

SUMMER 2024 – SC INBRE RET PROJECT DESCRIPTION FORM

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Research Subject Area	Crop Biotechnology

A. Briefly describe overall research program at your laboratory.

Our research group is dedicated to developing healthier, safer staple grains tailored for individuals with food sensitivities. To achieve this goal, we have employed a multifaceted approach. This approach involves screening germplasm both biochemically and immunologically to identify lines with reduced immunogen content. We then use genetic crossing to stack immunogen deficiencies and engineer plants for further reduction in immunogen content. Another crucial aspect of our research project is investigating the impact of heat stress on the seed protein content and composition, as well as assessing the stability of protein traits.

B. Briefly describe specific project(s) for your teacher:

Trainees will play a crucial role in screening peanut and wheat genotypes to assess their seed protein content and composition. They will utilize this protein data to examine genetic relationships among individuals and contribute to genetic mapping of the genes responsible for seed protein content and composition. Additionally, trainees will collaborate with the mentor to understand how to integrate the research findings into teaching and effectively communicate the research to audiences with varying levels of intellectual engagement.

C. Will any other people (post docs, grad students, undergraduate students, colleagues, etc.) be involved directly with your teacher?

A postdoctoral fellow and two graduate students involved in this research will provide support to the trainee.

D. Will you require any advanced reading/preparation for the teacher? If yes, please briefly describe.

No, however, possessing a basic understanding of the principles of genetics and biochemistry would be advantageous..