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Decision: Poster Presentation

Session: Poster Session 1

Improving Postrainy Sorghum Varieties to Meet the Growing Grain and Fodder Demand in India (7974)

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The grain and stover residues of postrainy sorghum play an almost equally important role in the sorghum value chain, and the premium price of stover is linked to stover quality. These postrainy sorghum production areas are constrained by water limitation and soil fertility. Eighteen sorghum elite cultivars along with stay-green introgression line in background of four farmer-preferred sorghum genotype M 35-1, Parbhani Moti (SPV1411), Phule Vasudha and CRS1 advanced by two backcrosses were selected for present study. These lines were grown in postrainy 2017-18 at BM8-B-Block of ICRISAT in 3 replications with 4 factorial treatments of water stress, planting density and nitrogen level i.e. (i) Well-watered, High Nitrogen, High Density (WW-HN-HD); (ii) Well-watered, High Nitrogen, Low Density (WW-HN-LD); (iii) Water-stress, High Nitrogen, High Density; (iv) Water-stress, Low Nitrogen, High Density. Plant samples were collected in 3 stages i.e. (1) 6th week after sowing, (2) booting and (3) final harvest. Stover quality and digestibility under different treatment assessed with Near Infrared Spectroscopy. The introgression lines of stay-green QTLs into senescent sorghum lines showed improved stover quality without trade-off in grain yield and stover yield. There were also synergistic associations found between stover productivity and stover quality. The cascading effect of treatment on grain and stover quality was clearly evident and standardization of NIR model for particularly water-stress environments can be interesting.

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