and species. Landraces as the most important source for genetic improvement of cultivars are also useful in traditional and subsistence farming which continue to play a key role in food security.The Mexican landraces, obtained from CIMMYT, Mexico were screened for salinity stress tolerance under simulated stress conditions with the aim to identify tolerant genotypes. The experiment was conducted to study the effect of different NaCl levels (0 (control), 120mM and 240mM) on 20 Mexican Wheat landraces and 5 checks *viz*. Kharchia-65, KRL 213, Barbet, PBW 725 and HD 2967.Electrical conductivity of soil was measured at different interval of time during experiment. Data were taken at the vegetative, reproductive and maturity stages. Results indicate that Mexican wheat landraces respond differently to different salinity levels. Mexican wheat landrace MICH89.1.10 (90%) exhibited highest germination percentage. Mexican wheat landraces MICH89.1.10, MICH89.2.11, MICH89.2.16, MICH89.4.19 and MICH89.4.28 having lesser number of days to flowering and maturity to complete their life cycle as early as possible.MICH89.1.10, MICH89.2.11, MICH89.2.16, MICH89.4.19, MICH89.6.9 and MICH89.4.28 recorded maximum tiller number, grains per spike and grain yield under 120mM and 240mM salinity stress levels depicting their tolerant behavior. On the basis of present investigation, we concluded that there was sufficient variations in landraces for salt stress tolerance. And these landraces can be used in wheat breeding programs to improve and develop high yielding salinity tolerant varieties.

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Screening for anti-fungal proteins in pearl millet inbreds active against *Pyricularia grisea*

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Pearl millet is a commonly grown nutri-cereals in the semi-arid regions of India and Africa. Productivity of this crop is challenged by many biotic stress and blast (*Pyricularia grisea*) has emerged as a new threat. Recurrent chemical protection is expensive and not sustainable approach for farmers. Therefore, identification and utilization of host plant resistance is very appropriate. Present study screened 20 inbreds crude proteins for anti-fungal activity against blast isolates collected from Patancheru (Pg45), Jaipur (Pg138) and Aurangabad (Pg186) using oatmeal agar plates (qualitative) and microspectrophotometric assays (quantitative). There was significant reduction in growth rate of fungal colony of highly virulent isolate Pg 138 (9-57%; $P<0.01$)on oatmeal agar plates at fixed time intervals against Pg138, while no significant differences were observed for Pg 45 and Pg 186.Further, inhibition of fungal spore germination and initial growth (48h) of these isolates was monitored quantitatively (595nm) in the presence of each crude protein extract for 48h. As a result, high reduction in

fungal growth was observed for Pg138 (64-87%) followed by Pg186 (21-61%) and Pg45 (2-31%). Total protein in the tested lines varied 10-15%. Results showed that these protein extracts were effective (9-50%) against cysteine protease, papain commercially sourced from papaya that indicates millet protein extracts contain cysteine protease inhibitors and not a trypsin inhibitor. The result suggest that these PI may be used as potential alternative to anti-fungal agents, and merits further studies contributing to resistance breeding.

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Analysis of yield components and their association for enhancing grain yield in Iranian wheat (*Triticum aestivum* L.) landraces under saline field conditions

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Salinity stress in wheat growing areas is emerging as the threat to wheat productivity in South Western areas of Punjab. It becomes mandatory to identify novel sources of salinity stress tolerance to be used in development of stress tolerant wheat varieties. A set of 249 Iranian landraces, procured from CIMMYT, Mexico were tested for salinity stress tolerance at seedling stages under laboratory conditions. Identified landraces were evaluated for morpho-physiological traits in saline soils in farmers' fields. The present study was conducted under field conditions to investigate the response of different wheat landraces to salinity stress. These experiments were conducted during 2016-17 at two different locations *viz*., at Ratta Khera (Sri Muktsar Sahib) and at Mardanpur (Rajpura) Punjab, India, to study the performance of 27 Iranian wheat landraces along with salt tolerant wheat cultivars (Kharchia 65 and KRL 213) for their salinity tolerance. These locations had different salinity profile (i.e. Ratta Khera E.C. 1.87dS/m, pH. 7.50 and Mardanpur E.C. 1.97dS/m, pH. 8.10). Statistical analysis of the data obtained from field revealed that different locations and wheat genotypes had a significant ($p< 0.05$) effect on days to maturity, tiller number, thousand grain weight and grain yield. The studies suggests that at both salinity levels landrace accessions IWA 8613426, IWA 8600191, IWA 867803, IWA 8611326, IWA 8600179, IWA 8611759, IWA 8607803 showed components of salinity tolerance and have the potential of yield sustainability when grown under saline conditions. These identified donors can be effectively used for introgressing the salt tolerance traits into commercial wheat cultivars for development of tolerant wheat varieties.