

Abstract

Sorghum (*Sorghum bicolor* L. Moench) is one of the important cereal crops utilized worldwide for human food, animal feed and to a lesser extent as a raw material in commercial food industries. The crop is a strategic commodity for food security, particularly in harsh environments. In Kenya, sorghum is an important crop consumed in some parts of the country as a staple food. It is also a major source of income to small-scale farmers who are its major growers. In the past, its cultivation was concentrated in the medium and low altitude areas of Kenya. However, with the increase in improved varieties, sorghum cultivation has spread to the cold semi-arid highlands. Sorghum production in Bomet District of Kenya is low. Agronomic, socio-economic and varietal constraints usually affect the production of sorghum. In this study, it was assumed that use of low quality seed was among the factors leading to the low productivity of sorghum in Bomet District. Therefore, a survey was carried out in Bomet District of Kenya with the objective of identifying the constraints to on-farm sorghum seed production. A total of 100 farmers were interviewed using structured questionnaires. The survey focused on a wide range of seed management issues. From the descriptive analysis it was concluded that sorghum grain yield obtained by farmers in the previous season were low as compared to the documented research sorghum yield potential. The major constraints to on-farm sorghum seed production included poor seed source; lack of socio-economic resources; poor crop husbandry; poor post-harvest handling of seed; damage by weeds, pests and diseases; and lack of marketing incentives. Regression analysis showed that only sorghum farm size (as partitioned by farmers) significantly ($P \leq 0.05$) affected sorghum grain yield in the district. Therefore, there is need to have high yielding varieties which will compensate for the ever diminishing farm sizes and land sub-division. In addition, there is need to assess the quality of sorghum seeds planted by farmers to determine the effect of such seeds on sorghum production. There is also need to improve the farmers' agronomic practices on sorghum production especially in relation to fertilizer application. An economic analysis to find out the profitability of purchasing inputs in sorghum production is required. An investigation on pests and diseases affecting sorghum production is also needed. Finally, extension services should be given to farmers and the prices of farm inputs subsidized.