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Impact of Different Seed Priming Treatments on Seed Yield in Foxtail Millet

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ABSTRACT

The experiments were carried out both in the laboratory as well as in the field condition. Field experiments were conducted to determine the productivity of foxtail millet due to different seed priming treatments. Halo priming with KH_2PO_4 @ 2 %, $CaCl_2$ @ 2%, osmo priming with Mannitol @ 2 %, PEG @ -15 Bars, bio priming with *Pseudomonas fluorescens* (LF) @ 15, *Prosophis* leaf extract @ 10 % with seed to solution ratio of 1:1 for the soaking duration of 8 h along with unprimed, Thiram @ 2g/kg and hydro primed seeds were evaluated for its productivity during *kharif* and *rabi* seasons. The results revealed that the crop performance with regard to growth parameters, physiological parameters, yield and yield attributing parameters was outperformed in halo-priming with 2% KH_2PO_4 for 8 hrs primed seeds during *kharif* season than *rabi.*

Keywords Minor millet, Foxtail millet, Seed enhancement, Priming, Seed yield.

INTRODUCTION

One of the first crops to be domesticated, foxtail millet (Tenai) (*Setaria italica* (L.) *P. beauvois*) is a native of China. Foxtail millet produces about six million tonnes of food annually for millions of people, largely on marginal or poor soils in temperate, subtropical, and tropical Asia. It is the second-largest producer of millet in the world and continues to play a significant part in global agriculture. The main source of feed for the entire cattle population, small millet grains are commonly consumed. Small millets may seem unimportant in terms of the production of food on a worldwide scale, yet they are essential as food crops in their own agro ecosystems.

A larger yield can be achieved by using quality seeds, which are an essential input and the secret to successful agriculture. Each seed must be easily germinable and produce a typical seedling. Seed priming is a method for enhancing the quality of seeds that involves partially hydrating seeds till germination starts but prevents radicle emergence (Dawood 2018). Seed priming involves immersing seeds in low water potential solutions to stimulate pre-germinative metabolic activity while preventing radical protrusion. A better

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understanding of the metabolic events that occur in the seed during priming and subsequent germination will improve the technology's effectiveness.

Priming applications improve seed germination and seedling growth in vegetables and some field crops significantly (Ghassemi-Golezani *et al*. 2012). Priming may also cause structural and ultrastructural changes that facilitate subsequent water uptake and reduce initial differences in imbibition between seeds, resulting in more uniform germination. As a result, the study sought to assess the changes that occur in primed seeds. With the foregoing in mind, studies were conducted in Foxtail millet cv Co 6. The objective of this study is to investigates the effect of different seed priming treatments on seed yield in foxtail millet.

MATERIALS AND METHODS

Genetically pure seeds of Foxtail millet (Tenai) cv CO 6 (*Setaria italica* Beauv) were procured from the Center of Excellence in Millets, TNAU, Athiyandal. Field experiments were conducted at Kosalai village, Thiruvanamalai district (located at 12.2312° N latitude, 79.0672° E longitude) and laboratory experiments were conducted at Seed Science and Technology Laboratory, Department of Genetics and Plant Breeding, Faculty of Agriculture, Annamalai University, Annamalai Nagar, Chidambaram, Tamil Nadu, India (located at 11° N latitude and 79° E longitude).

Effect of various seed priming treatments on field performance and seed yield in foxtail millet

The foxtail millet cv Co 6 seeds were imposed with the following treatments along with control, Thiram and Hydro priming.

T_0 - Unprimed (Control)
T_1 - Thiram @ 2 g/kg^{-1}
T_2 - Soaking in water for 8 h
T_3 - $CaCl_2$ @ 2% for 8 h
T_4 - KH_2PO_4@2% for 8 h
T_5 - *Prosophis* leaf extract @ 10 % for 8 h
T_6 - *Pseudomonas fluorescens* (LF) @ 15 % for 8 h
T_7 - Mannitol @ 2% for 8 h
T_8 - PEG @ -15Bar for 8 h

After 8 hrs of priming, those seeds were taken out and shade dried. Treated seeds were evaluated for yield attributes in the field over two seasons i.e., *kharif* and *rabi*. As a control, unprimed seeds have been used. FRBD design was used with plot size of 4 ×3 m and a spacing of 45 ×10 cm. Panse and Sukhatme (1985), procedure were used to statistically analyze the data from several experiments.

RESULTS AND DISCUSSION

Effect of various seed priming treatments on seed yield in foxtail millet

Seed priming is a pre-sowing strategy for influencing seedling development by modulating pre-germination metabolic activity prior to radicle emergence, which improves germination rate and plant performance in general. As a result, a study was designed to assess the effect of different seed priming treatments on seed yield in foxtail millet. Fresh seeds of Foxtail millet cv CO 6 were treated with various seed priming treatments i.e., halo priming with KH_2PO_4 @ 2 %, $CaCl_2$ @ 2%, osmo priming with Mannitol @ 2 %, PEG @ -15 Bars, bio priming with *Pseudomonas fluorescens* (LF) @ 15 and *Prosophis* leaf extract @ 10 % with seed to solution ratio of 1:1 for the soaking duration of 8 h. Then treated seeds were dried adequately and evaluated for their production potential in field condition *kharif* and *rabi* seasons and resultant seed qualities in laboratory along with unprimed, Thiram @ 2g/kg and hydro primed seeds.

The growth, gas exchange, and yield parameters were evaluated in the field. It was discovered that seeds primed with 2% KH_2PO_4 for 8 hrs had higher values for biometrical traits such as field emergence percentage, plant height at 45 DAS and 90 DAS, and chlorophyll content at 45 DAS and 90 DAS, which were 93%, 90.85 cm, 131.95 cm, 1.170 mg and 1.113 mg for foxtail millet respectively with the above-mentioned characters followed by the 15 % *Pseudomonas fluorescens* (LF) for 8 h (Table 1). In contrast, the control had the lowest growth parameters. Interaction effects between season and treatment exhibited significant influence towards growth traits on the field. The *kharif* season, 2% KH_2PO_4 for 8 h

Table 1. Effect of various seed priming treatments on field emergence (%), plant height (cm) and chlorophyll content (mg g^{-1} of fresh leaf) in foxtail millet cv Co 6.

Treatment	Field emergence (Arc sine)			Plant height (cm) 45 DAS			Plant height (cm) 90 DAS		
	S_1	S_2	Interaction	S_1	S_2	Interaction	S_1	S_2	Interaction
T_0	85 (67.32)	82 (64.97)	84 (66.15)	74.8	66.2	70.50	120.3	111.3	115.80
T_1	90 (71.71)	88 (69.84)	89 (70.77)	85.3	72.3	78.80	126.5	117.6	122.05
T_2	88 (69.90)	87 (69.01)	88 (69.46)	84.2	70.1	77.15	125.3	115.6	120.45
T_3	88 (69.95)	88 (69.95)	88 (69.95)	79.6	80.1	79.85	122.8	119.4	121.10
T_4	94 (76.18)	92 (73.79)	93 (74.98)	95.4	86.3	90.85	134.3	129.6	131.95
T_5	90 (72.0)	85 (67.41)	88 (69.70)	89.1	77.6	83.35	129.1	120.2	124.65
T_6	92 (73.93)	89 (70.83)	91 (72.38)	91.1	81.6	86.35	130.2	124.3	127.25
T_7	91 (72.83)	85 (67.32)	88 (70.08)	88.6	75.6	82.10	127.3	121.0	124.15
T_8	86 (68.19)	84 (66.55)	85 (67.37)	80.1	77.3	78.70	120.9	122.3	121.60
Mean	**89.33 (71.33)**	**86.67 (68.85)**	**88 (70.09)**	**85.36**	**76.34**	**80.85**	**126.30**	**120.14**	**123.22**
Level of significance	SEd		CD (p=0.05)	SEd		CD (p=0.05)	SEd		CD (p=0.05)
S	1.157 (1.028)		2.352 (2.090	1.069		2.174	1.624		3.302
T	2.454 (2.180)		4.990 (4.434)	2.268		4.612	3.445		7.004
S ×T	3.471 (3.084)		7.056 (6.270)	3.208		6.522	4.872		9.905

Table 1. Continued.

Treatment	Chlorophyll content (mg g^{-1} of fresh leaf) 45 DAS			Chlorophyll content (mg g^{-1} of fresh leaf) 90 DAS		
	S_1	S_2	Interaction	S_1	S_2	Interaction
T_0	0.881	0.831	0.856	0.889	0.843	0.866
T_1	0.958	0.911	0.935	0.911	0.933	0.922
T_2	0.924	0.859	0.892	0.953	0.907	0.930
T_3	0.893	0.884	0.889	1.073	0.887	0.980
T_4	1.281	1.059	1.170	1.168	1.057	1.113
T_5	0.951	0.853	0.902	1.011	0.912	0.962
T_6	1.118	0.971	1.045	1.112	0.977	1.045
T_7	0.906	0.872	0.890	0.923	0.941	0.932
T_8	0.983	0.946	0.965	0.978	0.951	0.965
Mean	**0.988**	**0.910**	**0.949**	**1.002**	**0.934**	**0.968**
Level of significance	SEd		CD (p=0.05)	SEd		CD (p=0.05)
S	0.012		0.025	0.013		0.026
T	0.026		0.053	0.027		0.055
S×T	0.037		0.075	0.038		0.078

primed seeds recorded highest biometric traits for foxtail millet. But the lowest percentage was recorded with *rabi* season control seeds. Among the season, the *kharif* season (S_1) recorded higher biometric traits for all the treatments than *rabi* (S_2) in foxtail millet. Micronutrients in the seeds, which typically work as co-factors in enzyme systems and take part in redox reactions in addition to serving a variety of other crucial seed responsibilities, were thought to be responsible for the KH_2PO_4 priming. They take part in crucial physiological processes, which is what matters most. KH_2PO_4 has been previously reported to be involved in the regulation of a variety of plant growth and developmental processes, with a focus on stem elongation. The findings agreed with those of (Sathish *et al*. 2011) in maize hybrid and (Chauhan *et al.* 2016) in sorghum, whom reported a beneficial effect of nutrients in improving germination.

The 2 % KH_2PO_4 treatment for 8-hour primed seeds (T_4) resulted in shorter days to first flower and shorter days to 50 % flowering. This T_4 treatment resulted in early days to first and 50 % flowering of 44.3 and 49.1 days in foxtail millet respectively, followed by a 15% *Pseudomonas fluorescens* (LF) treatment for 8 hrs (Table 2). In contrast, late flowering was observed in the control. Among the seasons, the *kharif* season was earlier in terms of days to first flower and 50 % flowering than the *rabi* season. Among the interactions, the *kharif* season, 2 % KH_2PO_4 for 8-h primed seeds recorded the earliest days to first flower and 50% flowering for foxtail millet studied. Priming increases the activities of isocitrate lyase and malate synthase, enzyme activities, and this increase in glyoxysome enzyme activities has been linked to improved emergence and flowering responses in primed seeds (Aboutalebian and Nazari 2017).

Similar results were predicted by the physiological parameters i.e., net assimilation rate (NAR) and leaf area. The NAR and leaf area are good measures of physiological gain that results in plant growth, indicating the rate at which dry matter accumulates in plants. These NAR and leaf area were higher in the *kharif* season than in the *rabi* season. The 2% KH_2PO_4 for 8 h primed seeds had the highest NAR and leaf area among the treatments, followed by the 15% *Pseudomonas fluorescens* (LF) for 8 h. In case of foxtail millet, the above T_4 recorded, higher NAR at 30-60 days, NAR at 60-95 days and leaf area, it was 0.44 mg cm^{-2} day^{-1}, 0.39 mg cm^{-2} day^{-1} and 782.22 cm respectively (Table 2). But control recorded 0.22 mg cm^{-2} day^{-1}, 0.18 mg cm^{-2} day^{-1} and 696.77 cm in respectively with above mentioned characters. Among the interactions, the *kharif* season, 2% KH_2PO_4 for 8-h primed seeds resulted in higher NAR and leaf area

Table 2. Effect of various seed priming treatments on physiological parameters in Foxtail millet cv Co 6.

Treatment	Days to first flowering			Days to 50% flowering			Net assimilation rate (mg cm^{-2} day^{-1}) 30-60 DAS		
	S_1	S_2	Interaction	S_1	S_2	Interaction	S_1	S_2	Interaction
T_0	48.2	54.2	51.2	53.7	56.2	55.0	0.24	0.20	0.22
T_1	45.1	50.3	47.7	51.6	52.1	51.9	0.37	0.30	0.34
T_2	47.1	51.7	49.4	49.9	55.6	52.8	0.27	0.22	0.25
T_3	47.8	53.8	50.8	52.7	55.1	53.9	0.31	0.29	0.30
T_4	41.4	47.2	44.3	48.1	50.1	49.1	0.48	0.40	0.44
T_5	45.8	53.2	49.5	50.7	52.2	51.5	0.38	0.32	0.35
T_6	43.3	49.6	46.5	49.6	51.4	50.5	0.44	0.34	0.39
T_7	44.6	52.6	48.6	53.1	54.5	53.8	0.29	0.26	0.28
T_8	46.2	51.2	48.7	50.2	53.6	51.9	0.40	0.31	0.36
Mean	**45.50**	**51.53**	**48.52**	**51.07**	**53.42**	**52.24**	**0.353**	**0.293**	**0.323**
Level of significance	SEd		CD (p=0.05)	SEd		CD (p=0.05)	SEd		CD (p=0.05)
S	0.646		1.314	0.690		1.404	0.004		0.009
T	1.371		2.787	1.464		2.977	0.009		0.019
S × T	1.938		3.941	2.071		4.211	0.013		0.026

Table 2. Continued.

Treatment	Net assimilation rate (mg cm^{-2} day^{-1}) 60-95 DAS			Leaf area (cm^2)		
	S_1	S_2	Interaction	S_1	S_2	Interaction
T_0	0.20	0.15	0.18	711.42	682.12	696.77
T_1	0.28	0.27	0.28	737.64	711.72	724.68
T_2	0.24	0.26	0.25	760.12	730.12	745.12
T_3	0.30	0.20	0.25	740.11	707.74	723.93
T_4	0.41	0.36	0.39	791.32	773.11	782.22
T_5	0.35	0.19	0.27	743.12	740.11	741.62
T_6	0.37	0.33	0.35	776.21	747.11	761.66
T_7	0.27	0.25	0.26	729.23	698.72	713.98
T_8	0.33	0.29	0.31	753.11	721.46	737.29
Mean	**0.306**	**0.256**	**0.281**	**749.14**	**723.58**	**736.36**
Level of significance	SEd		CD (p=0.05)	SEd		CD (p=0.05)
S	0.004		0.008	9.703		19.729
T	0.008		0.016	20.584		41.851
S × T	0.011		0.023	29.110		59.186

for the foxtail millet studied. The findings agreed with (Sathish *et al.* 2011) in maize hybrid. This rise might be explained by the fact that one of the key factors affecting plant growth is the availability of phosphorus (P) in KH_2PO_4. The rate of photosynthesis in maize is negatively impacted by a shortage of P, according to finding reported by (Carstensen *et al*. 2018). This resulted in enzymatic changes in the seed, which resulted in increased shoot biomass and assimilation rate. These findings are consistent with this reported by (Gnanasekaran and Padmavathi 2013) in cotton. The gas exchange parameter such as photosynthetic rate, transpiration, intercellular CO_2 concentration, and stomatal conductance are all higher in *kharif* than in *rabi* seasons. In terms of the above-mentioned characteristics, the above T_4 treatment performed 20, 25, and 60% better than the control in foxtail millet (Table 3). Among the interactions, the *kharif* season, 2% KH_2PO_4 for 8-h primed seeds resulted in higher photosynthetic rate, transpiration rate, and

Table 3. Effect of various seed priming treatments on gas exchange parameters in Foxtail millet cv Co 6.

Treatment	Photosynthetic rate Pn - (mg CO_2 m^{-1}S^{-1})			Transpiration rate Tr - (mg H_2O CO_2 m^{-1}S^{-1})			Stomatal conductance CS - (mol/mol^{-1}S^{-1})		
	S_1	S_2	Interaction	S_1	S_2	Interaction	S_1	S_2	Interaction
T_0	38.13	36.92	37.53	11.23	10.12	10.68	0.61	0.52	0.57
T_1	42.51	39.51	41.01	12.53	11.56	12.05	0.75	0.65	0.70
T_2	39.53	38.32	38.93	12.41	12.03	12.22	0.68	0.57	0.63
T_3	40.11	37.71	38.91	12.12	10.71	11.42	0.80	0.55	0.68
T_4	46.11	43.76	44.94	13.97	12.69	13.33	0.97	0.84	0.91
T_5	40.61	37.12	38.87	11.72	10.52	11.12	0.71	0.59	0.65
T_6	44.12	40.75	42.44	13.14	12.12	12.63	0.84	0.71	0.78
T_7	42.12	39.11	40.62	11.63	11.13	11.38	0.65	0.60	0.63
T_8	43.23	40.12	41.68	12.91	11.76	12.34	0.74	0.68	0.71
Mean	**41.83**	**39.26**	**40.543**	**12.407**	**11.404**	**11.906**	**0.750**	**0.634**	**0.692**
Level of significance	SEd		CD (p=0.05)	SEd		CD (p=0.05)	SEd		CD (p=0.05)
S	0.531		1.079	0.156		0.316	0.009		0.018
T	1.126		2.289	0.330		0.671	0.019		0.039
S × T	1.592		3.237	0.467		0.949	0.027		0.055

stomatal conductance. The findings agreed with those of (Sathish *et al.* 2011) in maize hybrid. Increased germination due to KH_2PO_4 priming could be due to ion absorption by seeds. Furthermore, potassium salts have been shown to increase ambient oxygen levels by making less oxygen available for the citric acid cycle (Shakuntala *et al.* 2020) and to influence plant development by modulating pre-germination metabolic activity prior to radicle emergence, as well as to improve germination rate and plant photosynthetic performance in general.

The *kharif* season had higher yielding attributed characters in the current study than the *rabi* season. The 2% KH_2PO_4 for 8-h primed seeds had higher values for yield attributing characters such as panicle weight plant^{-1}, panicle to seed recovery percent, seed yield plant^{-1}, seed yield plot^{-1}, and thousand seed weight when compared to other treatments and non-primed seeds. This T_4 treatment recorded 26.97 g, 56.63%, 15.40 g, 2740 g, and 3.130 g, whereas the control recorded 22.94 g, 48.62 %, 11.72 g, 2195 g and 2.885 g respectively (Table 4). In terms of yield-attributing characters, the 15% *Pseudomonas fluorescens* (LF) for 8 h priming treatment was the second best of foxtail millet studied. The findings

Table 4. Effect of various seed priming treatments on yield parameters in Foxtail millet cv Co 6.

Treatment	Panicle weight /Plant (g)			Panicle to seed recovery (%)			Seed yield/Plant (g)		
	S_1	S_2	Interaction	S_1	S_2	Interaction	S_1	S_2	Interaction
T_0	24.71	21.17	22.94	52.43	44.80	48.62	12.45	10.98	11.72
T_1	27.23	22.75	24.99	55.13	50.66	52.90	13.63	11.83	12.73
T_2	25.35	21.53	23.44	54.78	46.12	50.45	13.41	11.76	12.59
T_3	24.91	22.64	23.78	52.91	46.83	49.87	14.77	12.41	13.59
T_4	29.16	24.77	26.97	59.57	53.69	56.63	16.93	13.87	15.40
T_5	25.78	22.51	24.15	53.78	45.61	49.70	13.12	11.31	12.22
T_6	28.07	23.12	25.60	57.17	51.29	54.23	15.91	12.81	14.36
T_7	26.11	21.93	24.02	55.63	49.98	52.81	14.12	12.11	13.12
T_8	26.81	23.07	24.94	56.12	47.73	51.93	12.75	11.23	11.99
Mean	**26.46**	**22.61**	**24.53**	**55.28**	**48.52**	**51.90**	**14.12**	**12.03**	**13.08**
Level of significance	SEd		CD (p=0.05)	SEd		CD (p=0.05)	SEd		CD (p=0.05)
S	0.323		0.656	0.680		1.383	0.171		0.348
T	0.685		1.392	1.443		2.933	0.363		0.737
S × T	0.968		1.969	2.040		4.148	0.513		1.043

Table 4. Continued.

Treatment	Seed yield / Plot (g)			1000 seed weight (g)		
	S_1	S_2	Interaction	S_1	S_2	Interaction
T_0	2378	2012	2195	3.04	2.73	2.885
T_1	2541	2311	2426	3.09	2.88	2.985
T_2	2493	2232	2363	3.07	2.83	2.950
T_3	2612	2412	2512	3.10	2.91	3.005
T_4	2883	2597	2740	3.21	3.05	3.130
T_5	2457	2178	2318	3.07	2.79	2.930
T_6	2741	2433	2587	3.16	2.94	3.050
T_7	2553	2369	2461	3.10	2.90	3.000
T_8	2412	2176	2294	3.05	2.77	2.910
Mean	**2563**	**2302**	**2433**	**3.099**	**2.867**	**2.983**
Level of significance	SEd		CD (p=0.05)	SEd		CD (p=0.05)
S	31.847		64.752	0.039		0.080
T	67.559		137.360	0.083		0.169
S ×T	95.542		194.257	0.118		0.239

agreed with those of (Sathish *et al*. 2011) in maize hybrid and (Chauhan *et al.* 2016) in sorghum. The improved seed performance caused by KH_2PO_4 priming could be attributed in part to metabolic repair processes, the accumulation of germination metabolites, or osmotic adjustment during treatment. The increased grain yield could be due to priming advancing the metabolism of the seed and causing the seed protein to be synthesised, which has a direct effect on increasing seed performance and thus yield. Miraj *et al*. (2013), found similar result. The higher germination rate was closely correlated with the quick KH_2PO_4 utilization of treated seeds for the synthesis of different amino acids and amides. The biomass of the shoots and roots benefited. This was mainly because primed seeds have a faster metabolism than unprimed seeds, which speeds up imbibition. The beneficial effects of priming are associated with the repair and accumulation of nucleic acids, increased protein synthesis, and membrane repair (Arun *et al*. 2022).

In the current study, 15 % *Pseudomonas fluorescens* (LF) for an 8-hour priming treatment outperformed next only to 2 % KH_2PO_4 for an 8-hour priming treatment in terms of seed yield parameters. This could be attributed to the fact that *Pseudomonas fluorescens*, a plant growth promoting bacteria, may increase seedling emergence and growth in the field by facilitating and triggering growth hormones and nutrient uptake (Souza *et al.* 2015). An increase in growth parameters due to 15% *Pseudomonas fluorescens* (LF) for 8 hrs of priming could also be attributed to the production of plant growth regulators such as gibberellins, cytokinins and indole acetic acid, increased availability of minerals and other ions, and extensive rooting, which facilitates water and nutrient uptake (Small and Degenhardt 2018). *Pseudomonas fluorescens* is a biocontrol agent that produces plant growth regulators such as indole acetic acid (IAA), gibberellic acid, cytokinins, and ethylene. The *Pseudomonas fluorescens* is a bioagent with several beneficial roles and plant growth promotion properties. *P. fluorescens* produced auxins can influence plant growth, including root development, which improves nutrient uptake and thus increases plant growth.

Many scientists have reported *Pseudomonas* growth promoting substances such as IAA, siderophores, HCN, ammonia, exopolysaccharides, and phosphate solubilization, biocontrol potentials, ACC deaminase, antifungal activity, nitrogen fixation (Khoso *et al*. 2024). The *Pseudomonas* led to increased crop growth, yield, and phosphorus uptake in a variety of crops. The phosphorus, a key plant nutrient, is required for plant growth and development. It is involved in a variety of key plant functions, including energy metabolism, photosynthesis, respiration, nitrogen fixation, enzyme regulation, nutrient movement within the plant, and the transmission of genetic characteristics (DNA) from one generation to the next. As a result, phosphorus is essential for cell division and the development of new tissue.

The current study found that the growth and yield parameters were higher in the *kharif* season than in the *rabi* season. There was a significant difference in growth and yield characteristics due to season, which was supported by (Sumathi 2010), who revealed that yield varies with season of location due to soil fertility status and environmental factors favorable for seed growth and development (Liliane and Charles 2020). Seed yield is polygenic in nature, and it is influenced by a variety of internal and external factors throughout the crop growth period, including the reproductive phase. It is the manifestation of morphological, physiological, and biochemical aspects of growth parameters and is thought to be the result of efficient solar energy trapping and utilization. Furthermore, the *kharif* favorable environmental conditions result in a lower rate of abortive pollen due to increased photosynthetic activity. Increased translocation of solar energy from source to sink results in enhanced flower and seed formation, which has a significant effect on yield components, as reported by (Gnanasekaran and Padmavathi 2013) in cotton and (Vishwanath *et al.* 2019) in finger millet.

CONCLUSION

Thus, the effect of different seed priming treatments on seed yield in foxtail millet revealed that halo-priming with 2% KH_2PO_4 for 8 hrs primed seeds recorded the highest seed yield when compared to other treatments and controls in the studied foxtail millet.

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