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Research Area: **FSTU-R** **Duration of Award: 1 Year**

Project Title: Biomarkers of Low Dose Exposure to Deoxynivalenol in Mice.

PROJECT 1 ABSTRACT

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This project aims to expand on the currently funded USWBSI project by assessing effects of DON in aging mice compared with young adult mice.

***Aim*)** Determine the no observed adverse effect level (NOAEL) of deoxynivalenol (DON), the most commonly occurring fungal toxin found in grains, especially in wheat, based on suppression of mouse peripheral blood lymphocytes (PBLs) after DON feeding to 18 mo-old mice. **We hypothesize that suppressed (PBLs), especially B cell subpopulations may be sensitive predictors of a lowest observed adverse effect level (LOAEL) and hence a NOAEL for DON in old mice**. We will test this hypothesis by feeding 0, 0.25, 0.5 and 1.0 ppm DON to groups of 20 12-mo-old BALB/cBy mice (10 male/10 female) for 28 days, assessing PBL total and subpopulation counts, and compared with 2-mo-old mice fed 0, 0.5 and 1.0 ppm DON. These studies are likely to determine a NOAEL for DON that is highly relevant to elderly human DON exposure doses, and to confirm toxic doses of DON in young adult mice, relevant to young adult humans.

These studies will help to establish a NOAEL for DON in a mouse model relevant to human immunotoxicity.