

## Pearl millet

### Variety AHB 1269Fe (MH 2185)

Pearl millet Varietal Identification Committee in its annual meet on 22<sup>nd</sup>-24<sup>th</sup> March, 2018, during the 53<sup>rd</sup> Annual Pearl Millet Workshop at ARS, Jodhpur, identified MH 2185 as “biofortified pearl millet hybrid AHB 1269Fe” for its high grain Fe combined with high grain and stover yield. MH 2185 is a cross between male-sterile line ICMA<sub>1</sub> 98222 (female parent) and restorer AUBI 1105 (male parent). The line ICMA<sub>1</sub> 98222 is based on A<sub>1</sub> source of cytoplasmic male-sterility developed at ICRISAT, Patancheru. Hybrid MH 2185 was tested in the All India Coordinated Pearl Millet Improvement Project (AICRP-PM) trials during 2015-2017 seasons at 36 locations (12 locations each in 2015, 13 locations in 2016 and 11 locations in 2017) together with 6 controls, 86M86, 86M01, MPMH 17, HHB-67 Improved, Pratap, and Dhanashakti. While the first five controls are commercially released high-yielding hybrid cultivars, Dhanashakti is an improved version of open pollinated variety (OPV) ICTP8203 with high grain Fe (71 ppm). AHB 1269Fe hybrid was jointly developed and sponsored to AICRP-PM for evaluation by National Agriculture Research Project Aurangabad, Vasant Rao Naik Marathwada Krishi Vidyapeeth, Parbhani and International Crops Research Institute for Semi-Arid Tropics (ICRISAT), Patancheru, India.

AHB 1269Fe produced an average grain yield of 3.2 t ha<sup>-1</sup> and out yielded control hybrid by 6 to 33% (2.4 to 3.5 t ha<sup>-1</sup>) and Dhanshakti by 32% (2.4 t ha<sup>-1</sup>). The dry fodder yield of AHB 1269Fe was 7.4 t ha<sup>-1</sup> as which was 7 to 32% higher than control cultivars, including hybrid and OPV controls. AHB 1269Fe recorded on average 91 mg kg<sup>-1</sup> grain Fe compared to control hybrid cultivars (Fe 53-62 mg kg<sup>-1</sup> grains) but at par with that of Dhanshakti (90 mg kg<sup>-1</sup> grain). Zn density in AHB 1269Fe was 43 mg kg<sup>-1</sup> and comparable with control cultivars. The grains contain about 12.4% protein and 5.7% fat. AHB 1269Fe is erect with an average plant height of 192 cm (189-196 cm) with two to three productive tillers per plant. The stems have green pigments at the nodes containing leaf sheath with short (43 cm) blades. It matures in about 80 days. The panicles are thick (3.4 cm), conical in shape, very compact, and possess no bristles and tip sterility. The panicle exertion is complete and

belongs to Togo type panicles with round tip. The anthers are yellow in colour. The seeds are grey and hexagonal in shape with 1000-seed weight ~11 g.

AHB 1269Fe has been recommended for cultivation during rainy season in the zone A and zone B of AICRP-PM comprising of states of Gujarat, Haryana, Punjab, NCR Delhi, Maharashtra, Telangana and Tamil Nadu. This hybrid notified by the Central Sub-Committee on Crop Standards, Notification and Release of Varieties for Agricultural Crops, No.3-7012018-SD. IV dated 19.02. 2019. IV. It is recommended for the kharif season and grows well in soils with high to medium soil fertility in well drained and leveled field with plane topography. AHB 1269Fe has downy mildew resistance at par (incidence 1.3% and 2.7% at 30 and 60 days after sowing, respectively) with controls (1.2 to 2.3% at 30 DAS and 2.3% to 4.9% at 60 DAS). Shoot fly (*Atherigona approximate*) damage at ear head stage is around 12%, similar to other controls but higher than Dhanshakti and 86M86 (<6%). AHB 1269Fe is highly responsive to fertilizers when applied by integrated approach at the critical stages of plant growth and development suggesting that optimum nutrient management is key to achieve higher productivity in this hybrid. The mean grain yield in A zone at 20-40 kg N was 1.5 t ha<sup>-1</sup>, while at 60 Kg N, it recorded grain yield of 2.5 t ha<sup>-1</sup>. The mean dry fodder yield was 3.9 t ha<sup>-1</sup> 20 Kg N, at 40 Kg N 3.9 t ha<sup>-1</sup> and at 60 Kg N 5.0 t ha<sup>-1</sup>. All these performances are largely under rainfed conditions. It is expected that farmers may prefer cultivation of this hybrid because of high nutrition in addition to higher grain and stover yields. Seed of this hybrids and male parents available with NARP-Aurangabad. Female parent seed is available at NARP-VNMKV and ICRISAT.

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