a structured expert evidence-assessment to create just such a biodiversity assessment module to be incorporated within the industry-led Cool Farm Tool.

The Gaia Biodiversity Yardstick

An online farmer self-assessment tool created by CLM.
Comprises a checklist of features and management measures judged to enhance farmland biodiversity.

For each measure, users gain a point towards an overall performance score for biodiversity in 6 aspects of the farm landscape and 11 ecological groups.

The checklist, and the points awarded, were devised by a multidisciplinary group of farmers organisations, NGOs and species-specialists. They are currently not based on scientific evidence.

The Yardstick is well-established and is used and endorsed by major food companies including McCain Foods.

Gaia Biodiversity Yardstick input screen. Each ticked measure receives a point.

Output: User scores for 6 aspects of farm landscape (L) and 11 ecological groups (R).

Cambridge evidence assessment

Experts read summarised studies testing the effectiveness of measures to enhance biodiversity on farms and score each measure 0 to 100 for:
i) How effective is it in enhancing biodiversity on farmland?
ii) How certain is the evidence for this effectiveness?

Iterative scoring rounds based on the Delphi technique (Hutchings & Raine, 2006) give a thorough assessment of each measure, grounded in scientific evidence and collective expertise. Median scores are used to put measures into categories adapted from medicine (BMJ Group, 2004).

Each category is given a value which is used to reinforce the Gaia Biodiversity Yardstick points, adding weight to measures for which there is evidence that they actually enhance biodiversity.

Measure (NB: *these are illustrative only*)	Median effectiveness score	Median certainty score	Category	Category value
Reduce artificial fertiliser use	>60	>60	Effective	2
Restrict mechanical weed control	>60	40 - 60	Likely to be effective	1
Grow grain other than maize	40 - 60	≥40		
Leave stubble overwinter		<40	Unknown effectiveness	0
Leave set-aside area	<40	40-60	Unlikely to be effective	-
Grow green manure	<40	>60	Likely to be ineffective or harmful	Excluded
Crop rotation	<40	≥40		

Cambridge expert evidence assessment score thresholds, categories and category values.

The assessment category value will be added to the Gaia Biodiversity Yardstick score for each measure. These new combined values will be summed to give the user’s biodiversity performance scores for the 6 aspects of the farm landscape and 10 of the 11 species groups.

New biodiversity assessment module in the industry-supported **Cool Farm Tool**

The Cool Farm Tool allows growers to calculate farm-scale greenhouse gas emissions and test potential alternative management scenarios.

It was developed by the University of Aberdeen, Unilever, and the Sustainable Food Lab and has been developed as an online application by the Anthesis Group. It is supported by several multinational businesses involved in agricultural sourcing, including Heineken, Marks & Spencer, Yara and Tesco.

Our biodiversity assessment module answers demand amongst partners and users to expand the tool to other metrics. Once added to the Cool Farm Tool, our module will provide a farm-scale biodiversity assessment resource that is:

- Comprehensive and proven user-friendly, using the Gaia Yardstick framework
- Evidence-based, from the Cambridge expert evidence assessment
- Industry supported and endorsed, through incorporation in the Cool Farm Tool
- Global in potential scope and reach

Crucially, it will also allow the collation of biodiversity data from real global supply-chains which will be used to explore win:wins and trade-offs between biodiversity and production at a farm and field level.

The Cool Farm Tool online

Literature cited:
BMJ Group (2004). *Clinical Evidence*. BMJ Publishing Group Limited: London, UK.
Hutchings, A. & Raine, R. (2006). Journal of Health Service Research Policy. 11.3. 172-179

Further information:
www.coolfarmtool.org
www.clm.nl
www.ConservationEvidence.com
www.anthesisgroup.com

Acknowledgements:
We are grateful to NERC for funding this project via the BESS Research Programme.
Thanks also to Daniella Malin at the Sustainable Food Laboratory for facilitating the project.

Towards synergies between food security and biodiversity conservation: an outlook

Talk by Jörn Fischer