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COOPERATIVE EXTENSION

UC-Mexus Program

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To whom it may concern:

I hereby express my support and excitement for the proposal submitted to the UC-Mexus Program by Dr. Rubén Rellán-Álvarez (Langebio, México) and Oliver Fiehn (UC Davis) titled: **The role of phospholipids in maize adaptation to Mexican highlands.**

I am studying similar aspects of maize adaptation to Mexican highlands, and have already selected a collection of paired lowland and highland landraces that Drs. Rellán-Álvarez and Fiehn will be analyzing in their project. In my own research, I will be using RNAseq to test for specific loci involved in highland adaptation using the technique of allele-specific expression (ASE) analysis. Specifically, we will create F1 crosses between either highland or lowland maize landraces and the B73 inbred, collect tissue from the F1 plants in highland or lowland environments, and use RNAseq to measure the relative abundance of the landrace vs B73 allele at each gene to test for consistently biased expression associated with elevation.

The project proposed by Drs. Rellán-Álvarez and Fiehn will complement my own studies by measuring lipid abundances in some of the same landraces and F1 crosses. The potential of associating gene expression variation and lipid variation is exciting and will provide new insight into maize stress responses and adaptation.

Sincerely,

Dr. Daniel Runcie
Assistant Professor
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UC Davis