Abstract

The Purdue Post-Harvest IPM Educator multimedia software is intended to assist users make informed decisions about how to manage stored grain quality using IPM principles. It is divided into three basic sections - prevention, pest identification and treatment. The prevention section discusses the four basic SLAM principles - sanitation, loading, aeration and monitoring. From this section, the user is able to access a fan sizing program. The pest identification section includes a key to assist the user in identifying any of 26 of the most common stored grain pests. Details about each pest's appearance, biology and behavior are also provided. Finally, the treatment section includes information about physical, biological, and chemical methods for reducing pest populations in grain and grain structures. Ordering information is available online at: http://pasture.ecn.purdue.edu/~granlab.

Introduction

According to a 1990 survey of extension specialists throughout the United States, stored grain losses exceeded $500 million for that year. Most of these losses resulted from infestation by several species of insects and damage by numerous molds and mycotoxins. Losses resulting from insect infestations are widespread and involve more than loss of quality. Damaged kernels are of lighter weight and result in discounts when marketed. Insect infestation also causes a reduction in nutrients in the grain. Controlling insects with insecticides, including fumigants, rather than using preventative methods incurs great cost. In addition, infestation generally results in dissatisfied customers and related marketing problems that develop from a poor reputation in marketing channels. The most unfortunate consequence of not managing grain properly is the loss of money, time and effort to produce the grain (i.e., seed, fertilizer, field pest management, harvesting).

Program overview

The program, which is known as "The Purdue Post-Harvest IPM Educator", is divided into three basic sections - prevention, pest identification and treatment. The prevention section discusses the four basic principles - sanitation, loading, aeration and monitoring (SLAM), which can help maintain maximum grain quality during storage, and discourage pest problems. From this section, the user is able to access a fan sizing program developed by the University of Minnesota's Department of Biosystems and Agricultural Engineering. The pest identification section includes a key to assist the user in identifying any of 26 of the most common stored grain pests. Details about each pest's appearance, biology and behavior are also provided. Finally, the treatment section includes information about physical, biological, and chemical methods for reducing pest populations in grain and grain structures.

The computer program was developed using Asymetrix's software package "Multimedia ToolBook". ToolBook is an object-oriented development tool that provides drawing tools for creating objects, and a full-featured programming language known as "OpenScript", for programming object behavior. ToolBook applications must be developed in, and can only run under, the Microsoft Windows environment.
(3.1 or higher). The first version of the software has been completed and is being distributed on CD-ROM to extension educators and specialists, producers, elevator managers, grain processors and other interested parties throughout North America and overseas. Ordering information is available at the following website: http://pasture.ecn.purdue.edu/~grapplab.