Indian Streams Research Journal
ISSN 2230-7850
Impact Factor : 3.1560(UIF)
Volume-5 | Issue-2 | March-2015
Available online at www.lbp.world

# EFFECTS OF ON SEED GERMINATION, SEEDING GROWTH & PATTERN OF ELEUSINECORACANA (G) : AN OVERVIEW

**Dr. Dharmshila Gupta**
Assistant Professor , Dept. Of Botany ,
N.J. M. College, Laheriasarai, Darbhanga.

**ABSTRACT**

Eleusine coracana, is an annual herbaceous plant broadly grown as a cereal crop within the arid and semiarid areas in Africa and Asia. It's miles usually known as kodo in Nepal in which 877 accessions had been maintained by means of national plant genetic aid centre, khumaltar, Nepal. it's far a tetraploid and self-pollinating species probably developed from its wild relative eleusine africana.

In brief, finger millet is a staple food for a vast majority of people in North Bihar and other parts of the country. Hence, in this review paper, efforts have been made to review its current status in India especially in Bihar

## INTRODUCTION

EleusineCoracana G. is commonly known as Maruwa (Finger Millet) is an annual cereal crop widely grown in arid and semiarid areas of Africa and Asia (Rangan&Casil, 1984), especially (in India) along the Koshi belt of North Bihar and some parts of Gangetic regions. Besides this, it is also reported a sunshine crop from states like Karnataka, Andhra Pradesh and Maharashtra. This millet possesses high nutritious value having all the nutrients, therefore, it is very useful to persons suffering from malnutrition, diabetics and it is also a good food to infant babies in the form of fried malted powder..

Finger millet (Ragi) is a hardiest crop known for its resilience & ability to provide assured harvest even under environmentally fragile habitats viz., Saline (Kaliappan et.al. 1967) and alkaline (Rachie and Peters, 1982) and also considered as a potential crop for problematic soil.

### Effects of Phytohormones on seed germination, seeding growth & pattern-

Among growth regulators (Phytohormones) auxins and cytokinins are widely used in laboratories. Different concentrations of four auxins are prepared namely 2, 4-D, IAA, IBA & NAA are selected and each auxins are diluted up to 5ppm strength. Entire experiment is divided into two set: -

(A) Presoaked
(B) Post pray. In each petridish, fifty seeds are implanted. All sets are put under diffused light at 30° C inside seed germinator chamber. Following results have been observed: -

1. Healthy seeds of both variety PR404 and Rau 502 are chosen and dipped under 5 ppm of auxins (2, 4-D, IAA, IBA & NAA) for 3 hours.
2. Each petridish is implanted fifty seeds and put under 30° C for 72 hours inside seed germinator chamber.
3. Emergence of radicle and plumule are counted with an interval of 24 hours.
4. Length of radicle and plumule are also recorded adopting graph paper technique.
5. In all set of experiment control maintained and provided only distilled water.
6. Those paradises which are not presoaked seeds are provided phytohormones of same concentration externally.

**DISCUSSION**

On the basis data which are recorded such as: in control only 70% seeds showing germination, presoaked seeds did not exhibit much and in all four auxins used IBA and NAA showed normal seed germination, even though 2, 4-D and NAA did not exhibit protrusion of plumule. Effects of IBA either presoaked conditions of Foliar spray did show different results. In presoaked conditions, emergence of radical is visualized within 48 hours of implantation, external application of IBA at 100 ppm concentration gave rise healthy growth of seedlings.

Use of cytokinine is also experimented in same concentration as did in case of auxins, both in presoaked and foliar spray condition. In presoaked condition, emergence of radical become restricted, only Plumule reassume with fast growth is observed.

After emergence of radical and plumule i.e. after 48 hours of implantation, each petridish, having implanted seeds are provided 5ml, each auxins with an interval of 48 hours for 7 days. Before implantation, seeds are presoaked with sterilized distilled water, for 24 hours. Filter paper is also dipped into same distilled water. The stunted radical showed coiling in nature. In another set, 5 ppm BAP is also provided to each petridish after 48 hours, seedlings growth is straight and radicle becomes fibrous. The fibrous nature of radicle is good sign because during transplantation, it can hold the soils.

**REFERENCE: -**

1. Sastri, B.N. (Ed.) 1952: The Wealth of India. A dictionary of Indian raw material and industrial products. Vol. 3 Publication and information directorate, CSIR, New Delhi.
2. Mehra, K. L. (1963): Differentiation of the cultivated and wild Eleusine species, Phyton (Buenos Aires) 20: 189-198.
3. Haydu Z and Vasil: 1. K (1981): Somantic embryogenesis and plant regeneration from leaf tissue and anthers of pannisetum purpureum (schum).
4. Hong, Xuzhi-hong, Da-Yuam and Zhi-hing Wei (1984): Somatic embryogenesis and plant regeneration in cultured immature inflorescences of Seatria italic. Plant cell report 3: 149-150.
5. Kumar Binod (2002): Morphogeniz and Biochemical Studies on Eleusinecoracana (G) Ph. D. Thesis, faculty in sciences, L.N.M. University, Darbhanga.