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Effect of potassium application on productivity of barley (*Hordeum vulgare* L.) in arid conditions of western Rajasthan

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ABSTRACT : A field experiment entitled effect of potassium application on productivity of barley (*Hordeum vulgare* L.) in arid condition of Western Rajasthan was conducted on loamy sand soil of the Agronomy farm, College of Agriculture, Bikaner during *Rabi* season of 2009-2010. The experiment was comprised of three potassium application methods (as full basal at sowing, ½ basal+ ½ top dressing at 30 DAS and ½ basal + ½ top dressing in two splits at 30 and 60 DAS) along with control. Results of the experiment indicated that application of potassium through different methods significantly increased growth characters *viz*., plant height, dry matter accumulation and yield attributes namely effective tillers per metre row length, spike length, grains per spike and test weight of barley as compared to control. Similarly, grain yield, straw yield and biological yield enhanced significantly application through different methods in comparison to control. The maximum grain yield (2787 kg/ha), straw yield (3143 kg/ha) and biological (5930 kg/ha) were obtained when K as ½ basal + ½ top dressing at 30 DAS which were statistically found at par with same K rate as fully basal application. Also, the maximum harvest index was recorded with basal application no potassium, being at par with same K rate as ½ basal + ½ top dressed at 30 DAS and showed statistically superiority over control treatment.

Key **W**ords : Potassium application, Productivity, Barley

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