# EFFECT OF SOIL MOISTURE STATUS ON FORMATION OF HARD SEEDEDNESS IN MUNG BEAN (*Vigna radiata* L.)

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Presence of hard seeds in mung bean (*Vigna radiata*) is a major problem for both farmers and consumers, since it affects to the cookability and germination. A study was carried out to investigate the relationship between soil moisture status and hard seededness in mung bean. The experiment was laid out in a split plot design with 3 replicates. Four different levels of irrigation intervals; 4 days (27.5% depletion level), 7 days (42.6% depletion level), 10 days (61.6% depletion level) and 13 days (83.4% depletion level) were allocated as main plots and three varieties of mung bean MIMB 904, MI 6 and Ari were allocated as sub plots. At the harvesting stage, mung bean pods were picked and seeds were soaked for 8 h, 10 h and 12 h durations to estimate the hard seed percentages with different soaking times. Soil moisture content before irrigation, plant height, plant dry matter content and dry grain yield were also measured. The data were analyzed using Analysis of Variance. Results revealed that, interaction between irrigation interval and variety on hard seed formation was significant *($p<0.05$)*. The minimum hard seed percentage (7.9%) was observed in 4 day irrigation interval with variety MIMB 904. The highest hard seededness was found at the soaking time of 8 h and it gradually decreased at 12 h. The interaction between irrigation interval and variety on plant height, dry matter content and dry grain yield were not significant *($p>0.05$)*. However, maximum yield was obtained from 7 days irrigation interval (MIMB 904-2.48 t/ha, MI 6-2.31 t/ha, Ari- 2.47 t/ha). Thus, it can be concluded that 4 day irrigation interval (27.5% depletion level) should be applied for mung bean in order to minimize the hard seededness. The suitable soaking time to remove the hardness of seeds is 12 h.

***Keywords***: Hard seededness, Mung bean, Soaking time, Soil moisture status