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Studies on morphometric variation within the population of *Heterodera zeae* on cereals in Rajasthan

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ABSTRACT : An intensive survey was carried out in different agro climatic regions of Rajasthan, In total, 1087 plant root and soil samples were collected from different localities and hosts (wheat, maize and barley) to study morphometric variation within population of *Heterodera zeae* associated with these crops. Body dimensions of second stage juveniles, cyst length, cyst width and vulval cone top characters were measured. Comparisons of body dimensions of the populations recovered with the original species description showed that most of the dimensions of vulval cone top characters were within the diagnostic range. However, in some populations, characters like width of vulval bridge, underbridge length and width showed variations, which was recorded 37.8% higher than original value in width of vulval bridge toward higher side, variations in under bridge length was 3.9% toward lower side, whereas, in under bridge width it was 7.6% towards higher side, cyst length of few population of *H. zeae* showed variation up to 13.5% toward lower side. For second stage juveniles, characters like body length and stylet length were more variable. The variation in body length was 2.2% towards higher side and in style length up to 1.7% towards higher side. The variations in body dimensions of second stage larvae and vulval cone top characters within the population of *Heterodera* spp. collected from different agroclimatic regions of the state may be due to varied soil type, prevailing temperature, soil moisture, preceding crops and several other abiotic and biotic factors.

Key Words : Morphometric variation, population, *Heterodera zeae*, Rajasthan.