

**BioExploit/Eucarpia Workshop on  
The role of Marker Assisted Selection  
in breeding varieties for organic agriculture  
25-27 February 2009  
Wageningen, The Netherlands**

**Aim:**

The aim of the workshop is to

- facilitate a broad discussion with invited speakers on the state of the art and progress in relation to whether, when and how breeding programs for organic agriculture can benefit from Marker Assisted Selection (MAS).
- summarise this into a policy paper edited by the organisers. This paper will identify and clarify key issues based on the presentations and a participant-driven SWOT analysis of role of MAS in breeding for organic agriculture.

Proceedings with abstracts of oral presentations and posters will be handed out at the beginning of the workshop.

**Background**

The workshop is a follow-up of the discussion on MAS in plant breeding programs for organic agriculture, organised by COST SUSVAR and ECO-PB in January 2005 in Driebergen, the Netherlands. Now it is time for an update and further deepening of the issues involved since, in the meantime, science has made progress, practical breeders have gained more experience with MAS, and questions for breeding for organic agriculture may be more articulated. This progress has been supported by the EU project BioExploit (Exploitation of natural plant biodiversity for the pesticide-free production of food, <http://www.bioexploit.net/>) developing efficient and rational breeding strategies using e.g. MAS, and members of the EUCARPIA Section Organic and Low-input Agriculture ([www.eucarpia.org](http://www.eucarpia.org)).

The workshop will discuss basic selection principles as well as contrast breeding strategies according to organic principles and MAS in a few cases combining major crops and important traits.

**Participants:**

- Breeders and researchers involved and/or interested in plant breeding for organic agriculture with or without detailed knowledge on molecular techniques.
- Policy makers and opinion leaders among the stakeholders.

**Registration:**

Deadline for registration is **February 1, 2009** on registration form attached. The registration is definitive after the payment has been received. Maximum of 60 participants (first come first served).

# EUCARPIA



## **Poster**

Posters related to the topic are welcome. Request for poster presentation can be done, by proposing the poster title on your registration form, **before February 1, 2009**. Please, submit the full abstract (maximum of 1 page) to the Bioexploit office before **February 15, 2009**: [office.bioexploit@wur.nl](mailto:office.bioexploit@wur.nl) for inclusion in the proceedings.

## **Oral presentations**

The organisers have invited speakers for presentation according to the programme below. The speakers are kindly requested to deliver their abstracts of 1-4 pages at latest **February 15, 2009** to the Bioexploit office: [office.bioexploit@wur.nl](mailto:office.bioexploit@wur.nl).

## **Venue:**

Hotel & Conference Centre De Wageningse Berg, Generaal Foulkesweg 96, 6703 DS Wageningen-The Netherlands, see [www.hoteldewageningseberg.nl](http://www.hoteldewageningseberg.nl)

## **Scientific organisers:**

Edith Lammerts van Bueren, Louis Bolk Institute, Netherlands and Hanne Østergård, Risø-DTU, Denmark.

## **Local organisers:**

Edith Lammerts van Bueren/LBI and Liesbeth Bouwman/WUR

## **Supporting bodies:**

BIO-EXPLOIT and EUCARPIA Section Organic and Low-input Agriculture

## BioExploit/Eucarpia Workshop Preliminary programme

Wednesday February 25<sup>th</sup>

11.00h – 13.00h registration

12.00h Lunch

### **Session I: Introduction on principles and perspectives of breeding for Organic Agriculture (OA) and of Marker Assisted Selection (MAS)**

13.00 Opening

*Hanne Østergård, Biosystems Dep., Risø DTU, Technical University of Denmark, Roskilde, Denmark.*

13.10h Organic breeding methods in general,

*Heinrich Grausgruber, BOKU, Institute of Agronomy and Plant Breeding, Vienna, Austria*

13.40h Direct or indirect selection for breeding for OA,

*Isabelle Goldringer, INRA - UMR de Génétique Végétale, Gif sur Yvette, France*

14.10h QTL x E x M: combining crop physiology and genetics

*Paul Struik, WUR, Centre for Crop Systems Analysis, Wageningen, The Netherlands*

14.40h Tea break

15.10h Potentials of MAS in general: genetics, crops, traits, economy,

*Anker Sørensen, Keygene, Wageningen, The Netherlands*

15.40h General discussion

16.30h Poster session and drinks

18.30h Dinner

Thursday February 26<sup>th</sup>

8.15h Coffee

**Session II: Breeding for disease resistance traits in wheat**

8.30h Including MAS selection in wheat breeding program for disease resistance

*Jens Weyen, SU-Resistenzlabor, SAATEN-UNION, Germany*

9.15h Breeding for disease resistance in organic wheat

*Maria Finckh, University of Kassel, Department of Ecological Plant Protection, Witzenhausen, Germany*

10.00h Discussion

10.30h Coffee break

**Session III: Breeding for qualitative disease resistance in potatoes to late blight**

11.00h Tracing resistance genes in potato by MAS in a professional breeding program

*Guus Heselmans, C.Meijer B.V., Rilland, The Netherlands*

11.45h Organic potato breeding by the Dutch farmer-breeder system

*Niek Vos, organic farmer-breeder, Kraggenburg, The Netherlands*

12.30h Discussion

13.00h Lunch

**Session IV: Breeding for baking quality in wheat**

14.00h Breeding for improved baking quality under organic growing conditions

*Martin Wolfe, The Organic Research Centre, Elm Farm, United Kingdom*

14.45h Applying molecular markers for breeding for baking quality

*(to be confirmed)*

15.30h Discussion

16.00h Tea break

**Session V: Breeding for quality trait (taste) in tomato**

16.30h Breeding for taste in tomatoes for organic farming systems

*Ulrike Behrendt, Oldendorfer Saatzeit/Kultursaat e.V., Holste, Germany*

17.15h Application of MAS in tomato breeding programs for taste

*Sjaak van Heusden, Wageningen UR Plant Breeding, Wageningen, The Netherlands*

18.00h Discussion

18.30h Dinner

20.30h The principles of IFOAM

*Louise Lutikholt, International Federation of Organic Agriculture Movements (IFOAM), Bonn, Germany*

*Friday February 27<sup>th</sup>*

8.15h Coffee

## **Session VI: The future role of MAS in breeding for organic agriculture**

8.30h Participant-driven SWOT analysis based on the previous days's presentations and discussions as well as the experience of the participants. This to identify and clarify key issues of role of MAS in breeding for organic agriculture. The outcome of this group work will give the basis for a policy paper on these issues edited by the organisers.  
*Facilitator: Hanne Østergård, Risø DTU, Denmark.*

10.30h Coffee break

11.00h Conclusions and Follow-up  
*Moderator: Edith Lammerts van Bueren/LBI, The Netherlands*

12.00h Closure and lunch