

## Non-technical Summary

# **Utilizing Diapause in a Sugarcane Borer (Lepidoptera: Crambidae) Laboratory Colony as a Cost Saving Measure**

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Being able to culture insects such as the sugarcane borer (an important pest of sugarcane, rice, and corn) in the laboratory is expensive, but it broadens the scope of research opportunities available to the scientist. One option available to reduce cost is to hold a founder population in a state of hibernation when not needed, and then bring these individuals out of hibernation to restart routine rearing operations at a later time. A procedure is outlined that puts larvae of the sugarcane borer into hibernation by placing them in cold temperature (65° F versus 78° F) and under shorten day length (12 hrs of light versus 14 hrs of light) and holding the larvae for five months. This procedure allowed approximately 750 larvae out of 1024 (75%) to successfully hibernate and later become moths. The procedure saved our laboratory approximately \$1,600 in rearing supplies, but more importantly allowed us to redirect our insectary manager to other critical tasks during that period of time that insects were not needed.