



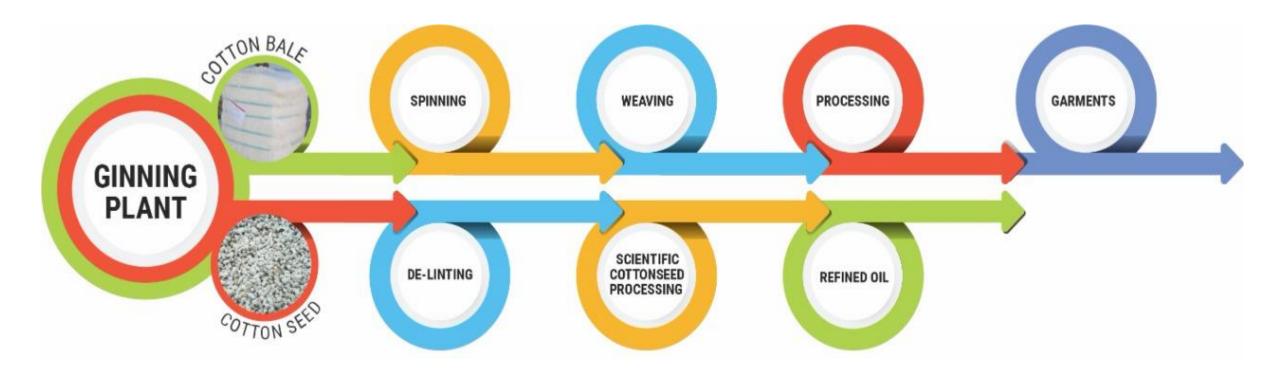
# 5th SEA – AICOSCA Cottonseed, Oil & Meal Conclave Meeting 2024-25

**Presentation By - Pravin Fating (Vice president)** 



# **Fully Integrated Chain of Cotton**







# **Production Facility Chain**



### ► PRODUCTION FACILITY CHAIN



Located in a picturesque setting in the heart of the cotton growing belt of Vidarbha (Central India), all its raw material is sourced from its own ginning plants situated in nearby areas. This raw material is further processed in a unique imported plant and machinery set up and fully equipped with top class utilities comprising of Boilers, Thermic Fluid heaters, Compressors, Water treatment plants, Roof Top Solar Plants etc.









### DELINTING

#### **PRETREATMENT**

**EXTRACTION** 

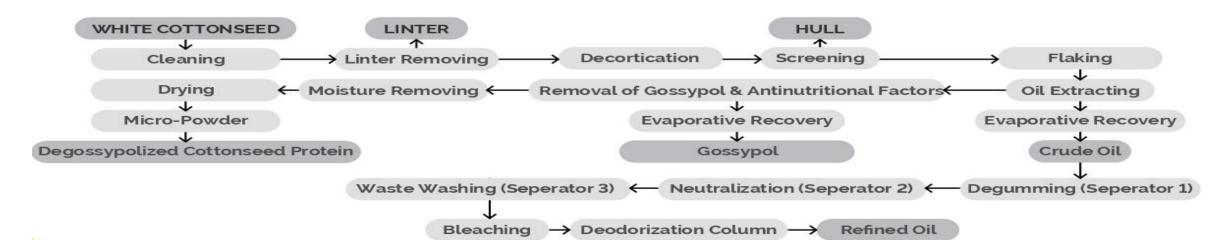
### REFINERY

Removal Of Impurities & Linters

Decortication & Cooking & Flaking.

Solvent Extraction & Gossypol Extraction

Washing, Degumming, Bleaching, Deodorisation





# The Gimatex is Now In The Full Fledge Production of



- Cotton Linters
- Cotton seed Hulls
- "Gima Gold" Hi-Pro and Degossypolised Cotton seed Meal
- Gima "White Gold" Cotton Refined Oil
- Gima "Soya Shine" Soya Refined Oil.





# **Cotton Linters**









#### **COTTON LINTERS**

After employing the Ginning process for recovery of lint from cotton seed, a certain amount of fuzz (very short fibres unsuitable for spinning) remains on the cotton seeds. This fuzz is known as cotton linters and are removed in de-linting machines.



PARAMETER	RESULT		
Moisture	10% Max		
Ash Content	1.5%Max		
Trash Content	2% Max		
Alfa Cellulose	75-85% Max		

Production capacity: 11 MT. per day

Packaging: Bales of 165KG. Bale Cover – Cotton bags

Bale Strip- Available in PP Strap/ GI Wire/MS Strip











Grade Cotton



PAPER & PULP







Used For Manufacturing Textile Fiber.

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### **Cotton Seed HULLS**





### Cottonseed Hulls

Cottonseed hulls are the outer coverings of cotton seeds and are made up of Ligno Cellulosic material.



PARAMETER	RESULT	
Protein	5% Min	
Fiber (Crude)	40-45%	
Moisture	12% Max	
Oil Content	1-1.5% 1% Max	
Sand & Silica		
Nitrogen	6.25%	

Production Capacity: 80 tonnes/day Packaging: Available in Compact Hull Packing (20-40Kg) and Loose Bagging in HDPE PP Bags (35-40Kg)



LOOSE BAGGING DIMENSION: W SOOMM X L SHOMM X H 230MM



COMPACT HULL PACKAGING DIMENSION: W SOOMM X L 650MM X H 320MM



OIL DRILLING

#### SHILLER APPLICATION

CATTLE FEED

To Be Mixed With Regulaer Feed



MUSHROOM FARMING

Used As A Substrate



To Be Used In Mud

Used As A Raw Material

**FURFURAL PRODUCTION** 

To Be Mixed With

**DE-OILED CAKE** 

Cotton Seeds



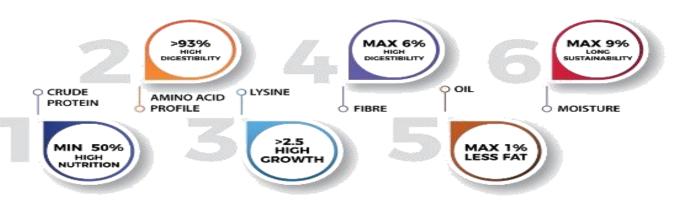
# GIMA Gold – Hi-Protein Gossypol Free Cottonseed Meal 50% & 55%



- > GIMA GOLD Cotton Seed Meal is coarse and a powdered material and is rich in protein. It is produced under hygienic conditions.
- > GIMA GOLD, our High Protein Gossypol Free cotton seed meal is designed to support the least cost feed formulation customized as per the need of various segments of market without the adverse impact of Gossypol.

# A HIGH QUALITY FEED FOR ANIMAL GROWTH

This product has been approved by Director of Poultry Research, Hyderabad by taking trial on Actual Birds (Broiler) under guidance of Dr. S.V.Ramarao, with inclusion up to 15% Cotton Seed Meal.



Free Gossypol - 30 to 40 PPM by liquid chromatography (LC) & 300 to 400 ppm by Spectrophotometer







Packing 50 KG PP BAG



### **PRODUCT COMPARISON**



		RESULTS			
					GIMA GOLD Cotton
Sr.		NormaL Cotton	SOYA DOC	GIMA GOLD Cotton DOC	DOC (55% Protein)
No	Parameter	DOC (37% protein)	(46% protein)	(51% Protein)	
			_		
1	Protein (%)	37	46%	51	55
2	Moisture (%)	10	9 Max	8	6
3	Oil (%)	7	1.5 Max	1.5 Max	1.8 Max
4	Crude Fibre (%)	12	6 Max	5 Max	4 Max
	Gossypol (%) by Liquid				
5	Chromatography	800 ppm	0	40 ppm	20 ppm
6	Sand & Silica (%)	2	1.0 Max	0.5 Max	0.5 Max
7	Lysine (%)	1.22	2.69	2.42	2.42
8	Methionine +Cystine (%)	0.5	0.98	1.49	1.49
9	Arginine (%)	2.8	2.82	5.87	5.87
10	Total Amino Acid (%)	32	40.94	49.26	49.26
	Ratio of Amino Acid in Crude				
11	Protein (%)	65	91.6	95.6	95.6

GIMA GOLD with its methionine content being 50% higher than soybean meal and its total methionine+cystine content being also 150% as soybean meal.



# GIMA GOLD – Hi-Protein (50% and 55%)







### • Very high rumen Bypass protei digestibility >50% after 48 hrs.

- •Feed mixed with SBM gives lower feed cost and much better feed quality parameters
- Increased milk yield and milk fa due to high protein & energy content
- Gossypol free meal adds to further growth & life of Cattles
- Ideal replacement for Cotton seed cake which has high Oil and low protein



# ۱qua Feed

### Very high protein > 52% & very low fibre content < 5% results in high growth feed mix

- •Granular powdered form becomes much more palatable when mixed with other materials
- Palatability of Cotton Seed meal is appreciable compared to other plant ingredients and is very rich in Arginine
- Good Amino Acid profile with high Lysine, Methoinine & Cystine ensures additional supplementation is significantly reduced
- Less Gossypol results in reduction of addition of Iron Salts which disturbs Immune balance
   supports growth of harmful microbes.



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# Presence of high Lysine >2.3% along with Methionine+Cystine >1.5% reduces the feed mixing cost Gossypol removal results in

- harmless feed mix having no toxicity effect with better survival rate
- High Digestibility results in good body weight gain and growth due to better feed conversion rate
- No Egg yolk discoloration & increase in Egg weight due to toxicity of Gossypol
- •Improved Quality, fertility & hatchability of Eggs
- Good amino acid profile results in balanced diet when mixed in right proportion with Soyabean DOC



# **Gossypol and its Effect in Feed Industry**



Gossypol is a Toxic yellow, polyphenolic compound produced by glands in the cotton. It is in free state in the whole cotton seed but forms Bound Gossypol when cooked at higher temperatures as a result of it combining with free amino acids (Lysine) thereby reducing the nutritive value of Protein and availability of essential Amino Acid.

Gossypol – Free State & Bound State (Bound Gossypol also becomes free once it consumed while digestion by non ruminants)

- Gossypol causes several Patho-physiological effects such as growth reduction, decrease in haemoglobin and reproductive performance. It causes Anorexia & weight Loss.

Signs of gossypol toxicity and its Effect in Feed Indistries.

Laboured breathing and anorexia.

Acute toxicity has been shown in the heart, lung, liver, and blood cells, resulting in increased erythrocyte fragility.

Generalised oedema and congestion of lungs and liver, fluidfilled thoracic and peritoneal cavities, and degeneration of heart fibres. Reproductive toxicity is seen particularly in males, where gossypol affects sperm motility, inhibits spermatogenesis and depresses sperm counts, disrupt oestrus cycles, pregnancy and early embryo development, particularly in the monogastric species



# **Experimental Study BY REPLACING SOYA MEAL WITH GIMA Gold 50%**





Sri Ramadhoota Poultry Research Farm, Kothur – HYDERABAD Part of

Directorate of Poultry Research, ICAR, Dr. Rajendra Prasad Road Krishi Bhavan New Delhi

Experiment Protocol				
Experiment Code	6 Gimatex 2015 S2			
Birds	Cob 400 Male bird			
Treatments	Five			
Replicates	10			
Birds/Replicate	21			
Shed	Two (PVR)			
Phases	Two			
Date of Start	28 <sup>th</sup> April, 2015			



### **Conclusion**



GIMA GOLD (Hi-Protein Cottonseed Meal) degossypolized can be included up to 15% in diets of commercial broilers without

affecting the performance.

Dr. Rama Rao

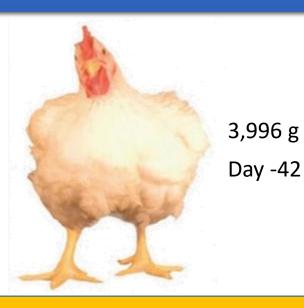
(Director of Poultry Research)



44 g Day -1



1,305 g Day -28



Addition of GIMA GOLD in the feed lot of poultry feed offers excellent prospect for heavy use of degossypolized cottonseed protein resulting in downward trend for feedstuff consumption which is beneficial to improve economic returns.





SPECIAL FEATURE





### Gimatex Industries Pvt Ltd gets

### "Best Value Added Poultry Products Manufacturer Award 2018"





Pravin Fating, Vice President, Gimatex Industries Pvt Ltd receiving Best Value Added Poultry Products Manufacturer Award 2018 from from M.R.I Magdum and G. Ramesh Babu. M.A.Nazeer is also seen.

Mr Pravin Fating, Vice President, Gimatex Industries Pvt Ltd received Best Value Added Poultry Products Manufacturer Award 2018 at PF Awards 2018 gala evening held in Hyderabad on August 9, 2018.

Gima Cotton Seed Biotechnology (Gima Biotech) is a division of Gimatex Industries, which is an integrated player in textiles right from Ginning, Spinning, Weaving to Processing. Our units are located in the cotton growing belts of India i.e. Vidarbha & Gujarat which ensures quality selection of its raw materials. The group is currently run by 6th generation of textile entrepreneur who moved from Bikaner, Rajasthan to Hinganghat, Maharashtra to setup the textile unit. A highly dynamic management, supported by a strong skilled workforce of 5000 people, our group has become a strong player in the market and a name to reckon with. Gima Biotech is a diversification into scientific cotton seed processing and refining of oil. This unit is an extension

to our Ginning unit which generates the white cotton seeds required for making the Degossypolised cotton seed meal & top quality refined cotton seed oil. Using the most innovative and unique technology, GIMA BIOTECH aims at delivering quality products made out of Cotton By-Product i.e. Cotton Seed.

Cotton has long been known as natures unique feed for animals in addition to a highly versatile fiber for clothing, home furnishings and industrial use. It is one of the most important commercial crops of India and is the single largest natural source of fibre. It plays a dominant role in its agrarian and industrial economy as the backbone of textile industry, which consumes 65% of the country's total fibre produced. Thus, cotton production plays a vital role in Indian economy, providing employment & job opportunities for more than 100 million people.

In spite of achieving the feat of being the 2nd largest producer of cotton, India still lacks behind in ensuring the prosperity of people connected to its chain. It fails to extract full value of its by-products.

GIMA BIOTECH with its superior technology and a clear focused approach, hopes to solve this problem Vision & Mission:

 It is the mission of GIMA BIOTECH to capture the full value out of the Cotton and its related products by providing the most technological advanced systems & by delivering outstanding value to all the stakeholders.



- Our aim is to manufacture best quality raw materials for cattle, poultry and aqua feed products like high protein cotton seed meal and cotton seed hulls.
- Our vision is to be recognized as leading contributor to the welfare & optimism of Cotton community.

(Contn. from page 53)



### **OUR PRIME CUSTOMERS**



### **In Poultry Industry**











### **In Aqua Culture Industry**























### **In Cattle Feed Industry**











### **TESTIMONIALS**

"Value addition in Cotton Seed was absolutely essential for Sustainability of Cotton Chain and I am happy that someone in the Heart of cotton growing belt has done so and that too producing Gossypol Free High Quality Protein which will provide good growth for animal wellness".

Shri. Sureshji Kotak

Chairman
Kotak & Co. Ltd.



GIMA GOLD (Hi-Protein Cottonseed Meal) degossypolized can be included upto 15% in diets of commercial broilers without affecting the performance.

Dr. Rama Rao

Director

Sri Ramadhoota Poultry Research Farm

Kothur

Inclusion of GIMA GOLD in our feed has helped improve the yield of milk in terms of Quality as well as Quantity

Mr. Pankaj Sarda Director

Sarda Dairy & Food Products Ltd





Certificate No.: Q-1819-0720

This is to certify that compliance of

Quality Management Systems (QMS)

O

#### GIMATEX INDUSTRIES PVT. LTD.

KH. No. 178 & 180, Mouza-Wani, Hinganghat, Wardha-442301, Maharashtra, India.

has been successfully assessed by

SYSTEM VERIFICATION SERVICES

and found to be in accordance with the

requirements of the following standard

ISO 9001:2015

for the Scope of Certification

"Manufacture and Supply of Hulls, Linters,
Cotton Bale, Cotton Seed Protein,
Cotton Seed Refined Oil,
Acid Oil & Fatty Acid"

Validity from 07-07-2021 to 06-07-2024\* Original Certification: 07-07-2018

> 1st Surveillance Due: JUL 2022 2nd Surveillance Due: JUL 2023 Re-certification Due: MAY 2024

\* Subject to timely and successful completion of Surveillance Audits as per Plan. Re-certification audit will be initiated 3 months prior to the certificate expiry date.









This certificate is the property of System Verification Services, and shall be refunded upon request by Certification Body. Lack of fulfillment of conditions as set out in the Certification Agreement may render this Certification invalid. For precise and updated information concerning in the certification object of the present certificate please contact to SVS. USA Corporate Office: 13085, Morris Rd., # 5101, Alpharetta. GA-30004, USA. To check the current validity of this certificate, visit to website: www.svsiso.com

#### Certificate No.: F-1819-0900

This is to certify that the

Food Safety Management Systems (FSMS)

of

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### WAY FORWARD FOR ICOSCA

- Gossypol Determination method to be developed and recognised.
- Cotton Refined Oil need to be promoted in Govt Institution and also to be promoted an alternate option of Soyabeen Oil.
- Such manufacturing facility to be added to recognize full value chain of cotton and increase production of Degossypolised Cotton Seed Protein.
- Focused on technology to produce 60+ protein % in Cotton Seed to get best value in Shrimp Feed. Which can be alternate substitute of Fish Meal at some extent and can give economic product to Feed Industry.

# Thanks



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