

# Ensuring Supplies of Grain Ethanol



Meeting with DFPD - 3<sup>rd</sup> January 2024  
Krishi Bhawan, New Delhi

# Participants from GEMA



1. **Dr. C. K. Jain**  
President - GEMA cum CMD - Gulshan Polyols Ltd
2. **Mr. Prashant Jaiswal,**  
Vice President - GEMA cum MD - Kamakhya Biofuels Pvt. Ltd.
3. **Mr. Ajay Swarup**  
MD - Globus Spirits.
4. **Mr. Deep Malhotra**  
MD - OASIS Group
5. **Mr. Kushal Mittal,**  
MD - BCL Industries.
6. **Ms. Arushi Jain**  
Joint Secretary - GEMA cum JMD - Gulshan Polyols Ltd.

# Introduction to GEMA



- Grain Ethanol Manufacturer's Association (GEMA) registered body, represents 370 Crore Litre, combined production and supply capacity of GEMA Members across Pan-India.

# Introduction to EBPP



- EBPP target - 20% blending (650 Crore Grain Ethanol required)
- MoPNG & DFPD facilitated - ISS, LTOA, Ease in EC, Ease in Bank Financing, Assured feedstock supply from FCI
- All across the country entrepreneurs set up their unit with composite investment of INR 30000 crore, out of which 15/20k crore is operative
- DFPD organised seminar on 2 May'23 to promote Ethanol from Maize as feedstock
- Indian Institute of Maize Research (IIMR) organised training program for industry to promote cultivation of Maize

# Eco System for Maize



- Industry partners have started doing some efforts like:
  - a. Opened purchase centres (Kray Kendra) at the plant.
  - b. Started contract farming with farmers.
  - c. Providing seeds to farmers.
  - d. Participating in Training Programs organised by IIMR.

# Problems faced by Grain Ethanol Manufacturers



1. Unviable pricing of Ethanol from Maize
2. Unviable pricing of Ethanol from DFG
3. Unavailability of assured feedstock (FCI)
4. Grain procurement price-parity at current Ethanol pricing

# Solutions



1. Maize ethanol to be priced at Rs. 76.55/ Liter, considering MSP of Rs.2090/quintal paid to farmer.

Detailed cost sheet has been presented to DFPD and MOPNG time to time, including public presentation in Maize Seminar on 2<sup>nd</sup> May 2023.

2. DFG Ethanol to be priced at Rs. 70.23/ Liter, considering average procurement price of Broken Rice as Rs.27/kg.

The prices were revised in August'23, when the price of DFG was INR 2400, which is now INR 2700, similarly the price of maize was INR 2050 earlier and now it is now INR 2430 per quintal.

# Solutions



3. The export of blended rice should be allowed with only 5% broken rice, which is at present 25%.
4. The steps should be taken to expedite paddy milling, so that availability of broken rice will increase.
5. The ban on export of broken rice to continue.
6. Maize exports should be stopped ASAP.
7. There should be storage stock limits fixed for miller & trader
8. Broken Rice blending in FRK may be stopped
9. Incentive Scheme to be provided to farmers to grow maize across the country should be given across all States on the lines of Haryana Government's Scheme of providing Rs.7000/acre to the farmer for growing maize.

# Summary - All India Production Estimates for Kharif 2023



## Summary- All India Production Estimates for kharif'23

S.No.	State	Acreages (in Ha)			Yields in Kgs/ha		Production in lakh MT	
		Govt. 2023	2022 <sup>&amp;</sup>	2023 <sup>#</sup>	2022 <sup>*</sup>	2023	2022 <sup>*</sup>	2023
1	Andhra Pradesh	1,03,000	1,13,045	98,297	3,828	4,032	4.3	4.0
2	Karnataka	16,09,500	14,61,901	13,21,778	3,053	2,715	44.6	35.9
3	Madhya Pradesh	17,44,000	15,25,469	17,06,386	1,968	2,082	30.0	35.5
4	Maharashtra	9,16,100	8,64,378	8,70,301	2,431	2,217	21.0	19.3
5	Odisha	2,68,300	2,49,745	2,52,841	2,022	2,569	5.1	6.5
6	Rajasthan	9,42,200	9,46,587	9,69,428	1,921	1,795	18.2	17.4
7	Telangana	2,21,200	2,76,748	2,70,317	2,954	2,930	8.2	7.9
8	Uttar Pradesh	7,63,200	7,14,890	6,32,382	1,845	2,356	13.2	14.9
<b>Total Monitored Districts</b>		<b>65,67,500</b>	<b>61,52,764</b>	<b>61,21,732</b>	<b>2,351</b>	<b>2,310</b>	<b>144.7</b>	<b>141.4</b>
Other Districts		20,11,800	22,77,935	19,71,564	1,998	2,021	45.5	39.8
<b>Total State</b>		<b>85,79,300</b>	<b>84,30,699</b>	<b>80,93,296</b>	<b>2,256</b>	<b>2,239</b>	<b>190.2</b>	<b>181.2</b>

\*As per last year trade estimates. &-based on remote sensing, # based on remote sensing and ground data.

# Summary - All India Production Estimates for Kharif'2023



- ❖ During the current season, the Maize crop has been cultivated across an area of 80.93 lakh hectares, slightly less than last year's acreage of 84.3 lakh hectares, as per Remote Sensing data. This is less than the Government's reported data of 85.79 lakh hectares for Kharif 2023 by 4.86 lakh hectares.
- ❖ The total production is projected at 181.2 lakh metric tons, a decrease of 9 lakh metric tons compared to the 190.2 lakh metric tons estimated in 2022 by AgriWatch.
- ❖ Nationwide yields have decreased from last year yield of 2256 kg per Ha to 2239 kg per Ha.
- ❖ Notably, there has been a substantial decline in production in Andhra Pradesh, Karnataka, and Maharashtra, by 8%, 20%, and 8%, respectively.
- ❖ Production in Madhya Pradesh has risen by 18% due to favorable conditions in maize-growing areas, particularly in the Chhindwara belt, where an upward revision in yield has been reported. In Odisha, production has increased by 13% due to favorable conditions for maize in the current Kharif season, resulting in better yields. There is also a marginal increase in production reported in UP as well.

# Maize cost to Ethanol Plant



<b>Maize cost to Ethanol plant</b>	
<b>A. MSP 2023-24</b>	<b>20.90</b>
Mandi Tax @ 1.2%	0.25
Packing Cost	0.18
Mandi Mgmt Cost (Including sampling, QC, auction, packing, labour, loading, cash payment to farmer)	0.36
<b>B. Total Mandi Expenses</b>	<b>0.79</b>
Godown / Storage Cost / Shortage	0.50
Interest on Storage @ 10% for 3M	0.80
Frieght & Cartage	1.30
<b>*C. Total other cost</b>	<b>2.60</b>
<b>Maize cost to Ethanol plant (A+B+C)</b>	<b>24.29</b>
<i>*Note:- Other cost (B) mainly includes cost of transport &amp; warehouse from seasonal production point of maize, which varies 9 months/year</i>	

# DFG Based Costing



## DFG (Broken Rice) Ethanol Costing Rs./Ltr - November, '2023

ASSUMPTIONS:	
DFG Rice - Rs./kg	27
Ethanol Yield on Rice - Liter/ kg	0.425
DDGS rate - Rs./kg	30.00
DDGS Yield - kg/kg rice	0.16
Coal rate - Rs./kg	8
Coal to Steam ratio	4.00
Cost of steam - Rs./kg	2.00
Required Steam - KG/Ltr	4.00

COSTING - Rs./Liter	1 Ltr of Ethanol
<b>Grain Cost</b>	<b>64</b>
Steam	8.00
External Power	0.50
Chemicals consumed	1.50
Stores, R&M	1.50
Water @ 26.4/ m3	0.19
Salary & Admin	1.80
Freight difference on supplies	1.00
<b>Material Cost of production</b>	<b>78.02</b>
(-) DDGS	11.29
(-) CO2	NA
<b>Operating Cost of Ethanol</b>	<b>66.73</b>
(+) Interest on Investment	1.50
(+) Depreciation	2.00
<b>Final Cost of Ethanol / Liter</b>	<b>70.23</b>
OMC Purchase price 2023-24	64.00
Delta - Profit - Loss / Ltre	(6.23)

**This is unviable pricing point.**  
 DFG price will be un-controllable without support assured rice supply.  
 This does not give room for fuel inflation.  
 It does not cover impact of over supply of DDGS.  
 The prices of DFG are highly fluctuating from Rs.27/Kg in November to Rs.28.50/Kg at present, thereby impacting a delta of Rs.4/Liter.

# Maize Based Costing



## Maize Ethanol Costing Rs./Ltr - November, '2023

ASSUMPTIONS:	
*Maize @ MSP + Incidental - Rs./kg *	24.29
**Ethanol Yield on maize - Liter/kg	0.380
DDGS rate - Rs./kg	15.00
DDGS Yield - kg/kg maize	0.23
Coal rate - Rs./kg	8
Coal to Steam ratio	4.00
Cost of steam - Rs./kg	2.00
Required Steam - KG/Ltr	5.25

* COST OF MAIZE/KG	
MSP 2023-24	20.9
Mandi Tax @1.2%	0.25
Packing Cost	0.18
Mandi Handling	0.15
Aarthi Commission @1%	0.21
Godown/Storage Cost	0.5
Interest on Storage @10% for 3M	0.8
Freight & Cartage	1.3
Maize cost to Ethanol Plant	24.29

COSTING	1 Ltr of Ethanol
<b>Grain Cost</b>	<b>64</b>
Steam	10.50
External Power	0.50
Chemicals consumed	1.70
Stores, R&M	1.75
Water @ 26.4/ m3	0.26
Salary & Admin	2.00
Freight difference	1.00
<b>Material Cost of production</b>	<b>81.63</b>
(-) DDGS	9.08
(-) CO2	NA
<b>Operating Cost of Ethanol</b>	<b>72.55</b>
(+) Interest on Investment	1.50
(+) Depreciation	2.50
<b>Final Cost of Ethanol / Liter</b>	<b>76.55</b>
OMC Purchase price 2023-24	66.07
Delta - Profit - Loss / Ltr	(10.48)

**\*\*Note: over the experience of last three years of working on maize, the yield of 380 has not been achieved but it is expected that with efficiency coming in it might be achieved.**

This does not factor in the actual cost of grain procurement.

This does not give room for fuel inflation.

It does not cover impact of over supply of DDGS and time to stabilize market conditions.

# Present Maize Rate in Mandi (Kharif'23)



कार्यालय कृषि उपज मंडी समिति छिंदवाडा  
जिला-छिंदवाडा  
दैनिक भाव  
दिनांक-07.12.2023

क्रं	जिन्स का नाम	अनुमानित मात्रा (क्विंटल में)	न्यूनतम दर	उच्चतम दर	मॉडल दर
1	मक्का (पीला)	19175	1989	2215	2155
2	गेहूँ (लोकल)	1209	2591	3350	2700
3	सोयाबीन (पीला)	120	4702	4861	4800
योग:-					



कार्यालय कृषि उपज मंडी समिति छिंदवाडा  
जिला छिंदवाडा  
दैनिक भाव  
दिनांक-08.12.2023

क्रं	जिन्स का नाम	अनुमानित मात्रा क्विंटल में	न्यूनतम दर	उच्चतम दर	मॉडल दर
1	मक्का (पीला)	45440	1940	2247	2125
2	गेहूँ (लोकल)	3872	2600	3471	2725
3	सोयाबीन (पीला)	120	4795	4991	4850
योग		49432			

# Present Maize Rate in Mandi (Kharif'23)



## कृषि उपज मंडी चौरई जिला छिंदवाड़ा दैनिक आवक भाव दिनांक 10/12/2023

क्र.	जिंस	कृषक संख्या	मात्रा (बोरा में)	भाव (रुपयों में)		
				न्यूनतम	उच्चतम	मॉडल
1	मक्का	281	14586	1961	2185	2130
2	गेहूँ	6	87	2450	2560	2512
	योग	287	14673			

व्यापारियों की संख्या 28



कार्यालय कृषि उपज मंडी समिति छिंदवाड़ा  
जिला छिंदवाड़ा  
दैनिक भाव  
दिनांक - 11.12.2023

क्रं	जिन्स का नाम	अनुमानित मात्रा क्विलटल में	न्यूनतम दर	उच्चतम दर	मॉडल दर
1	मक्का (पीला)	71447	2050	2240	2140
2	गेहूँ (लोकल)	3775	2400	3336	2741
3	सोयाबीन (पीला)	532	4612	5015	4900
4	चना	03	5101	5501	5500
	योग	75757			

# Present Maize Rate in Mandi (Kharif'23)



कार्यालय कृषि उपज मंडी समिति छिंदवाडा  
जिला छिंदवाडा  
दैनिक भाव  
दिनांक- 13.12.2023

क्र	जिन्स का नाम	अनुमानित मात्रा क्विंटल में	न्यूनतम दर	उच्चतम दर	मॉडल दर
1	मक्का (पीला )	34703	1950	2250	2180
2	गेहूँ (लोकल)	2553	2480	3360	2636
3	सोयाबीन (पीला )	808	4575	4990	4890
4	चना	01	4650	4650	4650
5	तुअर	01	9500	9500	9500
	योग	38066			



कार्यालय कृषि उपज मंडी समिति छिंदवाडा  
जिला छिंदवाडा  
दैनिक भाव  
दिनांक- 14.12.2023

क्र	जिन्स का नाम	अनुमानित मात्रा क्विंटल में	न्यूनतम दर	उच्चतम दर	मॉडल दर
1	मक्का (पीला )	45064	2020	2215	2145
2	गेहूँ (लोकल)	1579	2400	3350	2554
3	सोयाबीन (पीला )	399	4591	4901	4800
	योग	47042			

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