

植物保护—研究报告

温度对黄胸蓟马生长发育的影响

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摘要:

为了明确温度对黄胸蓟马Thrips hamaiiensis (Morgan)生长发育的影响,在5种恒温条件下(20, 24, 28, 32和36℃)对黄胸蓟马实验种群生长发育情况进行了研究。实验结果表明:在20~28℃温度范围内,黄胸蓟马的发育历期随温度升高而显著缩短,当温度超过32℃时,其发育历期延长;在20~36℃温度范围内,发育速率与温度呈显著的正相关;黄胸蓟马卵、若虫、预蛹、伪蛹及卵-成虫的发育起点温度分别为15.67、9.48、11.06、8.54和11.39℃,有效积温分别为91.23、82.35、41.23、34.81和251.43℃?d;在20~36℃之间,黄胸蓟马世代存活率由大到小的顺序为32℃>28℃>24℃>20℃>36℃。据此认为温度对黄胸蓟马实验种群的生长发育和存活率影响明显。

关键词: 存活率

Effects of Temperature on Development and Reproduction of Thrips hamaiiensis (Morgan)

Abstract:

To research the influence of temperature on the development and reproduction of Thrips hamaiiensis (Morgan), series of experiments were carried out to investigate the experimental population growth of T. hamaiiensis at five constant temperatures (20, 24, 28, 32 and 36℃) in the laboratory. The results indicated that, within the range from 20℃ to 28℃, the developmental duration of T. hamaiiensis evidently reduced with the increase of temperature, while increased when the temperature went beyond 32℃; within the range from 20℃ to 36℃. The developmental rate of T. hamaiiensis increased with the increasing temperature. The development threshold temperature of T. hamaiiensis at its egg, nymphal, prepupal, pupal and egg-adult stages was 15.67, 9.48, 11.06, 8.54 and 11.39℃respectively, and the effective accumulated temperatures was 91.23, 82.35, 41.23, 34.81 and 251.43℃?d respectively. Within the range of 20~36℃, the generation survival rate of T. hamaiiensis decreased according to the sequence of 32℃, 28℃, 24℃, 20℃ and 36℃. It can be concluded that the temperature had great influence on the developmental duration and survival rate of experimental populations of T. hamaiiensis.

Keywords: survival rate

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