*Date: 12 July 2025*

Editor-in-Chief

Madras Agricultural Journal

Subject: Submission of an Original article for possible publication in your esteemed journal

**Dear Editor,**

Herein, I am submitting an original article entitled “***Combating Heat Stress in Late Sown Wheat Through Pre-Sowing Seed Priming***”, for possible publication in your esteemed journal ‘***Madras Agricultural Journal’***.

Late sown wheat is often subjected to many abiotic stresses including lack of moisture and high temperatures. This causes less germination and poor stand establishment resulting in low growth and reduced yield of wheat that can be remedied by the seed priming method. The goal of the current study was to assess the effectiveness of various seed priming methods for boosting wheat growth and yield when sown late. Therefore, a field experiment was conducted at the Agronomy Field Laboratory, Bangladesh Agricultural University, Mymensingh during the period from November 2022 to March 2023. The experiment comprised two factors, Factor A: wheat sowing date such as (i) 30 November; (ii) 15 December; (iii) 30 December; Factor B: seed priming agent namely (i) control (no priming); (ii) hydro priming; (iii) priming with 20000 ppm CaCl2; (iv) priming with 20000 ppm KCl; (v) priming with 15000 ppm KNO3; and (vi) priming with 40000 ppm Mannitol. A high yielding popular wheat cultivar BARI Gom-33 was used as the planting material in this study. Seeds were sown on three different dates (30 November, 15 December and 30 December, respectively), so that seedlings are exposed to heat stress at different stages. The experiment was laid out in a Split-plot design with three replications where date of sowing was assigned in the main plots, and seed priming practices in the sub-plots. Results clearly indicated that sowing date, priming agent and their interaction exerted significant effect on the plant characters, yield parameters and yield of wheat cv. BARI Gom-33. It was clearly evident that grain yield of BARI Gom-33 was gradually decreased with the delay of sowing. KCl and CaCl2 were the most effective priming agents. The study discovered that BARI Gom-33's grain yield was highest (3.06 t ha-1) when sown on 30 November which was lowered by 39.87% and 64.37%, respectively, by very late and late sowing. Grain yield was significantly increased by seed priming, especially with CaCl2, by 0.66 t ha-1 when compared to the control. Moreover, when CaCl2 priming was used on November 30, the highest grain yield was obtained (3.37 t ha-1), when no priming was used on 30 December, the lowest yield (1.11 t ha-1) was obtained. Consequently, in order to reduce the effects of high temperatures, wheat should be sown by November 30th, ideally with 20,000 ppm of CaCl2.

With the submission of this manuscript, I would like to undertake that the above-mentioned manuscript has not been published elsewhere, or not under consideration for publication elsewhere; and all co-authors have seen the manuscript and agreed to its submission to the ‘***Madras Agricultural Journal’***.

I hope you find our manuscript suitable for publication and look forward to hear from you.

Yours sincerely,

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