

Smart Seed Coating Technology

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Smart Seed Coating Technology Latest News

Recently, the Indian Council of Agricultural Research's Indian Institute of Oilseeds Research (ICAR-IIOR), Hyderabad, has developed Smart Seed Coating Technology.

About Smart Seed Coating Technology

- It is an innovative **biopolymer-based technology**.
- It is developed by the **ICAR-Indian Institute of Oilseeds Research (ICAR-IIOR)**, Hyderabad

Key Features of Smart Seed Coating Technology

- **Multifunctional Layer:** It uses biodegradable biopolymers to form a **multifunctional protective layer around seeds**.
- **Delivery Platform:** This coating acts as a delivery platform for beneficial **microorganisms, nutrients, micronutrients, crop protection agents, and crop-protection agents directly at the seed-soil interface**, improving germination rates and early plant growth,

- **Microenvironment:** It creates a favourable microenvironment that **promotes faster germination, stronger** seedling growth, better root development, and **enhanced tolerance to both biotic and abiotic stresses** during the crucial crop establishment phase.
- The coating can be tailored for a broad range of crops, **including cereals, millets, pulses, vegetables, and horticultural produce**, and is particularly suited to rainfed farming,

Significance of Smart Seed Coating Technology

- The technology is **particularly relevant for rainfed agriculture**, which accounts for a major share of India's cultivated area and is highly vulnerable to climatic uncertainties.
- It **aligns closely** with national priorities on **sustainable agriculture, climate resilience, improved seed systems**, and enhanced resource-use efficiency.

Source: DD News

Source: <https://vajiramandravi.com/current-affairs/smart-seed-coating-technology/>

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