Six studies (three with broilers and three with turkeys) were conducted to determine if continuous administration of *E. coli* lipopolysaccharide (LPS), a component of the cell walls of *E. coli*, would enhance the effects of the mycotoxins aflatoxin B1 (AFB1) and the T-2 toxin (T-2), common contaminants of poultry feedstuffs, in chicks and poults fed diets from hatch to 21 days of age. With respect to mortality rate (Exp.1 and Exp.2), results suggested a toxic synergy between AFB1 and LPS in both chicks and poults.

In Exp.3 and 4, birds were exposed to LPS and T-2. Results suggested that continuous exposure to LPS did not enhance the effects of 2 mg/kg T-2 toxin in chicks and poults. In poults, however, a decrease in performance observed in birds fed T-2 alone is atypical of a number of studies conducted in which decrease in performance was observed only when poults were fed at least 5 mg/kg T-2.

In Exp.5 and 6, birds were exposed to AFB1, T-2, and LPS. Results suggested that LPS did not enhance the effects of dietary non toxic doses of T-2 and AFB1 on growth performance. However, LPS did enhance the effects of T-2 on mortality rate and oral lesion in poults. In addition, acute exposure to LPS also enhanced mortality rate in broiler chicks. In chicks and poults, after the first exposure to LPS, LPS-treated groups had lower feed intake when compared to the non-LPS groups, and this lasted for up to 6 hours. Little or no interaction was detected which may be due to the atypical responses observed when toxins were fed alone.