Module 3 – Genetic analysis

Flow of Work:

Tuesday May 3: Each group will isolate DNA from four seedlings of a "weed population" and four seedlings of an ornamental accession. As a class we will sample 8 individuals from four "populations"; two populations from agricultural fields (weeds), and two ornamental.

Note: the equation $N = \ln(1-P)/\ln(1-f)$ can be used to determine the probability of detecting more than one allele in each sample where f is based on the expected frequency of 2 alleles, 3 alleles, etc… Please estimate the probability four two, three and four alleles for your group and for the entire class.

Wednesday May 4: The instructor and TA will run PCR reactions using the Primers described in the table above. We will check amplification on agarose gels.

Thursday: Students will purify PCR amplification products and prepare samples for sequencing. Each group will submit 48 samples to be sequenced:

8 DNA preparations
x3 amplifications (primer pairs)
x2 primers (F and R)

Tuesday May 10. We will download data from MCIC, and discuss analysis.

Thursday May 12. Continue discussion of analysis.

Friday May 13. Lab notebooks due