

Identification of UDP-glycosyltransferases genes in *Glyphodes pyloalis* (Lepidoptera:Pyralidae) and their expression patterns under stress of Chlorfenapyr

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Key words: *Glyphodes pyloalis*, UDP-glycosyltransferases, Detoxification, Insecticide susceptibility

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Abstract: *Glyphodes pyloalis* Walker is a serious pest in mulberry fields. For the control of *G. pyloalis* population, the primary strategy of preventing is to use insecticides. However, inappropriate use of insecticides has caused *G. pyloalis* outbreak and insecticide resistance. Chlorfenapyr is a new type of arylpyrrole insecticide. There are few reports about whether UDP-glucuronosyltransferase that an important detoxification enzyme exists in *G. pyloalis* and whether they can metabolize Chlorfenapyr. In the study, twenty-four UGT genes were identified from the transcripts of *G. pyloalis*. The expression levels of eight UGT genes increased significantly after Chlorfenapyr treatment and decreased significantly after interference with *GpylUGT8*. Chlorfenapyr is effective on *G. pyloalis* and can be used as one of the control methods, which can also greatly reduce the pollution of harmful substance.

Key words: *Glyphodes pyloalis*, UDP-glycosyltransferases, Detoxification, Insecticide susceptibility