

Association

of India

COTTON STATISTICS & NEWS

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From Boom to Block: Why India's Biostimulants Crackdown Could Backfire on Cotton

C.D. Mayee, Ph.D. and AvH fellow Dr. Pranjib K. Chakrabarty (ARS, from Germany is former Director of SNAAS) served as the member (Plant Sciences) ICAR-CICR and retired as Chairman ASRB, DARE Ministry of Agriculture from

ICAR-Agricultural Scientists Recruitment Board, New Delhi. Currently he is engaged in technology transfer program of Agrovision Foundation, Nagpur. Mayee considers his aim of improving the cotton farmers well- being, asa social call and



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retire for this purpose even at the age of 80. He has organized series of demos on pest management, nutrient management, HDPS and such technologies in the last 10 years as he believes in seeing is believing.

Productivity crisis of cotton in India is deepening, with yields plunging from 567 kg lint/ha in 2013 to a dismal 441 kg in 2024. India currently ranking 40th globally despite widespread Bt hybrid adoption is a major setback for a country like India, once known for its cotton quality and quantity. Under the clarion call of the government under Prime Minister Modi's leadership, Cotton Mission was announced where one of the most promising, yet sidelined tools appeared to be the biostimulants technology. Scientifically validated to



Dr. P. K. Chakrabarty he was selected in the Former Member, ASRB and ICAR HQ as ADG (Plant ADG (PP&B) ICAR Protection & Biosafety) in

2019- April 2022. After his selection in ARS, he worked as Scientist (Plant Pathology), Principal Scientist (Biotechnology), Head (Division of Crop Improvement) serving ICAR-CICR, in Nagpur for 26 years. In Oct 2013 he was selected in the ICAR HQ as ADG (Plant Protection & Biosafety) in the Krishi Bhavan, New

Delhi, where he worked for six years in that position. During this time, he served ICAR as ADG (Commercial Crops), ADG (Oilseeds & Pulses), PC AICRP (Nematodes); PC AICRP (Honeybees and Pollinators) for a period ranging from 1-2 years.

enhance root architecture, stress resilience, nutrient uptake, and yield stability, biostimulants offer a powerful solution to climate-induced and edaphic challenges that conventional inputs fail to address. Yet, the government's decision of restricting the sale and manufacture of biostimulants resulted in a crackdown on spurious products, simultaneously penalizing legitimate players and impeding field-level progress. Rather than discontinuing a nascent but vital technology, India must pivot to science-based regulatory framework that targets unethical

players without stifling breakthroughs. Being the global pioneer in formulating the biostimulants guidelines, India must now lead by example — not by silencing innovation, but by nurturing it responsibly.

Cotton being one of the major cash crops since the colonial era has been a major driving force for the Indian economy. India's productivity is dwindling since attaining highest yield of 567 kg lint/ha in 2013 to a dismal level of 441 kg lint/ha in 2024 despite having more than 95% of the acreage under the Bt hybrids. Similarly, once known for regular export of more than 5 million bales, it is a matter of concern that we are importing more than 3 million bales in the current season. India now ranks 40th globally among the various cotton growing countries in terms of productivity. Under the visionary leadership of Hon'ble PM, Shri Narender Modi, a five-year Cotton Mission was announced in the Union Budget 2025 with an objective to increase cotton productivity especially extra-long staple varieties. However, in the ensuing era of climate change many economically important commercial crops have become vulnerable to the menace of biotic and abiotic stresses. Cotton experiences major damage due to biotic stresses such as pink bollworm, cotton leaf curl virus, sucking pests viz., thrips, whiteflies, jassids etc. The economic damage caused by abiotic stress are appalling and are quite often misconstrued. A drastic yield reduction of more than 50% can be expected due to climate change-induced stresses. This challenge is further exacerbated by edaphic stresses, such as nutrient deficiencies and salinity significantly hindering overall crop production.

To realize the vision of Hon'ble PM we need to embrace innovative, out of the box solutions and not entirely rely upon the conventional methods. One of such technologies Biostimulants which are known to be promising tools for enhancing growth, resilience against abiotic stress, and overall crop performance. These naturally derived substances modulate plant physiology, promote nutrient uptake, and enhance stress tolerance, leading to improved yield and quality under challenging environmental conditions. While farming under challenging conditions, biostimulants is a compelling case for science-based development which may lead to identification of novel molecules and phenomenon, pathways and processes that would not have been discovered, if the category of biostimulants did not exist and legitimized by Govt of India.

There are numerous research papers which substantiate the efficacy of Biostimulants not only in cotton but in various annual, biennial, and perennial crops. Studies have revealed that biostimulants are capable of alleviating drought stress by enhancing the shoot and root length which further assists in higher uptake and absorption of water in addition to not only major but also minor and micronutrients. Furthermore, the use of biostimulants results in increased leaf area index and total biomass accumulation in cotton contributing to higher photosynthetic capacity and nutrient assimilation. In Northern India, cotton suffers greatly due to salinity nevertheless there are several biostimulants which can induce salinity tolerance when applied through foliar application. Numerous scientific reports and research papers exist which indicates that the tolerance to salinity in plants is instrumented through greater root development, higher water retention, and regulation of osmotic balance. All such phenotypes have been possible to be manoeuvred through the use of biostimulants. In addition to these, modulation of ion uptake, enhanced antioxidant activity, and regulation of gene expression also contributes to salinity tolerance in cotton. All these activities lead to enhanced nutrient uptake and utilization by the plants significantly compensating the need for excessive fertilizer inputs. Biostimulants have shown significant results in stimulating plant defence mechanisms, providing tolerance against various fungal, bacterial, and viral diseases. Studies are underway to understand the mechanisms through which biostimulants induce the innate immunity of the plants against pest and diseases.

Despite the above-mentioned advantages there are certain challenges inherent to mainstreaming of the biostimulants in agriculture. If mitigated, these products can increase the efficiency of the plants for enhanced crop production and productivity under challenging conditions.

1. **Dual Use Substances:** The Insecticide schedule contains biomolecules and chemicals which constitute the important components of biostimulants, the latter being governed under the FCO, 1985.

Until the upper limits of such products for their specific functions are determined, biostimulants may have provisions to contain dual-use substances.

- 2. Label claim requirement of biostimulants: It is impractical and expensive to develop crop-specific efficacy data for each biostimulants. On the principles of crop grouping for pesticides, the approaches may also be developed for label expansion of biostimulants.
- 3. Exorbitant cost of toxicological studies: Since the components like plant extracts are of biological origin without having pesticidal values, the tox study for every botanical adds immense cost to manufacture and registration and are thus, unwarranted.

Despite having sufficient scientific evidence in the favour of this revolutionary technology, the authorities have decided to abruptly halt the sale and manufacture of biostimulants. This decision has been taken to curb the menace caused by the widespread sale of fake and spurious biologicals in the market perpetrated by unethical players. While it becomes the onerous responsibility of the scientists and policymakers to mainstream the use of biostimulants not only by bringing robust regulations but also by implementing the same with transparency and in right spirits. The fake products and their manufacturers should be apprehended and seriously dealt with as per the rule of the law so that the perpetrators of crime hesitate to indulge in felonious practices. Discontinuation of biostimulants for use in agriculture due to faulty implementation of regulatory guidelines is not a solution to promotion of an otherwise potential technology. Rather it would amount to failure on the part of the administration to derive full potential of this technology for the benefit of the farmers under challenging conditions. India being pioneer in formulating the guidelines of biostimulants in the world needs to ponder upon its decision to make sure that it doesn't nip a blooming technology in its bud stage.

(The views expressed in this column are of the authors and not that of Cotton Association of India)



COTTON ASSOCIATION OF INDIA

is organizing a 3-Day training course on

'COTTON - QUALITY ASSESSMENT & MARKETING IN PRESENT SCENARIO'

under its FARMER TRAINING INITIATIVE

Date and Time:

17th- 19th September 2025 (Wednesday to Friday) 10.00 a.m. to 5.00 p.m.

Venue

Cotton Association of India, Cotton Exchange Building, 2nd Floor, Conference Room, Cotton Green (E), Mumbai 400 033

Course Fees per delegate:

INR 8500/- + GST @ 18% Course will include the cost of course material, lunch & high tea

Course Coordinator: Sanket Shingote - 8691068976 CAI is aiming at giving an opportunity to all stakeholders of the cotton and textile value chain for acquiring knowledge about Cotton Quality assessment.

Since you are an important stakeholder in the cotton value chain, we earnestly request you to take advantage of this CAI Training Course by enrolling you and/or other members/employees of your group companies.

In order to provide personalized attention to the delegates during Training, we propose to enroll maximum 50 trainee only for this Training Course on first cum first serve basis.

To register download the Registration Form available on our website: **www.caionline.in**

Kindly return back the registration form duly filled in with the requisite payment by a cheque payable at par in Mumbai favouring 'Cotton Association of India' or by Bank transfer as per the details given below:

Title : Cotton Association of India Name of Bank : Union Bank of India

Address : Cotton Green (East)
Account Type : Savings Account
Account No. : 31650 2010 993943
IFSC Code : UBIN0531651

In case of payment by Bank transfer, kindly provide us the UTR Number also.



Distribution of Pheromone Traps & Lures Free of Charge to Farmers on 21st August 2025

CAI has undertaken a mission to assist cotton farmers in early detection of Pink Bollworm infestation in their fields and distributing free of cost pheromone traps and lures to them for the last four years. This initiative is being undertaken under the CAI farmers training programme.

Today, 20,000 pheromone traps and lures have been distributed to 4,000 cotton farmers in Gangapur Taluka of Chhatrapati Sambhaji Nagar, MAHARASHTRA.















Glimpses of Shrawan Maas Puja at Shree Bhid Bhanjan Mahadev Temple





















Basis Comparison of ICS 105 with ICE Futures – 25th August 2025

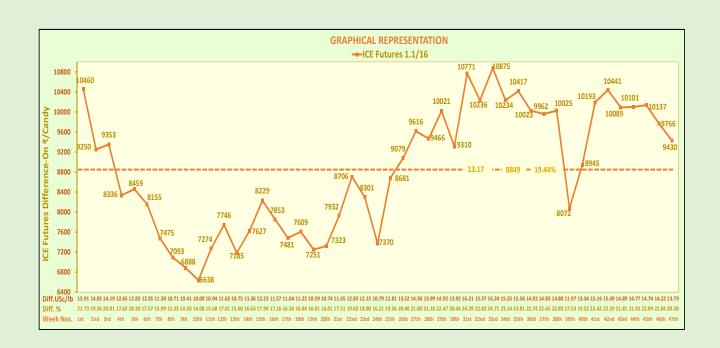
SEASON 2024-2025

Comparison M/M(P) ICS-105, Grade Fine, Staple 29mm, Mic. 3.7-4.9, Trash 3.5%, Str./GPT 28 with ICE Futures

CAI Price for Aug Compared with ICE December Settlement Futures

Date	CAI	Conversion Rate	CAI	ICE Settlement Futures 1.1/16"	Difference-ON/OFF ICI						
	(₹/Candy)	(US\$ = ₹)	(USc/Ib.)	Front Mth. Dec.'25 (USc/lb.)	USc/lb.	₹/Candy	%				
Α	В	С	D	E	F	G	Н				
Cotton Year Week No-47 th											
18 th Aug	56300	87.35	82.21	67.81	14.40	9861	21.24				
19 th Aug	56000	86.96	82.14	67.56	14.58	9940	21.58				
20 th Aug	55700	87.07	81.60	67.60	14.00	9557	20.71				
21 st Aug	55300	87.27	80.82	67.42	13.40	9168	19.88				
22 nd Aug	55300	87.53	80.58	68.01	12.57	8626	18.48				
Weekly Avg.	55720	87.24	81.47	67.68	13.79	9430	20.38				
Total Avg. From 1st Oct 2024	54460	85.71	81.06	67.90	13.17	8849	19.44				

Note:- Weeks taken as per Cotton Year (October To September).

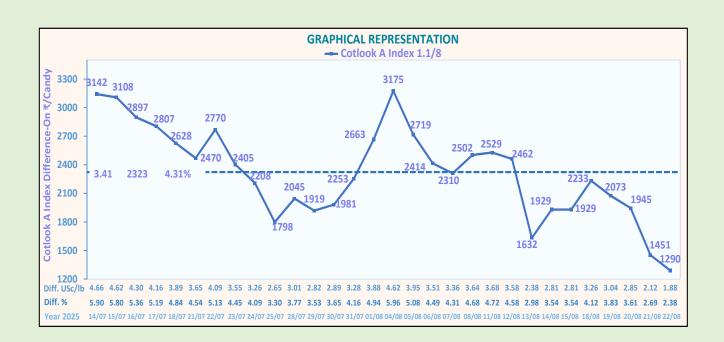


Basis Comparison of ICS 105 with Cotlook A Index – 25th August 2025

Comparison I	M/M(P) ICS-10	5, Grade Fine	ASON 2024-202 e, Staple 29mn n Cotlook A Inc	n, Mic. 3.7-4.9,	Гrash 3.5%,	Str./GPT 2	28
	CAI (₹ /Candy)	Conversion Rate (US\$ = ₹)		Cotlook A Index M-1.1/8" C & F FE Ports	Difference-0	ook A Index	
Date			*CAI (USc/Ib.)		USc/lb.	₹/Candy	%
A B		С	D	E	F	G	Н
		Cotto	on Year Week No-	-47 th			
18 th Aug 2025	56300	87.35	82.41	79.15	3.26	2233	4.12
19 th Aug 2025	56000	86.96	82.34	79.30	3.04	2073	3.83
20 th Aug 2025	55700	87.07	81.80	78.95	2.85	1945	3.61
21 st Aug 2025	55300	87.27	81.02	78.90	2.12	1451	2.69
22 nd Aug 2025	55300	87.53	80.78	78.90	1.88	1290	2.38
Weekly Avg.	55720	87.24	81.67	79.04	2.63	1798	3.33
Total Average From 14th July 2025 on Daily Basis	56193	87.02	82.57	79.16	3.41	2323	4.31

Note:- Weeks taken as per Cotton Year (October To September).

^{*}Converted to C & F FE Ports by adding 20c/lb. to CAI spot rates.



					UPCOU	NTRY SP	OT RAT	ES				(R	s./Q
Sta	andard Descript on Upp	tions with er Half M					based	Sp	ot Rate		ntry) 202 st 2025	24-25 Cr	op
. No	o. Growth	Grade Standard		Ŭ	Micronaire	Gravimetric Trash	Strength /GPT	18th	19th	20th	21st	22nd	23r
1	P/H/R	ICS-101	Fine	Below 22mm	5.0 - 7.0	4%	15	13835 (49200)	13835 (49200)	13835 (49200)	13835 (49200)	13751 (48900)	
2	GUJ	ICS-102	Fine	22mm	4.0 - 6.0	13%	20	10995 (39100)	10939 (38900)	10939 (38900)	10911 (38800)	10826 (38500)	
3	M/M (P)	ICS-104	Fine	23mm	4.5 - 7.0	4%	22	13498 (48000)	13441 (47800)	13357 (47500)	13301 (47300)	13244 (47100)	Н
4	P/H/R (U)	ICS-202 (SG)	Fine	27mm	3.5 - 4.9	4.5%	26	15382 (54700)	15382 (54700)	15297 (54400)	15269 (54300)	15213 (54100)	
5	P/H/R(U)	ICS-105	Fine	27mm	3.5 - 4.9	4%	26	15578 (55400)	15578 (55400)	15494 (55100)	15466 (55000)	15410 (54800)	
5	M/M(P)/ SA/TL/GUJ	ICS-105	Fine	27mm	3.0 - 3.4	4%	25	13048 (46400)	12963 (46100)	12879 (45800)	12795 (45500)	12738 (45300)	
7	M/M(P)/ SA/TL	ICS-105	Fine	27mm	3.5 - 4.9	3.5%	26	14932 (53100)	14847 (52800)	14763 (52500)	14679 (52200)	14622 (52000)	0
3	P/H/R(U)	ICS-105	Fine	28mm	3.5 - 4.9	4%	27	15944 (56700)	15944 (56700)	15860 (56400)	15832 (56300)	15775 (56100)	
9	M/M(P)	ICS-105	Fine	28mm	3.7 - 4.9	3.5%	27	15550 (55300)	15466 (55000)	15382 (54700)	15269 (54300)	15269 (54300)	
0	SA/TL/K	ICS-105	Fine	28mm	3.7 - 4.9	3.5%	27	15382 (54700)	15297 (54400)	15185 (54000)	15072 (53600)	15072 (53600)	L
11	GUJ	ICS-105	Fine	28mm	3.7 - 4.9	3%	27	15803 (56200)	15719 (55900)	15663 (55700)	15550 (55300)	15522 (55200)	
12	R(L)	ICS-105	Fine	28mm	3.7 - 4.9	3.5%	27	15860 (56400)	15860 (56400)	15803 (56200)	15663 (55700)	15522 (55200)	
13	R(L)	ICS-105	Fine	29mm	3.7 - 4.9	3.5%	28	16000 (56900)	16000 (56900)	15944 (56700)	15803 (56200)	15691 (55800)	
14	M/M(P)	ICS-105	Fine	29mm	3.7 - 4.9	3.5%	28	15832 (56300)	15747 (56000)	15663 (55700)	15550 (55300)	15550 (55300)	I
15	SA/TL/K	ICS-105	Fine	29mm	3.7 - 4.9	3%	28	15607	15522	15410	15297 (54400)	15297	
16	GUJ	ICS-105	Fine	29mm	3.7 - 4.9	3%	28	16028 (57000)	15944 (56700)	15888 (56500)	15775 (56100)	15747 (56000)	
17	M/M(P)	ICS-105	Fine	30mm	3.7 - 4.9	3%	29	16028 (57000)	15944 (56700)	15888 (56500)	15803 (56200)	15775 (56100)	D
18	SA/TL/K/O	ICS-105	Fine	30mm	3.7 - 4.9	3%	29	15691 (55800)	15607 (55500)	15550 (55300)	15466 (55000)	15438 (54900)	
19	M/M(P)	ICS-105	Fine	31mm	3.7 - 4.9	3%	30	16197 (57600)	16141 (57400)	16085 (57200)	16028 (57000)	16000 (56900)	
20	SA/TL/K/ TN/O	ICS-105	Fine	31mm	3.7 - 4.9	3%	30	16028 (57000)	15972 (56800)	15916 (56600)	15860 (56400)	15832 (56300)	
21		ICS-106	Fine	32mm	3.5 - 4.9	3%	31	N.A. (N.A.)	N.A. (N.A.)	N.A. (N.A.)	N.A. (N.A.)	N.A. (N.A.)	A
22	M/M(P)	ICS-107	Fine	34mm	2.8 - 3.7	4%	33	21259 (75600)	21259 (75600)	21259 (75600)	21259 (75600)	21259 (75600)	
23	K/TN	ICS-107	Fine	34mm	2.8 - 3.7	3.5%	34	22355 (79500)	22355 (79500)	22355 (79500)	22355 (79500)	22355 (79500)	
24	M/M(P)	ICS-107	Fine	35mm	2.8 - 3.7	4%	35	21737 (77300)	21737 (77300)	21737 (77300)	21737 (77300)	21737 (77300)	Y
25	K/TN	ICS-107	Fine	35mm	2.8 - 3.7	3.5%	35	23199 (82500)	23199 (82500)	23199 (82500)	23199 (82500)	23199 (82500)	

Note: (Figures in bracket indicate prices in Rs./Candy)