



## Seeds of Hope, Growth and Prosperity for the Amrit Kaal

In India, where agriculture serves as the backbone of the economy, the seed industry plays an irrefutable role in ensuring food and nutritional security for the 1.4 Billion. With continued emphasis on breeding, research and seed improvement programs since Green Revolution in both the public and private seed sectors, Indian seed industry gained international recognition. Government of India has taken several proactive measures to foster the industry's development and think tanks like NITI Aayog strongly reinforce the need for enhanced synergy between public and private sectors particularly, for R&D. Several initiatives have been implemented to facilitate access to high-quality seeds at affordable prices, empowering farmers with the essential inputs for maximizing agricultural productivity. These efforts have resulted in remarkable growth, aligning the industry with the evolving needs of farmers.

The socio-economic impacts of the seed sector extend beyond agricultural boundaries, generating employment opportunities, fostering entrepreneurship, and contributing to overall economic prosperity, sustainable practices, climate resilience. Use of quality seeds has proven to be a game-changer, boosting crop yields by an astounding 20-30%, leading to higher incomes for farmers and contributing to poverty reduction.

The industry's growth, in the past 2 decades, has been driven by innovations in biotechnology, genomics, and precision agriculture, addressing challenges such as drought tolerance, pest & disease resistance, and improved nutrition content etc. However, widespread awareness about these innovations remains limited, leading to unfounded fears and negative perceptions. Bridging this knowledge gap is crucial to dispel myths and ensure science-based and unbiased policymaking.

Hence, targeted outreach and communication efforts by the seed industry are to be stepped up to engage stakeholders across the food value chain, including farmers, researchers, policymakers, and

the public. By highlighting the transformative potential of innovative technologies, the industry can foster enthusiasm and drive their widespread adoption, ultimately propelling Indian agriculture forward.

To maximize its impact, the seed industry needs to be supported with science-based policies, predictable regulatory frameworks, sustained investments in R&D, and harmonization with global best practices. These ingredients create an enabling environment for innovation and pave the way for a sustainable agricultural research ecosystem. With cutting-edge technologies and strategic collaborations, the seed sector becomes a vital catalyst for progress and prosperity.

In the Amrit Kaal, India's seed industry is all set to seize the opportunity to drive positive socio-economic transformation. By embracing science, fostering innovation, and communicating its socio-economic benefits, the sector can lay the foundation for sustainable food production and rural development. With a steadfast commitment to shaping science-based policies and proactive outreach, the seed industry strives to navigate the path towards a prosperous future for Indian agriculture.



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#### **News from India and Around the World**

**Agri Min issues draft guidelines for registration of bio stimulants**

<https://www.veetrack.com/showarticles.aspx?UName=496465616C6D65646961&id=323439303031>

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The agriculture ministry has come out with draft guidelines specifying efficacy data and trial reports required for registration of various categories of bio stimulants under Schedule VI of the FCO Amendment order 2021. It is mandatory for a person who wants to manufacture or import any bio stimulant to list such bio stimulant under Schedule VI of the Fertilizer (inorganic, organic or mixed) Control Amendment Order 2021, also called the FCO Amendment order.

### **Study Suggests Wheat Crops Threatened by Unprecedented Heat and Drought**

<https://now.tufts.edu/2023/06/02/new-research-suggests-wheat-crops-may-be-threatened-unprecedented-heat-and-drought>

A study conducted at the Friedman School of Nutrition Science and Policy at Tufts University has found that the likelihood of extreme temperatures affecting crop yields has increased significantly in wheat-producing regions of the United States and China. The study also predicts that heat waves that happened approximately once every hundred years in 1981 are now likely to happen once every six years in the Midwestern U.S. and once every 16 years in Northeastern China. The study also indicates that the U.S. and China have been lucky in recent years as they have had fairly low temperatures, ending up with cooler weather than they could have had. However, climate change has changed these numbers, as the highest number is bigger than it used to be.

### **Biologicals won't replace chemical crop inputs anytime soon. Here's why**

[https://agfundernews.com/biologicals-wont-replace-chemical-crop-inputs-anytime-soon-heres-why?utm\\_source=substack&utm\\_medium=email](https://agfundernews.com/biologicals-wont-replace-chemical-crop-inputs-anytime-soon-heres-why?utm_source=substack&utm_medium=email)

In the first link, Synthetics, Biologicals, Systems Agronomy, and Weak Link Problems, I get into numerous areas of systems agronomy and the need for synthetics, but I wanted to share an excerpt from my article here that was inspired by Jennifer Marston's great AgFunder News article linked in the heading.

### **Regenerative Agriculture Doesn't Have to be Contentious: A Follow Up**

[https://upstreamaginsights.substack.com/p/regenerative-agriculture-doesnt-have-d68?utm\\_source=substack&utm\\_medium=email](https://upstreamaginsights.substack.com/p/regenerative-agriculture-doesnt-have-d68?utm_source=substack&utm_medium=email)

Regenerative ag isn't a "thing". It's an umbrella term or an outcome term (outcome of implementing the practices as a system regenerates the soil) for the integrated use of principles that are made up of farming practices that help improve soil health, limit environmental impact, deliver better yields to farmers and increase grain or fruiting quality. The practices deliver these outcomes by increasing

water use efficiency, nutrient use efficiency, increasing soil microbial activity, decreasing reliance on added fertilizer, and more.

### **Hunger Levels Reach Record High, 735 Million People Struggling**

<https://www.isaaa.org/kc/cropbiotechupdate/article/default.asp?ID=20303>

Around 735 million people are struggling with hunger, according to the latest report on the *State of Food Security and Nutrition in the World* (SOFI) released by five agencies of the United Nations.

Compared with the 2019 data, the count has increased by over 122 million, which is attributed to the COVID-19 pandemic, as well as repeated weather shocks and conflicts. The specialized agencies that compiled the report include the Food and Agriculture Organization of the United Nations (FAO), the International Fund for Agricultural Development (IFAD), the United Nations Children's Fund (UNICEF), the World Health Organization (WHO), and the World Food Programme (WFP). They said that if the hunger trends continue to be the same in the next few years, the Sustainable Development Goal of zero hunger by 2030 will not be achieved.

### **Africa's Major Crop: How Climate-Smart Agriculture is Enabling Farmers to Reap Record-High Cassava Yields Using Nuclear Science and Technology**

<https://www.iaea.org/newscenter/news/africas-major-crop-how-climate-smart-agriculture-is-enabling-farmers-to-reap-record-high-cassava-yields-using-nuclear-science-and-technology>

By applying improved nutrient, water and soil management practices, farmers in several African countries were able to double and even triple the yields of cassava, Africa's most produced cash crop and an important part of the local cuisine.

## **Research News**

### **Tracing the chickpea: How trade and migration shaped this popular legume's genetics**

With its nutty flavor and dense nutrient profile, the humble chickpea has captivated palates and nourished civilizations for millennia. From its ancient origins to its widespread use in modern kitchens and restaurants around the world, this legume demonstrates both culinary versatility and cultural significance.

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