

Performance of newly released pearl millet hybrid MPMH-17 for rain-fed area in Rajasthan

I. Singh¹, M. Kumar², G. Singh³, P. Kumari⁴, S. Kumari⁵, A. Karel⁶, S.K. Singh⁷ and P.P. Rohilla⁸

Agriculture University, Jodhpur 342 304, Rajasthan

Pearl millet hybrid MPMH 17 recently released by Agriculture University, Jodhpur was introduced at 300 farmers' field in adopted villages (Manai, Binjwadia and Balarwa) of Farmers FIRST Programme (FFP) in 120 ha area during kharif 2017. Pearl millet hybrid MPMH-17 was found superior over the farmers grown varieties and gave seed yield of 20.6 q/ha under rainfed condition which was higher over local by 18.4%. Similarly, straw yield of MPMH 17 was also 20% higher over local. The straw of MPMH-17 remains green till physiological maturity and harvest, therefore the straw appear light green in color compared to local which remains brown to yellow in color. The green color straw has higher preference in market. This hybrid recorded additional net return of ₹6,500/ha over locally grown cultivar. Pearl millet hybrid MPMH-17 was found safe from bird damage at all farmers' field as it has awns on the ear head and it was also found to be completely disease- and pest-free during the crop pendency.

Key words: Arid and Semi-arid region, FFP, Pearl millet hybrid MPMH-17

PEARL millet *Pennisetum glaucum*, is the most drought-tolerant millet grown in the arid and semi-arid regions of the India. It is one of the most important sources of staple food and fodder in the predominantly rainfed areas of the Western Rajasthan. Under arid situation, introduction of HHB 67 and HHB 67 Improved was found very beneficial as these hybrids were extra short in duration and had high tolerance to disease and pest incidence. But from last few years, under the changing climatic scenario, farmers were demanding hybrids of medium duration having high yield of seed as well as straw. The pearl millet hybrid MPMH-17 developed under All India Coordinated Research Project on Pearl Millet (AICRP on Pearl Millet), Agricultural Research Station,

Mandor, Jodhpur has shown very high adaptability even in harsh climatic situations of Western Rajasthan. MPMH-17 is a dual-purpose hybrid of pearl millet providing high grain and stover yields. Another distinctive advantage of MPMH-17 is its high level of resistance to downy mildew and

blast, two most important diseases of pearl millet. The hybrid MPMH-17 matures, on an average, in 79 days and takes 48 days to flower. It is high tillering (2.7 panicles/plant) and produces very compact panicles of 22-24 cm length filled with medium sized grains (seed weight of 8.0 g/1000 grain) of globular shape and

Table 1. Seed and straw yield of pearl millet hybrid MPMH-17 and local cultivar (Average of 300 farmers)

Seed yield (kg/ha)		Percent increase	Straw yield (kg/ha)		Percent increase
Local	MPMH-17		Local	MPMH-17	
1,740	2,060	18.4	4,500	5,400	20

Table 2. Economics of pearl millet hybrid MPMH-17 grown during Kharif 2017 at farmer's field in adopted village of FFP (Average of 300 farmers)

Gross return (₹/ha)		Net return (₹/ha)		Additional net return over local (₹/ha)	B:C Ratio	
Local	MPMH-17	Local	MPMH-17		Local	MPMH-17
42,285	50,325	24,285	30,825	6,540	2.34	2.58



Fig. 1. Pearl millet hybrid MPMH-17 cultivation at farmers' field

Table 3. Economics of pearl millet hybrid MPMH-17

Cost of cultivation (₹/ha)		Av. gross return seed + straw (₹/ha)		Ave net return (profit) (₹/ha)		B: C ratio	
Demo.	Local check	Demo.	Local check	Demo.	Local check	Demo.	Local check
19,500	18,000	50,325	42,285	30,825	24,285	2.58	2.34

grey-brown colour (Fig. 1). The hybrid attains the height of approximately 180 cm and produces panicles that are, on an average, 2.6 cm thick.

Uptake, benefits and spread

Data presented in Table 1 revealed that pearl millet hybrid MPMH-17 was found superior over the farmers grown varieties and gave seed yield of 20.6 q/ha which was higher over locally grown cultivar by 18.4%. Similarly, straw yield of MPMH-17 was also higher by 20% over local. Adoption of this hybrid recorded additional net return of ₹ 6,500/ha over locally grown cultivar. It was found safe from bird damage as it has

awns on the ear head and it was also found to be completely disease and pest free during the crop pendency. The straw of MPMH-17 remains green till physiological maturity/harvest and therefore has higher preference in market.

Table 2 denotes economics of pearl millet hybrid MPMH-17. Farmers were getting average growth return of ₹ 50,325/ha along with net return of ₹ 30,825/ha under rain fed condition. It was higher over local cultivar with ₹ 42,285/ha and net return of ₹ 24,285/ha in the selected fields, as well as the B:C ratio of 2.58. It was higher over local cultivar by 2.34. Pearl Millet hybrid MPMH-17 was found safe from bird damage,

disease and pest free during the crop pendency. Farmer of nearly villages are demanding seeds of hybrid MPMH-17.

CONCLUSION

Performance of pearl millet hybrid MPMH-17 revealed that this hybrid is found superior over the farmers' grown varieties and local pearl millet and gave average seed yield of 20.6 q/ha against 17.4 q/ha of local cultivar.

¹Director (Extension Education), ²Associate Prof., ³⁻⁶SRF, ⁷Director (Research Management), ⁸Principal Scientist, ICAR-ATARI, Zone-II, Jodhpur-342005. Rajasthan. Corresponding author's e mail: deejodhpur@gmail.com

Share your experiences with
Indian Farming

Write to:

Editor

INDIAN FARMING

Directorate of Knowledge Management in Agriculture
Indian Council of Agricultural Research
Krishi Anusandhan Bhavan I,
Pusa, New Delhi 110 012