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### Evaluation of pomegranate (*Punica granatum* L) germplasm under hot semi-arid conditions of western India

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The popularity of pomegranate is increasing among growers and consumers due to its nutritional value, nutraceutical properties, export potential and adaptability to adverse soils and climate conditions. Diverse genotypes collected from various sources were planted at a spacing of 5m x 5m to evaluate and select superior pomegranate genotypes suitable for semi-arid ecosystem of western India. The germplasm block of pomegranate was laid out during August-December, 2016 and field gene repository contains 43 germplasm. The germplasm were evaluated on the basis of vegetative growth and physico-chemical characters of fruits in some of the germplasm. The maximum plant height, canopy spread and stem girth were recorded in anardana type 'E' while the minimum plant height was recorded in Gulsha Rose and canopy spread and stem girth were noted in Gulsha Red. Among anardana types GomaKhatta recorded the minimum plant height and canopy spread. However, the maximum number of stems was observed in Uthkul, KazakiAnar followed by ShirinAnar while the minimum number of stems was recorded in GomaKhatta followed by S-1. The profuse suckering genotype was found to be Khog followed by KazakiAnar and Appuli. Among evaluated germplasm, GomaKhatta recorded highest average number of fruits/plant followed by Super Bhagwa and Ruby. Physico-chemical characters were recorded in 15 genotypes, out of which the maximum fruit weight was recorded in Gulsha Rose followed by Ramnagram and Jyoti while the minimum fruit weight was recorded in anardana genotypes 'D' followed by 'A'. However, amongst anardana types, GomaKhatta recorded highest fruit weight and fruit size. The maximum fruit length and width was observed in Ruby followed by Muscat while the minimum fruit length was recorded in anardana type 'E' followed by 'D' and width in 'D' followed by 'F'. The highest juice percentage was recorded in Muscat followed by Jyoti and Ruby while the minimum juice percentage was noted in anardana genotypes 'A' followed by 'E' and 'D'. The maximum TSS, acidity and TSS:acidity were recorded in Muscat, GomaKhatta and Jyoti respectively while the minimum for these characters were recorded in Ramnagram, Mridula and GomaKhatta respectively.

