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Effect of Climatic Change on the Life Activities of Schistocerca graria from Thar Desert, Sindh, Pakistan

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Abstract : Pakistan has the sandy Thar Desert in the eastern area, which share border line with India and has exotic fauna and flora, the livelihood of native people rely on livestock and rain fed cultivated fields. The climate of Thar Desert is very harsh and stressful due to frequent drought and very little rainfall, which may occur during monsoon season in the months of July to October and temperature is high, and wind speed also increases in April to June. Schistocerca gregaria is a destructive pest of vegetation from Mauritania to the border line of Pakistan and India. Sometimes they produce swarms which consume all plant where ever they land down and cause the loss in agro-economy of the world. During the recent study, we observed that vegetation was not unique throughout the Thar Desert in the year 2015, because the first spell of rainfall showered over all areas of the Thar Desert in July. However, the second and third spell of rain was confined to village Mahandre jo par and surroundings from August to October. Consequently, vegetation and cultivated crops grew up specially bajra crop (Pennistum glaucum). The climate of Mahandre jo par and surroundings became favorable for S.gregaria, and remaining areas of Thar Desert went hostile. Therefore desert locust attracted to the pleasant area (Mahandre jo par and surroundings) and gradually concentrated, increased reproductive activities, but did not gregarize due to the harvest of bajra crop and the onset of the winter season with an immediate decrease in temperature. An outbreak was near to come into existence, and thereupon conditions become stressful for hoppers to continue further development. Afore mentioned was one reason behind hurdle to the outbreak, another reason might be that migration and concentration of desert locust took place at the end of the season, so climate becomes unfavorable for hoppers, due to dryness of vegetation. Soils also become dry, because rainfall was not showered in end of the season, that’s why eggs that were deposited in late summer were desiccated. This data might be proved fruitful to forecast any outbreak update in future.

Keywords : agro-economy, destructive pest, climate, outbreak, vegetation
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