

Proposal No. _____

**The Anderson Research Grant Program
2001 – 2003**

**Project Title: Using Temperature and Humidity to Control Indian Meal
Moth Larvae in Stored Grain Facilities**

Principal Investigator(s)

Name	Institution/Agency/Other
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(Attach an additional sheet is more space if needed.)

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Period of Proposed Project Dates:

Beginning: November 1, 2001 Ending: October 31, 2003

Amount Requested (maximum \$20,000 per year for two years):

Year 1: \$20,000 Year 2: \$20,000

Using Temperature and Humidity to Control Indian Meal Moth Larvae in Stored Grain Facilities

W.F. Wilcke, C.A. Cannon, and R.V. Morey

Problem Identification and Related Research

Introduction

The Indian meal moth, *Plodia interpunctella* (Hübner), is one of the most important grain-infesting insects in the U.S. The moth is omnivorous, damaging grains, flours, cereal products, dried fruits, nuts, and many other human foods. It causes economic damage to farmers and grain processors in the North Central Region. Treatment options are becoming increasingly limited. Current options include fumigants, inert dusts, and biocontrol, but all are currently unsatisfactory solutions. Inert dusts are disliked by industry, as they contribute to abrasion of machinery and reduce market value of the commodity. Biocontrol has great potential for pest management, but is not yet widely used. *Bacillus thuringiensis* (*Bt*), the best-known biocontrol method, is effective, but resistance to *Bt* in Indian meal moth has emerged in some regions (McGaughey and Beeman, 1988; Johnson et al., 1990). At present, fumigation is the most common stored product pest management tool, although changes to fumigation regulations are in progress and fumigant use is expected to decline. While processors can afford innovative and potentially expensive new control products, farmers and elevators reap only marginal profits and are looking for less expensive, non-chemical management options.