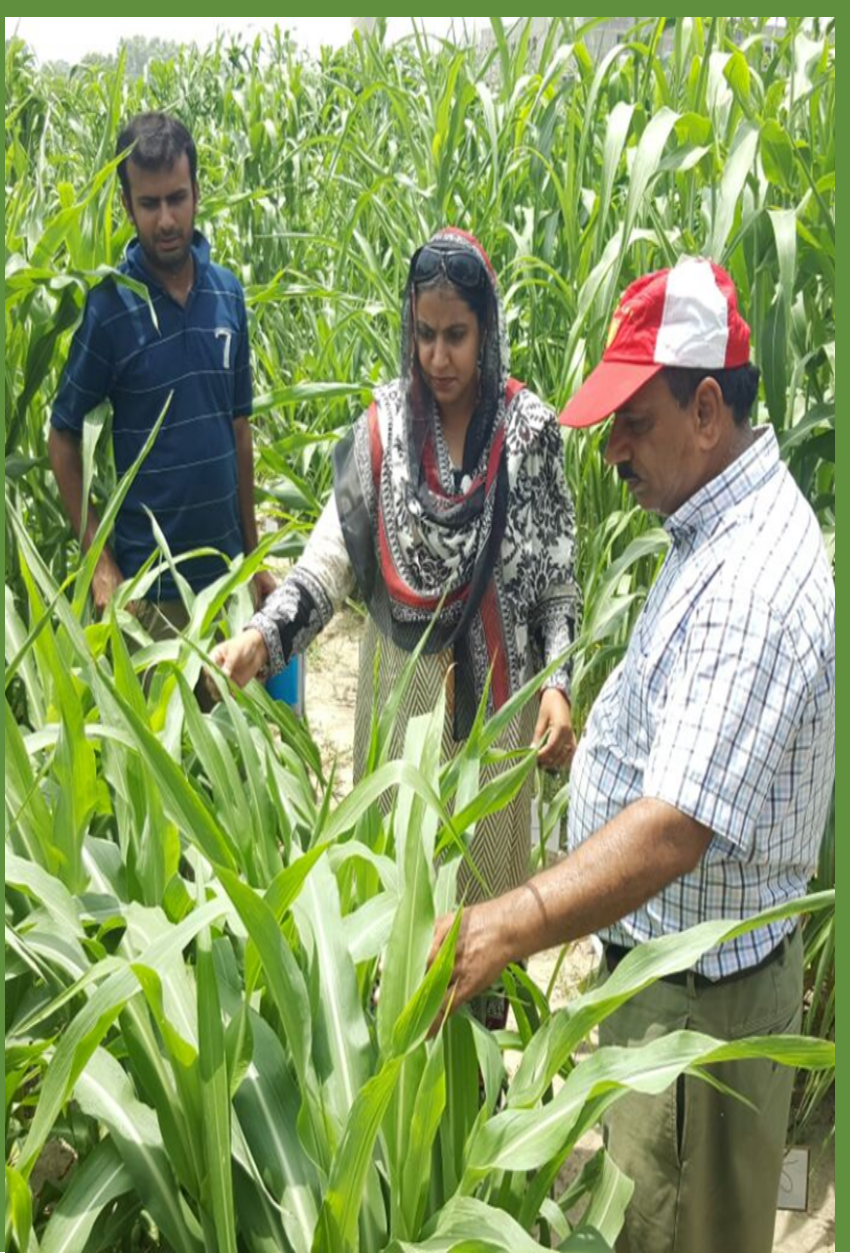
High Yielding Sorghum for Kharif Fodder



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Although Pakistan has one of the best kinds of livestock in the world. The existing livestock feeding practices are inefficient to meet the domestic requirement of milk and meat. There is inadequate supply of good quality fodder in required quantity. Shortage of green fodder during Kharif season is a serious issue. A prolonged period of high temperature along with drought stress causes extensive damage to crops or prevents their successful growth in Kharif season. There are two major crops options in kharif; maize and sorghum. Maize is consuming more water. Farmers are looking for water saving alternative of maize. Sorghum tolerates heat and drought stress in Kharif season. Sorghum (*Sorghum bicolor*) is a multiuse crop grown both for feed, food and bioenergy.

University of Agriculture Faisalabad (UAF) has developed a unique germplasm of sorghum consisting of 250 cultivars. These maintained cultivars offer significant amount of variation for various purposes; high tonnage/biomass yield, protein contents, sugar contents, lodging resistance and stay green trait. Almost all kinds of gene sources including resistance to biotic and abiotic stresses are available at UAF. Six elite lines (open pollinated) genotypes of sorghum are being made to address the issue of Kharif fodder shortage production, having high yield and better nutritional quality. These elite varieties have very thick and juicy stem, broader leaves with no sharp margins and are free of pubescence. These elite lines have been evaluated in Preliminary yield trials (PYT) and two seasons of Advanced Yield Trials (AYT) (Table 1). In Pakistan, so far, varieties of fodder sorghum are registered and approved only for high fodder yield and no single variety is registered for better quality.

UAF plant breeders have concentrated efforts on nutritional characters, which are directly related to palatability with higher sugar content than available sorghums. The sweet sorghums are less liable to cause HCN poisoning. They can also be used for silage or hay.

Table 1. Yield potential of sorghum elite lines of UAF

Sr. No.	Elite Lines / Cultivars	Yield (T/ha)
1	UAF-PBG-1	70 tonnes
2	UAF-PBG-2	75 tonnes
3	UAF-PBG-3	65 tonnes
4	UAF-PBG-4	85 tonnes
5	UAF-PBG-5	85 tonnes
6	UAF-PBG-6	90 tonnes

Figure: UAF-PBG 6, a very tall (15') variety with high biomass in Fodder Research Area at UAF.

Figure: Variation in Sorghum at University of Agriculture, Faisalabad.

Figure: Six high tonnage yielding varieties developed by UAF plant breeders.