

Effect of Sugars and Non-Nutritive Sugar Substitutes on Consumption of Apple Leaves by Codling Moth Neonates

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Recently we reported that monosodium glutamate stimulates feeding in neonates of the codling moth *Cydia pomonella* (L.). Herein we extend our general knowledge about feeding stimulators in neonates of this species, by presenting the effects of several sugars (sucrose, glucose, fructose, and maltose) and non-nutritive sugar substitutes (Sweet'n Low[®] and Equal[®]) on consumption of apple leaf (HoneycrispTM) tissue. Glucose, fructose, maltose and aspartame-based Equal had no effect on leaf consumption. Sucrose at a high concentration significantly reduced leaf consumption and delayed commencement of feeding. Sweet'n Low at high concentrations significantly increased leaf consumption and accelerated the commencement of feeding. Saccharin hemicalcium salt was identified as an active ingredient of Sweet'n Low. At 500 ppm and 1000 ppm, saccharin hemicalcium salt increased leaf consumption and accelerated commencement of feeding. The practical aspects of our findings are discussed.

KEY WORDS: Codling moth; *Cydia pomonella*; feeding; sugars; sucrose; Sweet'n Low[®]; aspartame; saccharin.

Received July 26, 2002; received in final form Jan. 21, 2003; <http://www.phytoparasitica.org> posting May 6, 2003.

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