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**Project ID: FY10-IN-002**

**FY09 ARS Agreement #: 59-0790-6-072**

**Research Category: MGMT**

**Duration of Award: 1 Year**

**Project Title: Effects of Defense Peptides on Fusarium Head Blight.**

**PROJECT 2 ABSTRACT**

(1 Page Limit)

Small peptides, including mating pheromones and sequences derived therefrom, are known to inhibit spore germination and germling growth by *Fusarium graminearum*. We will evaluate a number of these peptides for fungicidal and fungistatic activity in the laboratory and for their ability to reduce Fusarium Head Blight and deoxynivalenol production in the greenhouse on a susceptible wheat variety. We will produce antifungal peptides in a yeast (*Pichia pasturis*) protein synthesis system. We anticipate identifying some small peptides with significant antifungal activity. Crude protein preparations from cells expressing fusion proteins whose small peptide portion has significant fungicidal or fungistatic activity could serve as forerunners for a product capable of controlling Fusarium Head Blight.