

# Hemolymph Polyols and Their Fluctuation In Response To Environment in the Beet Armyworm, *Spodoptera exigua*

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Nine polyols of trehalose, sucrose, glucose, glycerol, fructose, mannitol, sorbitol, mannose, and galactose were identified and quantified in the hemolymph of the fifth instar larvae of *Spodoptera exigua*. When each titer of nine polyols was measured every 2h period in the hemolymph, only two polyols of trehalose and glucose significantly changed their titers with diel rhythm. Trehalose increased during scotophase with a significant decrease of glucose titer, while opposite phenomenon occurred during photoperiod. In response to low temperature (5C), glycerol concentration in the hemolymph significantly increased with exposure time, while trehalose concentration significantly decreased. Starvation and adipokinetic hormone also changed the polyol contents.