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Soil Arthropod Extraction Tullgren Funnel Method

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Abstract: Laboratory experiments were conducted in the white grub laboratory, Department of Entomology, Assam Agricultural University, Jorhat, Assam to extract the soil arthropod from matured earthen and concrete floor composts. The soil arthropod were extracted by using Tullgren funnel with 40 watt electric bulbs at high light intensity and operated upto 72 hours. The population of soil arthropod extracted from earthen floor compost (40086.90/sq.m) was found to be higher as compared to compost with concrete floor (24603.60/sq.m). In both the composts, the highest population of extraction of soil arthropod (9574.80 and 6484.20/sq.m from earthen and concrete floor composts respectively) was recorded in the month of October and the lowest population of soil arthropod (3272.40 and 2030.10/sq.m from earthen and concrete floor composts respectively) was recorded during January. The population of soil arthropod from earthen floor compost showed positively significant correlation with compost temperature and moisture. Similarly, the population of soil arthropod from concrete floor compost showed positively significant correlation with compost temperature but with that of compost moisture exhibited positive but non-significant relationship. Various soil arthropod like collembolans, soil mites, pseudoscorpions, ants, larvae, earwigs and many unidentified species were recorded from both the composts. In both the composts, the maximum populations of collembolans (5423.70 and 2969.40/sq.m for earthen and concrete floor composts respectively) and soil mites (3211.80 and 2060.40/sq.m for earthen and concrete floor composts respectively) were recorded in the month of October and the lowest populations were found during January. The populations of collembolans and soil mites observed during January were found to be 1575.60 and 757.50/sq.m respectively for earthen floor compost and that of concrete floor compost were found to be 999.90 and 515.10/sq.m respectively.

Key Words: Soil arthropod, Tullgren funnel, light intensity, composts, extraction, population