

CONSUMPTION AND UTILIZATION OF FOOD BY LEPIDOPTERA INSECTS REARED WITH TWO KUNITZ TYPE INHIBITORS FROM *Dimorphandra mollis* SEEDS

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Insects must circumvent defensive barriers in order to successfully colonize a particular plant host. One of those barriers is plant proteins with insecticidal properties, such as the proteinase inhibitors (PIs). Genes encoding protease inhibitors have been used to produce resistant transgenic plants as a crop-protection strategy. In a former study, we showed the influence of inhibitors from *D. mollis* seeds on consumption and utilization of food by *Anagasta kuehniella* and *Corcyra cephalonica* larvae and their development. The neonate larvae were reared on artificial diet containing DMTI or DMTI-II at 2%. The number and weight of surviving larvae fed, diet consumed and feces eliminated were determined. The following nutritional ratios were calculated: approximate digestibility (AD), efficiency of conversion of ingested food (ECI), efficiency of conversion of digested food (ECD) and metabolic cost (CM). Neither DMTI nor DMTI-II was active as insecticide agents against these species. The results suggest that insects were able to physiologically adapt to inhibitors by altering the digestive proteolytic activity. Nevertheless, these results do not discard the use of inhibitors from *D. mollis* in plant biotechnology against other species of insects; they just help us to understand how they work as biological agents.

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