

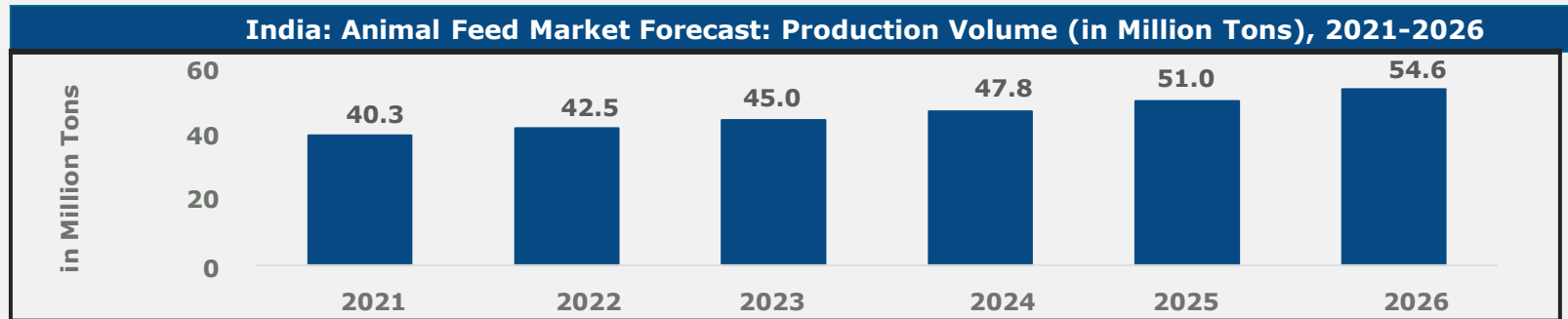


Improvement in DDGS Quality and Marketing as Animal Feed





Present Demand Analysis of Distillers Dried Grains with Solubles (DDGS)



Source: IMARC

- DDGS is a valuable source of protein and energy in animal feed.
 - increasingly used as an alternative to other ingredients like maize and soybean meal.
- Market expansion driven by the increasing demand
 - for livestock feed, particularly from the poultry industry.
 - Increased earnings and the development of the urban population
 - meat products demand has increased and expected to grow in future
- DDGS is a good protein and fibre source for cattle, fish, and poultry.



Present Demand Analysis of DDGS



- DDGS in layer diets is an excellent partial replacement for corn, soybean meal and inorganic phosphate and supports excellent layer performance and egg quality.
- DDGS could be added to the diet of laying hens at 10 to 20%, accounting for about 30% of the total dietary protein, without synthetic lysine supplementation,
 - does not affect egg production or egg weight.
- Demand for soybean, maize and other grains in the global market is ever-increasing causing a sharp price increase
 - DDGS has ample opportunity as an alternative grain resource in feed industries both on nutrition and cost basis
- With Increased Ethanol Production from Grain and Maize , DDGS availability will be an added benefit



Comparative Analysis of DDGS Quality from Maize & Rice



➤ The maize DDGS

- an excellent feed ingredient for use in layer, broiler, duck and turkey diets
- contains approximately 85% of the energy value in corn,
- moderate levels of protein and essential amino acids, and is high in available phosphorus.
- Maize DDGS also has a higher digestibility, which makes it more easily digested by livestock.
- Additionally, maize DDGS is higher in some essential amino acids, such as lysine, than rice DDGS.

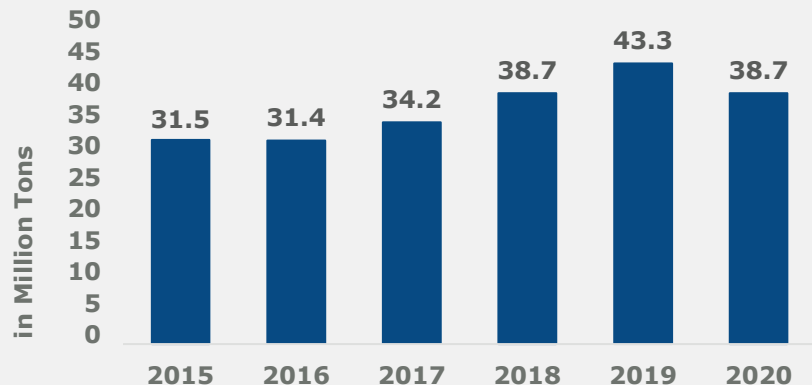
➤ The high energy level of DDGS is derived predominantly from fiber and fat and does not cause any risk of developing acidosis.

➤ Rice DDGS

- has lower levels of fat, and fiber than maize DDGS.
- However, rice DDGS contains more starch than maize DDGS, making it more suitable for ruminants such as cattle.

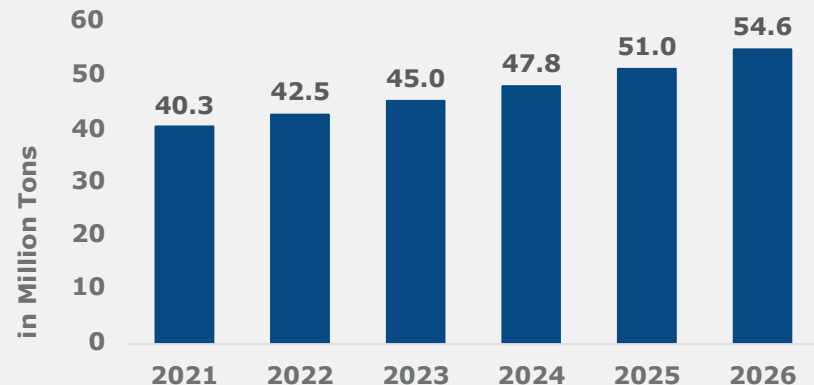
India: Animal Feed Market: Production Volume

**India: Animal Feed Market Trend:
Production Volume (in Million Tons),
2015-2020**



Source: IMARC

**India: Animal Feed Market Forecast:
Production Volume (in Million Tons),
2021-2026**



- The Indian animal feed achieved a production volume of 38.7 Million Tons in 2020, growing at a CAGR of 4.2% during 2015-2020.
- Market Trends indicate a production volume of 54.6 Million Tons by 2026, exhibiting a CAGR of 6.3% during 2021-2026.
- Boosted by growth in the poultry business and rising chicken consumption per person, which is already high in urban areas and is increasingly in rural areas as well.
- Additionally, milk producers are now switching from conventional feed to more nutritionally balanced compound feed.

Emerging Role of DDGS In the evolving Feed Sector

Sector-wise Percent of Usage

	Broiler	Layer	Cattle	Fish	Shrimp
Maize	55 to 60	30 to 60	0 to 20	0 to 10	0
Jowar	10 to 20	20 to 30	0 to 10	0	0
Broken Rice	10 to 20	20 to 40	0 to 20	0	0
Bajra	10 to 20	20 to 30	0 to 10	0	0
Soybean Meal	20 to 30	10 to 20	0	0 to 30	0 to 10
DDGS	0 to 5	0 to 10	0 to 15	0 to 5	0
Fish Meal	0 to 5	0 to 5	0	0 to 30	0 to 50
Meat and Bone Meal	0 to 5	0 to 5	0	0 to 5	0
Mustard Meal	0 to 5	0 to 5	0 to 20	0 to 10	0 to 10
Groundnut Meal	0 to 5	0 to 5	0 to 20	0 to 10	0
Sunflower Meal	0 to 5	0 to 5	0 to 20	0 to 10	0
Deoiled Ricebran	0	0 to 10	40 to 60	0 to 40	0
Rice Polish	0 to 5	0 to 5	0 to 10	0	0

Driven by Maize and Soya

Feedback from Stakeholders (Over 20 + interviewed)

- Variation in product quality is very high.
 - Moisture variation. Normally feed millers reject product over 13-14% moisture.
 - Perceived shelf life of DDGS is low. They buy and use it.
- DDGS price should be
 - As per production cost and not as per soybean meal pricing.
 - Education about shadow pricing is needed.
- Composition
 - Energy content - 2900 to 3200 kcal/ kg.
 - Protein content - 28 to 44%.
 - Amino acid values are outliers in NIR testing.
- Color also varies.
 - Dark color means over processing means malliard reaction. Lysine availability will be less due to malliard reaction.
- DDGS use is around 3-5% in broiler feeds. DDGS use is around 3-7% in layer feeds.
- Mycotoxin content is main constraint. Its painful ingredient to use due to inconsistent quality.
 - All tests needs to be done prior to use of DDGS.

Key Take out

- Lack Of knowledge amongst Users
- Product Improvement
 - Colour
 - Moisture
 - Consistency
 - Mycotoxins level
 - No Standards
- Pricing will depend on soybean meal price and also on product quality.

Key Challenge

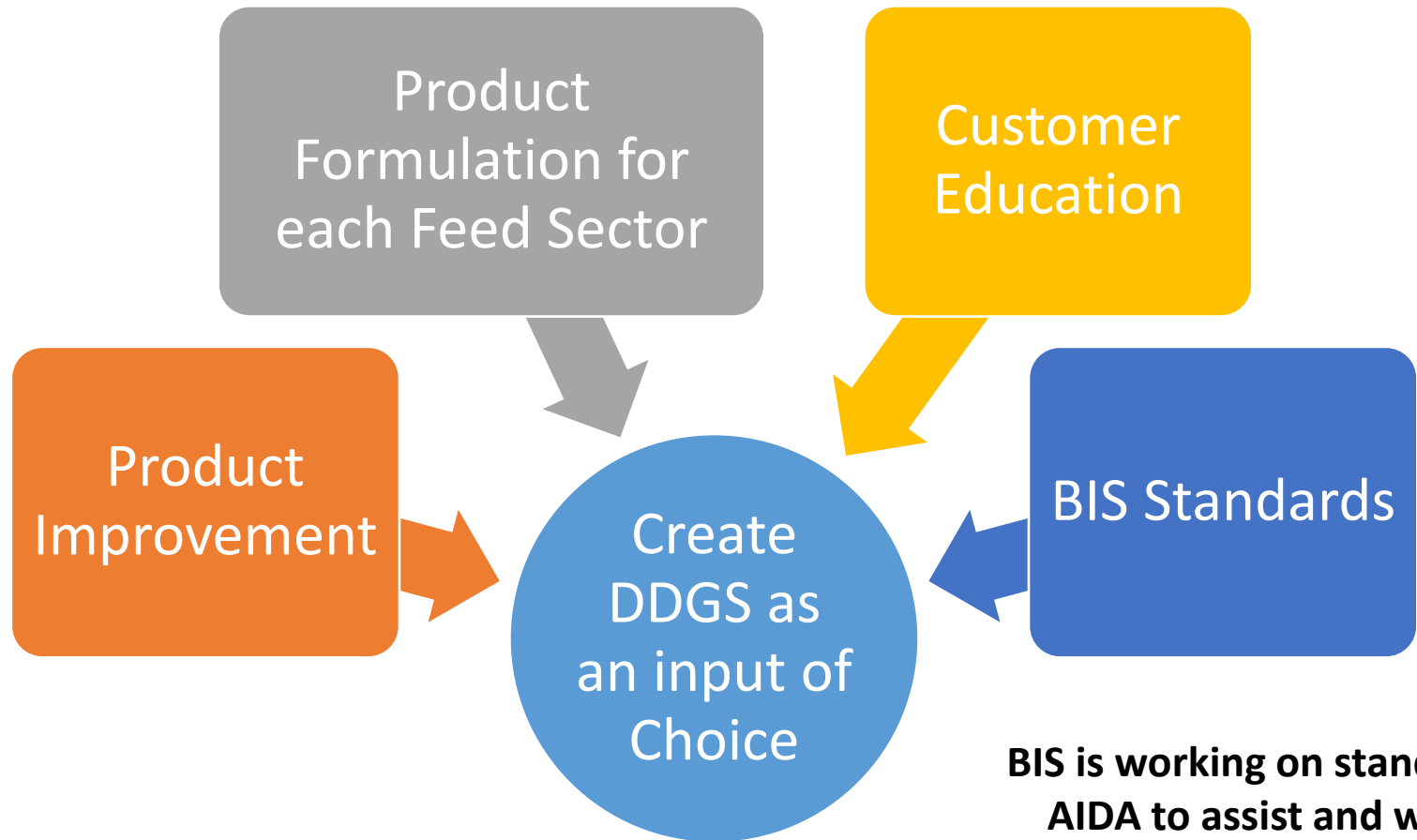
- With Increased Production in Grain Ethanol – DDGS production is expected to increase three fold in the next three years
- Recovery of DDGS is used as an input for fixing Ethanol Pricing
 - Imperative to maximize sales with optimum pricing
 - Build Sustainability for the ethanol programme
- Build acceptability of DDGS in the Animal/Poultry Feed sector in a staged manner

DDGS Production and Demand Projection

Feed Production Figures in Lakh MT and DDGS Figures are in 000 tons						
Volume In Tones		2022/23	2023/24	2024/25	2025/26	2026/27
Cattle	Volume	130.00	144.69	161.04	179.24	199.49
	DDGS %	2.30	3.00	4.00	4.00	5.00
	DDGS	299.00	434.07	644.16	716.95	997.46
Broiler	Volume	140.00	149.10	158.79	169.11	180.11
	DDGS %	1.07	1.40	2.00	2.50	3.00
	DDGS	149.80	208.74	317.58	422.78	540.32
Layer	Volume	125.00	133.13	141.78	150.99	160.81
	DDGS %	1.41	2.90	3.50	4.00	4.50
	DDGS	176.25	386.06	496.22	603.97	723.64
Total DDGS		625.05	1028.87	1457.97	1743.71	2261.41
Expected DDGS Production		626.18	1030.62	1476.89	1624.58	1787.04
% of DDGS Production		99.82	99.83	98.72	107.33	126.55

Critical to aim as percentage of formulation . Get the formula fixed with nutritionists - work ahead of the curve

The Road map



**BIS is working on standards.
AIDA to assist and work**

The Task Ahead

- With Support from CLFMA of India & Ministry of Animal Husbandry ,AIDA needs to work with its members to
 - Build Consistency in Product Quality and control mycotoxins and moisture.
 - BIS to Get Standards in Place for ingredients /packing etc.
 - Conduct an Outreach programme with nutritionists and feed millers on the benefits of DDGS
- Soybean Meal was established as protein source over a period of time
- DDGS manufacturers and AIDA should focus immediately on addressing the challenge head on and work immediately on the them