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Growth dynamics of Indian mustard (*Brassica juncea* L.) *cv*. Pusa Tarak as influenced by irrigation levels and row spacings

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ABSTRACT : Field experiment was conducted to study the effect of irrigation levels and row spacings on total above ground dry matter accumulation, dry matter partitioning, crop growth rate and relative growth rate of Indian mustard (*Brassica juncea* L. *cv.* Pusa Tarak) during two consecutive *rabi* seasons of 2012-13 and 2013-14 at J.N.K.V.V., College of Agriculture, Tikamgarh (Madhya Pradesh), India. The experiment was laid out in split-plot design with three replications consisted three irrigation levels *viz*., control (I_0:no post sowing irrigation), one irrigation at 40 DAS (I_1) and two irrigations at 40 and 75 DAS (I_2) as main plot treatments and three row spacings *viz*., 20 cm (S_1), 30 cm (S_2) and 40 cm (S_3) as sub-plot treatments. The results revealed that irrespective of treatment variations, dry matter accumulation in leaves and stem started slowly at early growth stage (30 DAS) and increased thereafter and was partitioned maximum in the reproductive parts at harvest. The maximum dry matter accumulation was observed with two irrigations (at 30 DAS and 60 DAS) with 40 cm row spacing. The crop growth rate (CGR) was significantly affected by irrigation and row spacing. However, relative growth rate (RGR) was significantly influenced only by irrigation levels. Higher accumulation of dry matter in mustard ultimately elevated the seed yield as confirmed by relationship study between seed yield and dry matter accumulation.

Key Words: *Brassica juncea* L., dry matter partitioning, Indian mustard, irrigation level, row spacings.