

# Fidelity of *Bombus terrestris* for Cotton Pollination in Severe Temperature

**Yong Jung Kwon and Shafqat Saeed**

Dept. of Agricultural Biology, Kyungpook National University, Taegu, Korea

Cotton (*Gossypium hirsutum*) seed production now appears both technologically and economically feasible. Less information are available on the field observation of pollinators other than honey bees. It was thought that high temperature is the main barrier for activation of pollinators. A greenhouse study was conducted in Yecheon, Gyeongbuk Prov., Korea, to evaluate the effect of pollination by *Bombus terrestris* in high temperature. Percentage of *B. terrestris* pollinated cotton variety MNH 552, number of seeds/boll, bolls/plant and weight of seed cotton/boll, and weight of seed cotton/plant were determined with relation to air pollinated plants. At the pollination time, the range of maximum temperature in greenhouse during flowering period was 40–50°C. During this condition the plants pollinated by *B. terrestris* showed 8.72, 7.66, 33.65 and 38.73% increase in the number and weight of seed/boll, number of bolls and weight of seed cotton/plant, respectively. The colony traffic and foraging activity of *B. terrestris* were also recorded. It was observed that bees remained active in foraging when the temperature enhanced up to 40°C at noon. This activity showed the fidelity of *B. terrestris* during severe temperature in green house.