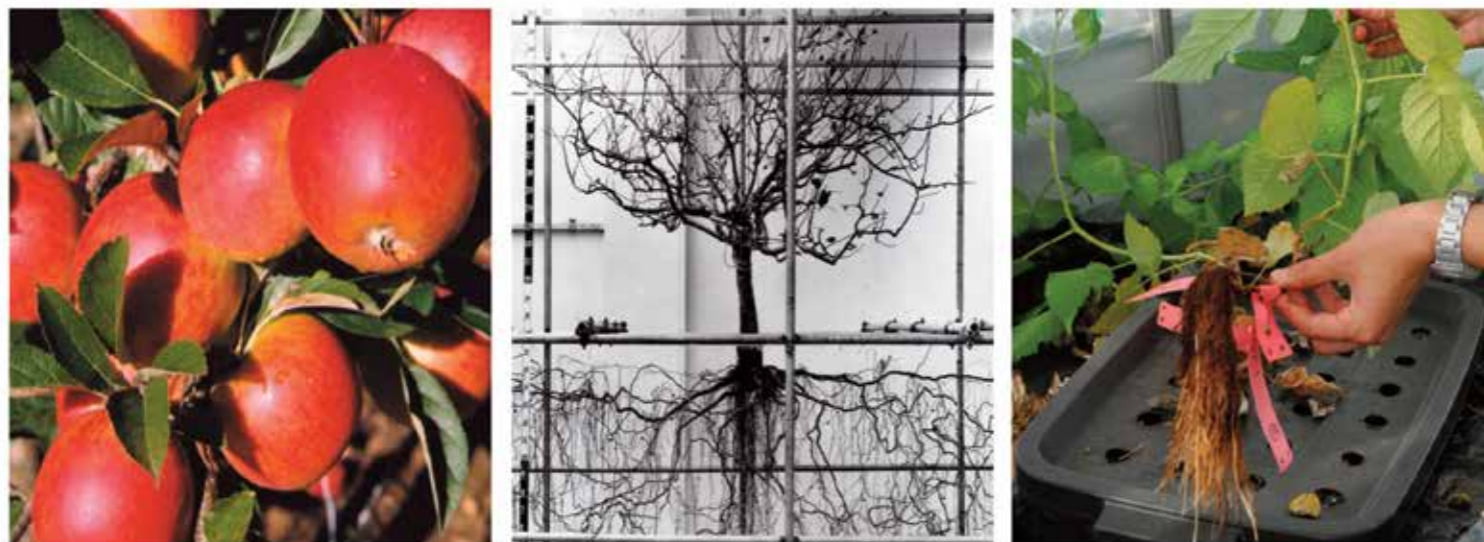




East Malling Research and
Association of Applied Biologists
Announce

Fruits and Roots: A Celebration and Forward Look

A two-day conference
at East Malling Research, Kent, UK



PROGRAMME & DELEGATE LIST

Fruits and Roots: A Celebration and Forward Look

at East Malling Research, Kent
on 6-7 November 2013

The conference is part of a series of activities to mark the centenary of East Malling Research. It will be the scientific centrepiece and explore current and future research leading to improved fruits for the future.

PROVISIONAL PROGRAMME
(10 BASIS Points have been awarded as follows: 3 CP, 3E, 2AP, 2PN)

Wednesday 6 November 2013

09:30 Conference Registration

10:40 **East Malling Centenary Conference Welcome**
PETER GREGORY (East Malling Research, East Malling, Kent)

11:00 **Session 1: Advanced breeding strategies for improved fruit crops**
Session Organiser: RICHARD HARRISON (East Malling Research, East Malling, Kent)

11:00 **Invited Speaker**
Tree Fruit Breeding for the 21st Century
R SCORZA, A CALLAHAN, C DARDICK, R BELI, Z LIU, C SRINIVASAN, C HOLLENDER, C VANN
(USDA-ARS Appalachian Fruit Research Station, Kearneysville, West Virginia, USA) &
M RAVELONANDRO (INRA-Bordeaux, 1332 UMR Biologie du Fruit et Pathologie-Université de
BordeauxII, Villenave d'Ornon, France)

11:45 **Control of fruit quality traits in red raspberry, a review from James Hutton Institute**
S McCALLUM, D W CULLEN, P HEDLEY, C SIMPSON, R D HANCOCK, L MILNE (The James Hutton
Institute, Invergowrie, Dundee), C A HACKETT (Biomathematics and Statistics Scotland, Dundee
Unit, Dundee) & J GRAHAM (The James Hutton Institute, Invergowrie, Dundee)

12:05 **Scientific Curation of the National Fruit Collection**
M ORDIDGE, (School of Agriculture, Policy and Development, University of Reading), F BAKSH,
N CRYER (School of Biological Sciences, University of Reading, Berks), J DUNWELL, G GIBBINGS
(School of Agriculture, Policy and Development, University of Reading, Berks), P HALE (Fruit
Advisory Services Team, Crop Technology Centre, Faversham, Kent), P KIRDWICHA (School of
Biological Sciences, University of Reading, Berks), M PENNELL (Fruit Advisory Services Team, Crop
Technology Centre, Faversham, Kent), C T TURNBULL, A WETTEN, E VENISON, P HADLEY (School of
Agriculture, Policy and Development, University of Reading) & N H BATTEY (School of Biological
Sciences, University of Reading, Berks)

- 12:25 **Genetics of resistance to *Amphorophora idaei* in red raspberry**
F FERNÁNDEZ-FERNANDEZ (East Malling Research, Maidstone, Kent) J M DUNWELL, N H BATTEY (School of Biological Science, University of Reading, Berks) & D J SARGENT (Fondazione Edmund Mach – IASMA, Trentino, Italy)
- 12:45 Discussion
- 13:00 **LUNCH**
- Session 2: Root-shoot communication and rootstock improvement**
Session Organiser: ROBERT SAVILLE (East Malling Research, East Malling, Kent)
- 14:15 **Invited Speaker**
Phenotypic Diversity and QTL Mapping of Absorption and Translocation of Nutrients by Apple Rootstocks
GENNARIO FAZIO (Plant Genetic Resources Unit, USDA-ARSGeneva, NY, USA), DARIUS K VIKLYS (Institute of Horticulture, Lithuanian Research Center for Agriculture and Forestry, Babtai, Lithuania), MICHAEL A GRUSAK (USDA-ARS Children's Nutrition Research Center, Department of Pediatrics, Baylor College of Medicine, Houston, Texas, USA) & TERENCE ROBINSON (Dept of Horticultural Sciences, NYSAES, Cornell University, Geneva, New York, USA)
- 15:00 **Beakbane and Thompson (1939, East Malling) Had It Right: Scion Vigour is Physiologically Linked to the Xylem Anatomy of the Rootstock**
T M DEJONG (Department of Plant Sciences, UC Davis, Davis, CA, USA), S TOMBESI (Dipto di Scienze Agrarie ed Ambientali, Università degli Studi di Perugia, Italy), B BASILE (Dipto di Arboricoltura, Botanica e Patologia Vegetale – Università degli Studi di Napoli, Italy) & D DA SILVA (INRA, UMR 1334 Plant Genetic Improvement and Adaption (AGAP), Montpellier, France)
- 15:20 **Peach, Plum and Apricot Rootstocks for the 21st Century**
G L REIGHARD (Clemson University, School of Agricultural, Forest and Environmental Sciences, Clemson, SC, USA)
- 15:40 TEA
- 16:10 **Grafting with rootstocks induces extensive transcriptional re-programming both locally at the graft interface and at distance in the shoot apical meristem**
SARAH JANE COOKSON, MARIA-JOSE CLEMENTE MORENO & NATHALIE OLLAT (INRA, ISVV, GFV, UMR 1287, Villenave d'Ornon, France)
- 16:30 **Genetic and transgenic improvement of root traits in tomato**
ANDREW THOMPSON (University of Cranfield, Cranfield, UK)
- 16:50 END OF SESSION
- 17:00 **Poster Session**
- 17:30 BAR OPENS
- 18:30 END OF POSTER SESSION
- 19:00 CONFERENCE DINNER
Before Dinner Speaker: SIR JOHN BEDDINGTON CMG FRS (Oxford University's Martin School's Senior Adviser and former Government Chief Scientific Adviser)

Thursday 7 November

Session 3: Pests and pathogens of perennial crops

Session Organiser: MICHELLE FOUNTAIN (East Malling Research, East Malling, Kent)

- 09:00 **Invited speaker**
Resilience of orchard replant soils to pathogen re-infestation in response to Brassicaceae seed meal amendment
M MAZZOLA & S L STRAUSS (USDA Agricultural Research Unit, Wenatchee, WA, USA)
- 09:45 **FresaProtect and BerryProtect: mixes of parasitoids to control all common aphid species on protected soft fruit crops. Product development and case studies from three years of experience**
N DASSONVILLE, T THIELLEMANS & V GOSSET (VIRIDAXIS SA, Gosselies, Belgium)
- 10:05 **Research on apple scab (*Venturia inaequalis*) at East Malling Research**
XIANGMING XU (East Malling Research, East Malling, Kent)
- 10:25 **How far does a weevil walk?**
T POPE, E GUNDALAI (Harper Adams University, Newport, Shropshire), G HOUGH, J BENNISON (ADAS UK Ltd, Boxworth, Cambridge), G PRINCE & D CHANDLER (Warwick Crop Centre, University of Warwick, Wellesbourne, Warwick)
- 10:45 **Sex pheromones of *Lygus* bugs: forty years on**
MICHELLE FOUNTAIN, GUNNHILD JASTAD (East Malling Research, East Malling, Kent), DAVID HALL, PAUL DOUGLAS, DUDLEY FARMAN (Natural Resources Institute, University of Greenwich, Chatham Maritime, Kent) & JERRY CROSS (East Malling Research, East Malling, Kent)
- 11:05 COFFEE
- Bewley Lecture**
Chair: Allen Langton (GCRI Trust)
- 11:30 **Understanding the Genetic Basis of Fruit Ripening – Science Discovery into Commercial Practice**
GRAHAM B SEYMOUR (University of Nottingham, Sutton Bonington Campus, Loughborough, Leics)
- 12:30 LUNCH
- Session 4: Fruit Production and Fruit Quality**
Session Organiser: GERARD BISHOP (East Malling Research, East Malling, Kent)
- 13:30 **Invited speaker**
Roots, Fruits and the pieces in between: A review of fruit production systems towards a step-change increase in productivity
D S TUSTIN & B M VAN HOOIJDONK (New Zealand Institute for Plant & Food Research Ltd, Hawke's Bay Research Centre, Havelock North, New Zealand)
- 14:15 **Revisiting the Biochemical Diversity of English Heritage Apples**
MARIA ANASTASIADI (Plant Science Laboratory, University of Cranfield, Beds), SALLY REDFERN, MARK BERRY (Unilever R&D Colworth, Sharnbrook, Bedfordshire, UK) & LEON A TERRY (Plant Science Laboratory, University of Cranfield, Beds)

14:35 **Extending the storage season of apples through selection of low ethylene breeding lines**
R COLGAN (Natural Resources Institute, University of Greenwich, Chatham Maritime, Kent) &
& F FERNANDEZ (East Malling Research, East Malling, Kent)

14:55 **Employing chlorophyll indices for in-situ fruit analysis provides a new approach for determining the optimum harvest date in apple advanced Fruit Monitoring in Precision Fruticulture Applications**
M ZUDE-SASSE (Leibniz Institute for Agricultural Engineering, Leibniz, Germany)

15:15 **Invited speaker**
Exploiting root biology to increase resource use efficiency and reproductive development of crops under water scarcity and Round up and Future Directions
WILLIAM J DAVIES (University of Lancaster, UK)

15:35 TEA and DEPART

POSTERS

Fruit quality evaluation of diverse apricot cultivars

M C PIAGNANI (DISAA – University of Milan, Italy), L CASTELLARI, P SGARBI (ASTRA – Innovazione e Sviluppo srl Faenza, RA, Italy) & D BASSI (DISAA – University of Milan, Italy)

Phenotyping of fruit quality and disease resistance traits in octoploid strawberry (*Fragaria × ananassa*)

LAIMA ANTANAVICIUTE (East Malling Research, East Malling, Kent), NICK BATTEY (School of Biological Sciences, University of Reading, Reading, Berks) & RICHARD HARRISON (East Malling Research, East Malling, Kent)

QTL controlling dots development of fruit skin in Japanese pear

EIICHI INOUE (Ibaraki University 3-21-1 Chuou, Ami-machi, Ibaraki, Japan)

Aphid parasitoids emergence at low temperature

N DASSONVILLE, T THIELEMANS & V GOSSET (Viridaxis S.A., Gosselies, Belgium)

The role of chasmothecia in the initiation of epidemics of powdery mildew (*Podosphaera aphanis*) and the role of silicon in controlling the epidemics on strawberry

XIAOLEI JIN, BRUCE D L FITT, AVICE M HALL & JONGJU HUANG (School of Life and Medical Sciences, University of Hertfordshire, Hatfield, Herts)

Comparative Transcriptome and Metabolome Analysis of Developing Blackcurrant Seed Provides an Insight into Pathway-Specific Gene-Metabolite Co-expression

D JARRET (Mylnefield Research Services Ltd, Invergowrie, Dundee), S ROWBOTTOM (Mylnefield Lipid Analysis Ltd, Invergowrie, Dundee), J MORRIS, L JORGENSEN, S R VERRALL, P E HEDLEY, R M BRENNAN & ROBERT D HANCOCK (The James Hutton Institute, Invergowrie, Dundee)

Occurrence and characterization of Phomopsis strains isolated from shoots of fruit trees

B A KOWALIK-ABRAMCZYK, E D KRÓL, E D ZALEWSKA & Z MACHOWICZ-STEFANIAK (Department of Phytopathology and Mycology, University of Life Sciences, Lublin, Poland)

The fungi occurring on blueberry *Vaccinium corymbosum* L. plants

E D ZALEWSKA, Z MACHOWICZ-STEFANIAK, E D KRÓL (Department of Phytopathology and Mycology, University of Life Sciences, Lublin, Poland) & M SZMAGARA (Institute of Ornamental Plants and Landscape Architecture, Lublin, Poland)

A biphasic response of leaf ethylene emission to soil moisture status in tomato

ANTJE FIEBIG & IAN C DODD (Lancaster Environment Centre, Lancaster University, Lancaster)

Population change of the apple scab fungus *Venturia inaequalis* in mixed cultivar orchards

THOMAS PASSEY, XIANGMING XU (East Malling Research, East Malling, Kent) & MICHAEL SHAW (University of Reading, School of Agriculture, Policy and Development, Reading, Berks)

Physical traits in raspberry provide resistance to pests and diseases

CAROLINE MITCHELL, REX BRENNAN, JULIE GRAHAM (The James Hutton Institute, Invergowrie, Dundee), SCOTT JOHNSON (The James Hutton Institute, Invergowrie, Dundee/Hawkesbury Institute for the Environment, University of Western Sydney, Australia), ALISON KARLEY (The James Hutton Institute, Invergowrie, Dundee), TIM O'NEILL & HARRIET ROBERTS (ADAS Ltd, Boxworth, Cambridge)

New apple cultivars bred at Holovousy, Czech Republic

JAN BLAZEK (Research and Breeding Institute of Pomology Holovousy Ltd, Horice, Czech Republic)

Spring Temperatures Influence Growing Degree Day Model Harvest Predictions for Peach

L KENEALY, G REIGHARD, B RAUH, W BRIDGES JR & S GAGNON (Clemson University, School of Agricultural, Forest and Environmental Sciences, Clemson, SC, USA)

Effects of planting density and nitrogen application on seed yield and other morphological traits of the leafy vegetable kale (*Brassica oleracea*)

E BENNETT (Department of Food and Nutritional Sciences and Centre for Food Security, University of Reading), F GAWTHROP, C YAO (Tozer Seeds, Pyports, Downside Bridge Road, Cobham, Surrey), C BONIFACE, H ISHIHARA (Department of Food and Nutritional Sciences and Centre for Food Security, University of Reading), J A ROBERTS (School of Biosciences, The University of Nottingham, Sutton Bonington Campus, Loughborough) & C WAGSTAFF (Department of Food and Nutritional Sciences and Centre for Food Security, University of Reading)

East Malling and our understanding of the roots of fruit trees: Past achievements and future prospects

DAVID ATKINSON (Aberdeenshire)

The use of synomones to attract beneficials into pear orchards

CHANTELLE JAY, JEAN FITZGERALD (East Malling Research, East Malling, Kent), DUDLEY FARMAN, DAVID HALL & PAUL DOUGLAS (Natural Resources Institute, University of Greenwich, Chatham Maritime, Kent)

Practical experience of using a prediction system to control strawberry powdery mildew

B LIU & A M HALL (School of Life and Medical Sciences, University of Hertfordshire, Hatfield, Herts)