Budget Justification

Personnel

Two months of funding per year are requested for Dr. Claudia Irene at $4,425 per month as an Asst. Project Scientist. Dr. Irene will work with Dr. Ross-Ibarra's group to collect and help to prepare and analyze teosinte samples, and will participate in outreach activities. She will visit UC Davis during the course of the grant for bioinformatic training and to collaborate on analysis, and will have regular meetings via Skype with Dr. Ross-Ibarra during the course of the grant.

Other Personnel

Postdoctoral Scholar Funds are requested to support one full-time postdoctoral scholar for the duration of the proposal. The postdoc will have primary responsibility for data analysis and writing publications, but will also contribute to sample preparation. The salary for this position begins at $42,000, and increases 5% each year thereafter.

Fringe Benefits

Fringe benefits are applied to personnel salaries using the university approved rates:

- Sr. Personnel - 10.9% in FY 2015, 11.4% in FY 2016, and 11.7% in FY 2017.
- Postdocs - 17% in FY 2015, 18% in 2016, and 19% in 2017

Equipment

No equipment funds are requested.

Travel

Travel for two travelers (the PI or Sr. Personnel and the postdoc) for domestic or international conference travel is budgeted each year at $3,000. Travel for Sr. Personnel Dr. Irene to Iowa State and/or Davis for a bioinformatics training and participation in the outreach program at ISU is budgeted at $1,000 each year.

Travel for Senior Personnel Dr. Irene to collect in Guatemala in year 1 of the grant is budgeted at $2,000.

Other Direct Costs

Materials and Supplies In each of the three years of the grant, $5,000 is requested in materials and supplies for library prep for whole genome sequencing, and DNA extraction and preparation for GBS. This also includes funds for standard office supplies, computer supplies (extra storage for our cluster, backup drives for lab members), and other miscellaneous expenses.

Whole genome sequencing The genomes of each of four teosinte will be resequenced to a depth of 20-30X using 2 lanes of paired end 150bp reads on an Illumina HiSeq 2500. Current lane costs are approximately $2,932 per lane, and library preparations costs are approximately $75, for a total cost of $11,878.00 for two *Zea mays* ssp. *mexicana* in year 1 and $15,787 for the larger *Zea luxurians* genome in year 2.

GBS Genotyping-by-sequencing will be performed for our introgression analyses admixture population genetic analyses. GBS will be performed at the Institute for Genomic Diversity at Cornell. Current prices are $45 per sample to run samples at 48-plex. We will genotype 288 individuals in year 1 for a cost of $12,960, and 120 individuals in year 2 for a cost of $5,400.

Publication Costs In year two and three $1,600 is requested for publication fees to an open access journal.

Total Direct Costs

Total direct costs for UCD come to $264,065.

Indirect Costs

Indirect costs are calculated on Total Direct Costs using F&A rates approved by US Department of Health and Human Services. For this project, F&A rates of 56.5% were used from July 1, 2015 through June 30, 2016, and 57% from July 1, 2016 until the end of the project.