Meeting to discuss grant for: “The Genomic Basis of Local Adaptation in Maize”

Participants: Jeff, Matt, Sherry, Ruairidh

Funding targets:

1) Programmatic Initiatives (UC Davis): Submitted. Would fund workshop for grant planning in June 2013; participants may give talks in departmental seminar series.

2) Catalyzing New International Collaborations (NSF): Rolling acceptance. Need to submit request for support to NSF Plant Genome prior to submitting grant (Matt will work on draft). Would fund two meetings to discuss grants/preliminary data, two seasons of line development, sequencing of mapping population parents and/or GBS of populations.

3) Plant Genome Research Program (NSF): Due March 2014.

Components:

A) QTL mapping of highland adaptation in maize mapping populations from Mexico and South America (Sherry and Ruairidh): Include teosinte population (*parviglumis* X *mexicana*)? Generation of teosinte F2:F3 families would be rough due to the need to prevent outcrossing. Perhaps talk with John Doebley or Nick Lauter about the status of the mapping population developed for their QTL study. Include material Ruairidh is developing?

B) Admixture mapping using populations from *mexicana*/*parviglumis* hybrid zones (Graham Coop): Matt would collect and phenotype.

C) Contribution of *mexicana* introgression to local adaptation: analyses at a finer scale than Hufford *et al.* 2013, assessment of selection on introgressed regions (Jeff and Matt)

Outstanding questions:

Where will the grow outs take place? Puerto Rico (Sherry’s committed to this site due to other grants), Mexico, Hawaii?

What will the South American cross include? Outbred highland landraces X lowland Doebley inbred (Sherry will set this up summer 2013)? Doubled haploid highland landrace X lowland Doebley inbred (Matt will set this up in growth chamber and request lowland inbred seed from Sherry)?

To what extent will Angelica be involved? Ruairidh will clarify with Angelica.