Laboratory studies on the temperature-dependent development of Tuta absoluta (Meyrick) (Lepidoptera: Gelechiidae) were performed at 10 constant temperatures ranging from 15 to 34±1°C. The duration of total development was measured for every temperature. Tayfun F1 tomato variety was used for larval feeding and all experiments were carried out at climatic cabinets where had long daylight period (16:8) and 65±5% constant humidity for every temperature. According to obtained data, developmental threshold (\(\theta\)) and thermal constant (\(\phi\)) were calculated by using linear regression, and lower (\(\theta_1\)), optimum (\(\theta_2\)) and upper (\(\theta_3\)) temperature thresholds for total developmental period of pest were calculated by using Polynomial (4th), Logan 6, Logan 10, Lactin 1, Briere 1 nonlinear regression models. Development time decreased with increasing temperature ranging from 78.17 days to 21.39 days within the range 15-29°C. Developmental threshold and thermal constant for total development of tomato leaf miner were estimated as 8.94°C and 419.46 degree-days respectively. Lower,
optimum and upper temperature

requests were estimated with different models and results obtained were in the range 8.9-12.5, 31.00-31.07 and 35.9-38.5, respectively.