GENOTYPE-ENVIRONMENT INTERACTION IN PEA

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Sixty plants each of 13 pea varieties were grown along with the control variety 'Bonneville' in a completely randomized block under the semi-arid climate of Kurukshetra and under the temperate climate of Kashmir (India). These genotypes were grouped in increasing order of their shoot height as related to Bonneville from the data obtained at Kurukshetra; the order 1-13 was GC-477, IP-3, GC-463, 'Lincoln', 'Conquette', 'Early December', Pusa-vipasha, GC-195, 'Wando', Kashmir-local, Boasch-selection, 'Early Giant', and 'Banarsi-sweet'. Data for seed number and grain yield per plant of these genotypes were also related to Bonneville for both the locations, viz. Kurukshetra (Fig. 1) and Kashmir (Fig. 2).

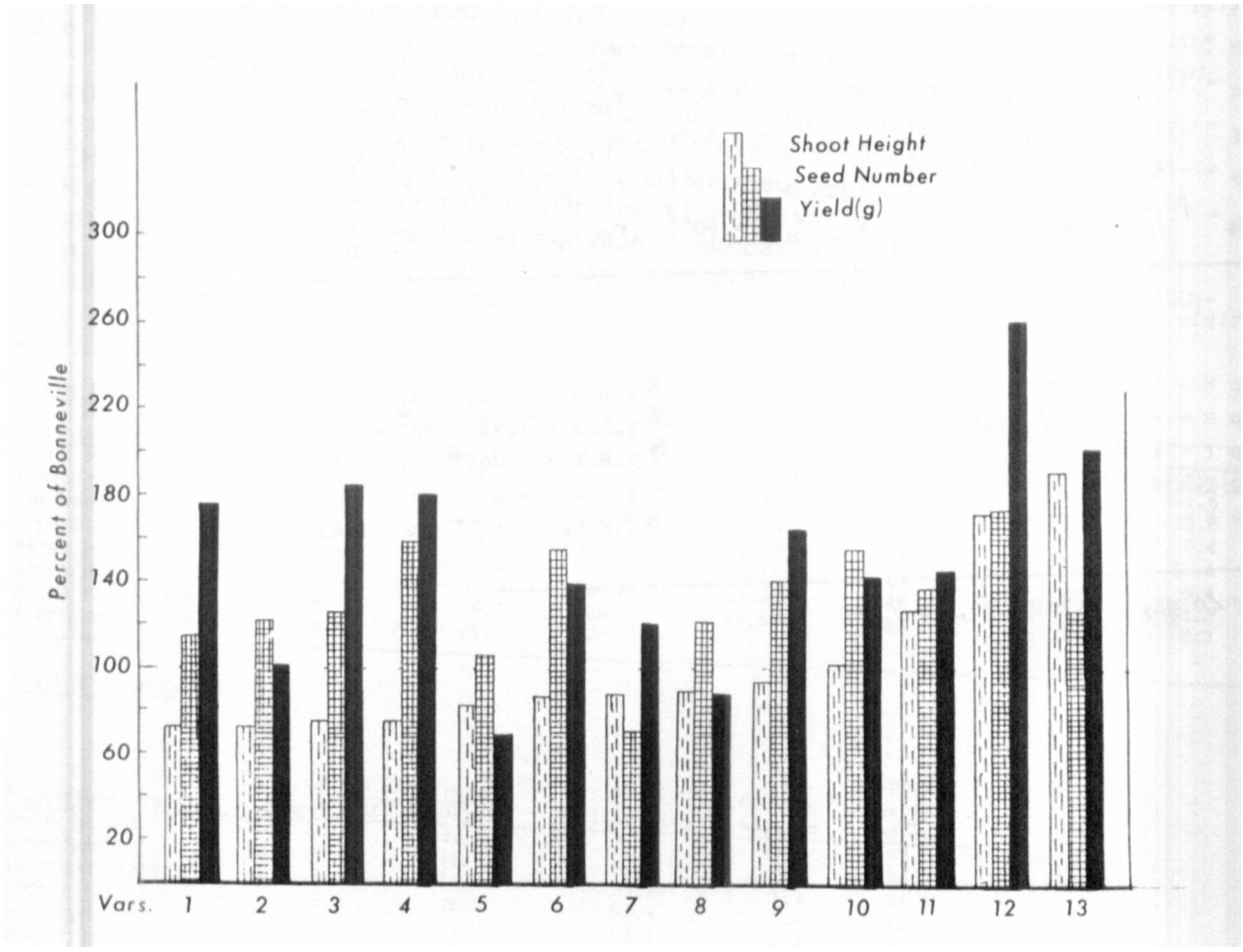

Fig. 1. Plant performance of varieties 1-13 (GC-477, IP-3, GC-468, Lincoln, Conquette, Early-December, Pusa-vipasha, GC-195, Wando, Kashmir-local, Boasch-selection, Early-Giant, and Banarsi-sweet) at Kurukshetra.

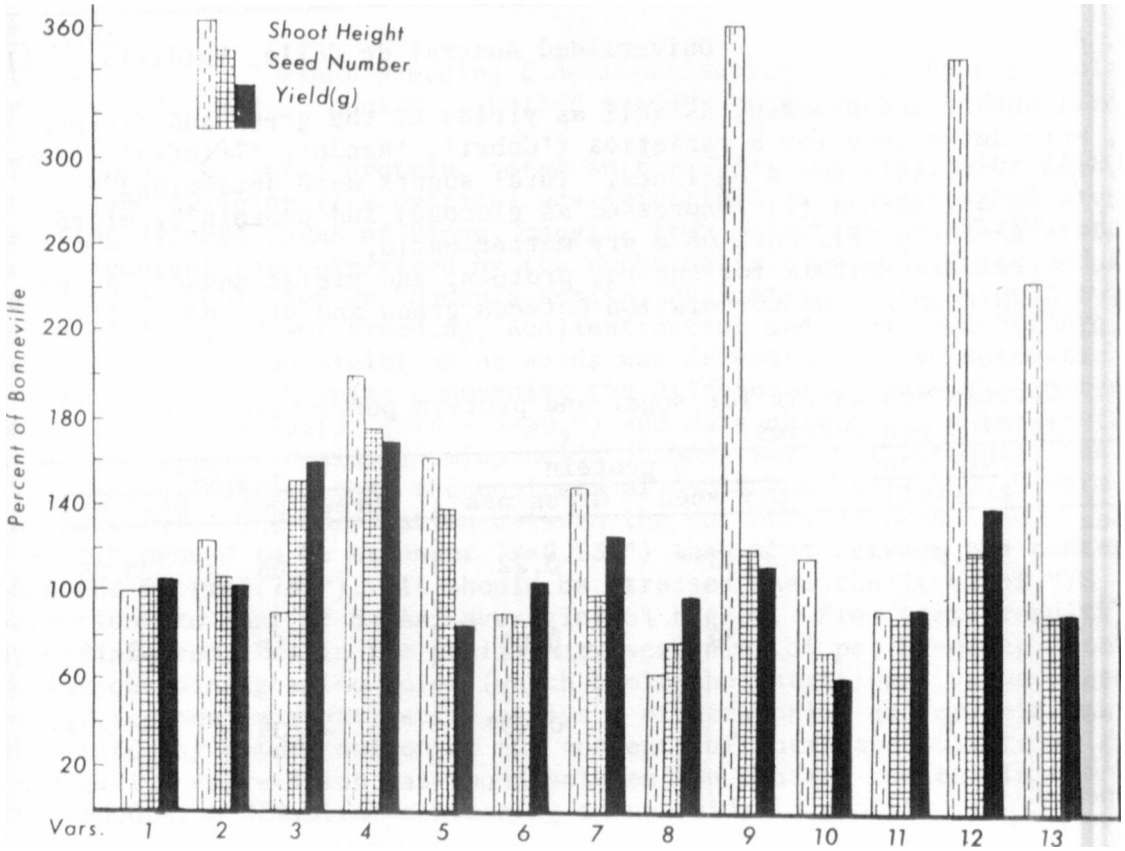

Fig. 2. Plant performance of varieties 1-13 (GC-477, IP-3, GC-468, Lincoln, Conquette, Early-December, Pusa-vipasha, GC-195, Wando, Kashmir-loca1, Boasch-selection, Early-Giant, and Banarsi-sweet) at Kashmir.

Only Early Giant and Banarsi-sweet were very tall at Kurukshetra, but at Kashmir Lincoln, Wando, Conquette, and Pusa-vipasha were also very tall. Seed number of Lincoln, Early December, Wando, Kashmir-local, Boash-selection, Early Giant, and Banarsi-sweet was significantly increased at Kurukshetra but at Kashmir only GC-468, Lincoln, and Conquette were higher than Bonneville, At Kurukshetra, tnc grain yield of Conquette and GC-195 were less than Bonneville, whuroas the othet lines were nearly the same or higher. At Kashmir, however, only GC-468, Lincoln, and Early Giant were better yielding tnan Bonneville, .lost lines exhibited differential behavior at the two sites resulting from genotype-environment interaction.