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## Response of potato (*Solanum tuberosum* L.) breeding populations under contrasting intercropping regimes

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Potato (*Solanum tuberosum*) is one of important crop grown all over the world due to its wider adaptability and staple food of many nations. It contains valuable quantity of protein and energy per unit area as compared with rice and wheat, thus it has more value than other crop as staple food. Plant breeders continue to evolve tuber varieties for high yielding environment which are heavily dependent on the high doses of the inputs. However, continues rise in the input especially fertilizer prices restrict their uses and farmers cannot support the crop with optimum doses of fertilizer. The symbiotic nitrogen fixing bacteria has been considered as another way to supply the atmospheric nitrogen for the host and subsequent crop. The leguminous species such as *Trifolium alexandrinum* are poor plant competitor and fix the nitrogen in the soils which may impart beneficial impact on the exhaustive crop like potato. The present study was carried out to check the impact of intercropping on tuber yield, its components and to screen out high yielding tuber lines under contrasting intercropping regimes. Data was analyzed in completely randomized design with three replications under factorial arrangement. Overall, there was positive effect of intercropping over the tuber yield of the breeding populations. Intercropping led to the 18% increase in tuber yield. Moreover, there was also subsequent increase in various yield components. Correlation analysis showed that tuber weight per plant had significant relationship with all traits except number of tubers per plant, chlorophyll contents, harvest index and leaf area under intercropping regime. Berseem weight had negative relationship with tuber weight per plant. The correlation analysis showed the importance of tuber diameter under both regimes.

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