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

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Abstract (300 word limit)

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.

Recent Publications (minimum 5)

Ikram-ul-Haq, M.M. Gilani and F.A. Khan. 1998. Correlation and regression analysis of some quantitative characters among *Brassica* Accessions. Pak. J. Biol. Sci., 1(2):124-126

Ikram-ul-Haq, A.A. Khan, F.M. Azhar and E. Ullah. 2010. Genetic basis of variation for salinity tolerance in okra (*Abelmoschus esculentus* L.). Pak. J. Bot., 42(3): 1567-1581

Ikram-ul Haq, A. A.Khan, I. A.Khan and M. A. Azmat. 2012. Comprehensive screening and selection of okra (*Abelmoschus esculentus*) germplasm for salinity tolerance at the seedling stage and during plant ontogeny. J Zhejiang Univ-Sci B (Biomed & Biotechnol). 13(7):533-544

Ikram-ul-Haq, A.A. Khan and M. A. Azmat. 2013. Assessment of genetic diversity in okra (*Abelmoschus esculentus* L.) using RAPD markers. Pak. J. Agri. Sci., Vol. 50(4), 655-662

Muhammad M. H., S. Rauf, J. Paderewski, **I.U.Haq**, D.S.Paderewska and P. Monneveux. 2015. Multitraits evaluation of Pakistani ecotypes of berseem clover (Trifolium alexandrinum L.) under full-irrigation and water restriction conditions. Journal of Applied Botany and Food Quality 88, 127 - 133, DOI:10.5073/JABFQ.2015.088.018

Salman A., S. Iqbal, M.E. Ashraf, S. Ali, M. A. Zeshan, W. A. and **I.U. Haq**. 2016. Characterization of conducive environmental variables for Leaf Rust of Wheat in Sargodha. Sci. Int.(Lahore),28(4),4065-4068 ISSN 1013-5316;CODEN: SINTE 8

Naeem, A., M. Shabir, T. Mehmood, F. Hussain and **I.U.Haq**. 2016. Inherent pattern of some yield contributing traits in spring wheat (*Triticum aestivum* L). J.Environ.Agric.1(1): 42-49 ISSN 2517-9675



Biography (150 word limit)

Dr Ikram-ul-Haq is serving as an Assistant Professor in the department of Plant Breeding and Genetics, University College of Agriculture, University of Sargodha for the last four and half years. He is teaching and providing research training at the graduate and post graduate level. Before joining as Assistant Professor in the University of Sargodha, he has been working at the Food and Agriculture organizations' (FAO) food security pilot project in District Sargodha and "Special program for food security and productivity enhancement of small farmers in 1012-villages (SPFS) crop maximization project-II, (2007-12)" of the government of Pakistan as District Project Manager at Rahim Yar Khan. He was awarded the Higher Education Commission (HEC) scholarship under the scheme "Indigenous Ph.D. 5000 Fellowship Programme 2004 Batch II" to complete his PhD. During PhD, he did in-depth understanding of "Genetic basis of variation for salinity tolerance in okra (Abelmoschus esculentus L.)" at the University of Agriculture, Faisalabad. He is recently selected for 2018 Endeavour Research Fellowship for Postdoc.

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Notes/Comments: