

Regular Article

Effect of Chitosan on Okra (*Abelmoschus esculentus* (L.) Moench) Seed Germination

Sandhya Jaybhay^{1*}, Asha Chate² and Avinash B. Ade³

¹Department of Botany, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad- 431 004 (MS), India; ²Department of Chemistry, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad- 431 004 (MS), India; ³Department of Botany, University of Pune, Pune -411 007 (MS), India.

Abstract

Present paper deals with the effect of chitosan at different concentration on seed germination of okra. It was revealed that chitosan at 0.03%, 0.12%, 0.3% and 0.6% concentration induced seed germination in okra while at 0.03% there was maximum seed germination percentage as compare to other treatments.

Keywords: Okra, *Abelmoschus esculentus*.

Introduction

Okra (*Abelmoschus esculentus* (L.) moench), it is known as lady's finger. Okra improves the overall health of digestive system; it will help in eliminating toxins, and assist in the effectiveness of probiotics. Which are also known as good bacteria promote good health in the intestines. In China chitosan is comparatively cheap and present in rich quantity (Ya-jing Guan et al. 2009). Reddy et al. (1999) reported that chitosan treatment improved seed quality traits in wheat seeds. Chitosan treatment causes activation of seed germination energy, percentage of germination, lipase action and plant hormones content in peanut (Zhou et al 2002). Shao et al. (2005) found that chitosan improve seed physiology in maize seeds. In the present study the attempts have been made to study the effect of chitosan concentration on seed germination of okra.

Material and Methods

Okra seeds of var. Arka Anamika were collected from local market of Aurangabad (M.S). chitosan solution of 0.03%, 0.12%, 0.15%, 0.3% and 0.6% were used for seed germination testing four replicates of 50 seeds were placed on 3layer blotter wetted with 15ml chitosan solution in a 12cm diameter Petri-dish On day 12th results were observed.

Results

It is clear from table 1 that at all tested concentration except 0.15% percentage of germination in okra seeds was maximum as compare to control. It was also reported that at 0.03% seed germination was more as compare to other concentration. It was surprisingly found that at 0.15 % there was decrease in seed germination percentage.

Guan et al. reported that Chitosan solution at 0.25%, 0.50% and 0.75% concentration significantly induce the seed germination in maize. It can be concluded that chitosan induce seed germination in okra and it may be seed used as seed germination stimulator.

Table1. Effect of chitosan on seed germination of okra.

Chitosan Concentration	Seed germination percentage
0.03%	92%
0.12%	89%
0.15%	65%
0.3%	80%
0.6%	83%
0	76%

Acknowledgement

Senior author is grateful to Mr. Hemant Khandal, V.Kumar and Sons, Aurangabad (M.S.), India for cooperation. Authors are also thanks to Professor and Head Deptt. of Botany, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, India for providing facilities.

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