

# Impact of Cyanobacterial Filtrate on Seed Germination Behaviour of Wheat

**Anuj Kumar<sup>1</sup>, Rajinder Kaur<sup>2</sup>**

<sup>1</sup> M.Tech. Department of Biotechnology Thapar University Patiala Punjab 147004

<sup>2</sup> Ph.D. Department of Biotechnology Thapar University Patiala Punjab 147004

<sup>1</sup> malikanuj143@gmail.com

<sup>2</sup> rkaurphd@gmail.com

---

## ABSTRACT

Cyanobacteria are a varied group of prokaryotes. These microorganisms are spread worldwide and improve the growth and development of the plants, with which they share the habitat, because they contribute to soil fertility in many ecosystems by many means, produce various biologically active substances. All four selected cyanobacterial species were identified as *Anabaena variabilis*, *Nostoc muscorum*, *Aulosira fertilissima* and *Tolypothrix tenuis*, were analyze for production of IAA, Phosphate solubilization, HCN production and effect of their filtrate on seed germination behavior of wheat late species var. DBW 550. The experiment conducted at STEP, Department of Biotechnology, Thapar University Patiala, Punjab. We investigated the effect of cyanobacterial filtrate used alone or in combination on seed germination behavior of wheat. The seed treated with cyanobacterial filtrate geminated earlier than non-treated seed. The proportion of seeds that germinated, and values of the Germination Velocity Index (GVI), Vigor Index (VI) and the seedling were higher in the seed treated with cyanobacterial filtrate compared to the control treatment.

**Keywords:** Prokaryotes, IAA, Phosphate solubilization, Biological active substances, Habitat.