

Plant Genetics
PBG 530
Crops Building 232
Winter Term 2012
Class M 11-11:50

Instructional objectives:

- 1) Provide a structured venue to read and discuss the current literature.
- 2) Practice synthesizing information and communicating results.

Learning outcomes:

Each student will be responsible for presenting a relevant article that exemplifies key points discussed in lecture. Students may choose a paper to present if the instructor approves it one week prior to the presentation date OR you may choose to present from a list of suggested articles. We may need to partner up for the presentations, depending on enrollment.

Grading

Class participation	50%
Presentation	50%

Presentation:

The goal of the presentation is to allow us to summarize the literature and to facilitate group discussions. Read the article critically; think about each of the decisions the investigators made in designing the study, and what they concluded from the results. Pick out a few main points or concepts that you think are most important, these main points and concepts should be congruent with themes learned during lecture. Everyone should bring a copy of the article to the session.

Schedule of Topics

1/23 – Gene Flow: “Gene Flow from Herbicide-Resistant Crops: It’s Not Just for Transgenes” Author(s): Carol A. Mallory-Smith and Elena Sanchez Olguin. Source: Journal of Agricultural and Food Chemistry. Volume: 59 Issue: 1 Pages: 5813–5818 DOI: 10.1021/jf103389v Published: 2011

1/30 - Mendelian analysis: “Six-rowed barley originated from a mutation in a homeodomain-leucine zipper I-class homeobox gene” Author(s): Komatsuda Takao; Pourkheirandish Mohammad; He Congfen; et al. Source: PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA Volume: 104 Issue: 4 Pages: 1424-1429 DOI: 10.1073/pnas.0608580104 Published: JAN 23 2007

2/6 - Sex determination: “A primitive Y chromosome in papaya marks incipient sex chromosome evolution” Author(s): Liu ZY; Moore PH; Ma H; et al. Source: NATURE Volume: 427 Issue: 6972 Pages: 348-352 DOI: 10.1038/nature02228 Published: JAN 22 2004

2/13 – Linkage and mapping: “Comparative mapping of the Oregon Wolfe Barley using doubled haploid lines derived from female and male gametes” Author(s): Cistue L.; Cuesta-Marcos A.; Chao S.; et al. Source: THEORETICAL AND APPLIED GENETICS Volume: 122 Issue: 7 Pages: 1399-1410 DOI: 10.1007/s00122-011-1540-9 Published: MAY 2011

2/20 - DNA form and function: “The genome of woodland strawberry (*Fragaria vesca*)” Author(s): Shulaev Vladimir; Sargent Daniel J.; Crowhurst Ross N.; et al. Source: NATURE GENETICS Volume: 43 Issue: 2 Pages: 109-U51 DOI: 10.1038/ng.740 Published: FEB 2011

2/27 - From gene to phenotype: "The gene for fragrance in rice" Author(s): Bradbury LMT; Fitzgerald TL; Henry RJ; et al. Source: PLANT BIOTECHNOLOGY JOURNAL Volume: 3 Issue: 3 Pages: 363-370 DOI: 10.1111/j.1467-7652.2005.00131.x Published: MAY 2005

3/5 - Transgenics: "Goldenrice: Introducing the beta-carotene biosynthesis pathway into rice endosperm by genetic engineering to defeat vitamin A deficiency" Author(s): Beyer P; Al-Babili S; Ye XD; et al. Source: JOURNAL OF NUTRITION Volume: 132 Issue: 3 Pages: 506S-510S Published: MAR 2002

3/12 - Ploidy: "Polyploidy and crop improvement " Author(s): Udall Joshua A.; Wendel Jonathan F. Source: CROP SCIENCE Volume: 46 Supplement: 1 Pages: S3-S14 DOI:10.2135/cropsci2006.07.0489tpg Published: NOV 2006