

Ethanol for Fuel Blending- Challenges with Feedstock availability and unremunerative prices



Representation
to
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Introduction of GEMA



- Grain Ethanol Manufacturer's Association (GEMA) is the representative body of Grain Ethanol Manufacturer's, working as a bridge between EBP program executers (OMCs) and manufacturers of grain ethanol.
- GEMA is represented by 77 member units with total production capacity of more than 450.00 Cr. litres per annum ethanol.

History of Grain Ethanol



- GOI has announced its biofuel policy in order to achieve Zero Carbon Emissions and targeted to achieve 20% blending of Ethanol in petrol (EBPP) by 2025.
- Accordingly the total projected demand of Ethanol was arrived at 1000 Cr. litres per annum by 2025.
- Assessing that sugarcane/molasses based Ethanol supply will not be sufficient for the requirement of 1000 Cr. litres to meet 20% blending target.
- In 2020, GOI introduced Ethanol produced from Damaged Food Grain (DFG), Maize and surplus FCI Rice for EBPP to meet the shortfall from sugarcane/molasses based supply.
- Accordingly production of Ethanol from grain was projected to be in range of 600+ Cr. litres by 2025.

Supply Table of Grain Ethanol



Ethanol Supplied to Oil Marketing Companies

First time that use of grains in making ethanol has crossed 50%

Supply Year	C- Heavy Molasses	B- Heavy Molasses	Sugarcane Juice	Sugar Based Total	Surplus Rice	Damaged Grains	Maize	Grain Based Total	Total	Blending %
2013-14	38	0	0	38	0	0	0	0	38	1.60
2014-15	67	0	0	67	0	0	0	0	67	2.33
2015-16	111	0	0	111	0	0	0	0	111	3.51
2016-17	67	0	0	67	0	0	0	0	67	2.07
2017-18	151	0	0	151	0	0	0	0	151	4.22
2018-19	146	33	1	180	0	10	0	10	189	4.92
2019-20	74	68	15	157	0	16	0	16	173	5.00
2020-21	39	183	39	261	2	39	0	41	302	8.1
2021-22	11	265	85	361	49	24	0	73	434	10.02
2022-23	6	235	128	369	74	32	32	138	506	12.06
2023-24*	39	95	56	190	0	76	135	211	401	13
2024-25*			400	400			600	600	1000	15

Figure in Crore Litres supply years are Dec-Nov, Dec-Oct for 2022-23 and Nov -Oct for 2023-24
Nov-June

- It is evident from the table Grain Ethanol is surpassing the supplies from Sugarcane /Molasses base Ethanol supplies in ESY 23-24.
- For the zero emission mission Grain Ethanol will be Contributing a major role in GOI vision for E-20 by 2025.

Development of Grain Ethanol Industry



- For development of Grain Ethanol Industry at fastest pace GOI had given following reliefs.
 - 1) Introduced the Interest Subvention Scheme (ISS) on capex.
 - 2) Modified the Environmental Clearance Policy for quick approvals.
 - 3) Modified IDR Act in order to bring Ethanol in GST regime.
 - 4) Assured supply of surplus FCI Rice (SFCl) at fix rate.**
- In **July 2023** the supply of SFCl rice was discontinued as feed stock for Grain Ethanol.

Development of Grain Ethanol Industry



- After announcement of Grain Ethanol policy in 2020 and reliefs, the young entrepreneurs all across the country invested to contribute in the dream project of Govt. of India to fulfill E-20 EBPP by 2025.
- Total investment in the Grain based Ethanol Industry has so far been done to the tune of ₹ 20,000 crores across India.
- Following table shows the development of Grain based Ethanol.

Grain Ethanol Development Table				
Particulars	ESY 21-22	ESY 22-23	ESY 23-24	ESY 24-25
Actual Supply of Grain Ethanol (Cr. Ltr.)	73	138	211	600

Current Scenario



- The withdrawal of supply of SFCI Rice to Ethanol Industry resulted into sharp rise in all type of Grains prices including DFG & Maize across India as shown in below table:-

Price Comparison Table		
Particulars	Price (₹) before withdrawal of SFCI Rice	Prices (₹)after withdrawal of SFCI Rice
DFG (₹/KG)	20-22	26-28
Maize (₹/KG)	19-21	26-29

- Due to sudden hike in the prices of DFG & Maize, the other users industry like Poultry and Cattle feed producers opted for using other grains which resulted into high inflation in all type of grains prices across India.
- Since grain/ maize ethanol processing industry has been set up faster than grain/ maize production, there is temporary shortfall in maize.

Contribution of Grain Ethanol on Agriculture

- MSP+ received by farmers – this is validated by NAFED & NCCF
- 34% increase in maize sowing area:
 - Industry conducted a massive awareness 'Makka Ugao' campaign & distributed free maize seeds
 - Commendable job done by IIMR in 15 states by educating farmers and distributing free maize seeds, weedicides and pesticides.
 - Shift to maize crop
 - Reduced water requirement in farming



मक्का उगाओ,
खुशहाली
पाओ



अपने सदस्यों और चैनल पार्टनर्स (कृषिविज्ञानी, बीज/ उर्वरक/ कीटनाशक आपूर्तिकर्ता, वेयरहाउसिंग व लॉजिस्टिक सेवा प्रदाता, व्यापारी नेटवर्क और उपभोक्ता) से आग्रह करता है, की मक्के की बुआई को बढ़ावा दें:

जागरूकता बढ़ाकर।
गांवों में बैनर लगा कर।
डिजिटल छवियाँ को सेक्रेलेट।
ऑनलाइन उपलब्ध शैक्षिक वीडियो को सेक्रेलेट करें।
किसानों के लिए कार्यशालाएँ।

जो आप कर सकते हैं, वो आप करिये॥

Contribution of Grain Ethanol on Agriculture



किसानों को बीज वितरित करते हुए गणमान्य। (छाया : तज मोहम्मद)

मक्का बीज वितरण कार्यक्रम आयोजित

रायपुर रानी, 12 जुलाई (तज मोहम्मद): एमजी पैट्रोकेम प्राइवेट लिमिटेड रायपुर रानी में मक्का बीज वितरण कार्यक्रम का आयोजन किया गया। इस मौके पर देविंदर सिंह, हेड-एचआर ने किसानों को उनके खेतों में मक्के की खेती के लाभों और डिस्टिलरी में इथेनॉल निर्माण के लिए मक्के की आवश्यकता के बारे में जानकारी दी। इस संबंध में भारतीय मक्का अनुसंधान संस्थान डिस्टिलरीज के साथ मिलकर देश में मक्के की खेती को बढ़ावा दे रहा है। इस मौके पर किसानों को खेती के बारे में जानकारी दी गई। कार्यक्रम के दौरान डिस्टिलरी के आसपास के क्षेत्रों में 20 एकड़ में खेती के लिए उच्च किस्म के बीज वितरित किए गए।

सभी किसानों ने मक्के की खेती के प्रति गहरी रुचि दिखाई : कार्यक्रम में गढ़ी कोटाहा, प्यारेवाला, पारवाला और खेड़ी गांवों के किसानों ने भाग लिया। कार्यक्रम में एजीएम प्रोजेक्ट्स जेड आर खान एवं सहायक प्रबंधक एचआर मनमोहन सिंह भी उपस्थित रहे।

KJ KRISHI JAGRAN हिंदी

MFOI 2024 होम खबरे मौसम खेती-बाड़ी सरकारी योजनाएं पशु

पूर्वोत्तर भारत का प्रवेश द्वार असम में धान की खेती घटी, मक्के का एरिया बढ़ा, रंग लाई IIMR की मुहिम

असम के किसानों में अब मक्के की खेती के प्रति दिलचस्पी बढ़ती जा रही है। असम में धान की खेती ज्यादा होती है, लेकिन किसानों के द्वारा मक्का की फसल को अपनाए जाने पर मक्का की खेती धान की फसलके मुकाबले ज्यादा होने लगी है। आइए जानते हैं कि इसके पीछे की वजह क्या है?

KJ Staff
Updated on 26 July, 2024 3:55 PM IST

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लोकमत



भिगवण मार्केटमध्ये मकेला ३५०० रुपये क्विंटल दर

लोकमत न्यूज नेटवर्क
भिगवण : येथील इंदापूर कृषी उत्पन्न बाजार समितीच्या बाजारात मका प्रतिक्विंटल ३ हजार ५०० रुपये इतक्या उच्चांकी दराने विक्री झाल्याची माहिती सभापती विलासराव माने सचिव संतोष देवकर यांनी संयुक्तरीत्या दिली.

रविवारी (दि. २५) झालेल्या बाजारात धान्य लिलावामध्ये ज्योतिबाणगर मलठण (ता. दौंड) कालिदास भोसले येथील शेतकरी कालिदास भोसले या शेतकऱ्याची मका भिगवण बाजारातील सर्वाधिक प्रतिक्विंटल ३ हजार ५०० रुपये विक्री झाली. पोल्टी, कापड आणि इथेनॉल उद्योगाची वाढती मागणी त्या तुलनेत असलेली कमी उत्पादकता या कारणामुळे मक्याचा तुटवडा निर्माण झाला आहे. भिगवण उपबाजारात मका व्यवहार २५०० ते ३५०० रुपये राहिला.

शेतमाल तारण योजना

इंदापूर बाजार समितीने शेतमाल तारण योजनाही बाजार समिती सुरू केलेली आहे. बाजार समितीने मुख्य बाजार इंदापूर मार्केट ६० मे. टन इंदापूर अकलूज रोडलगत ८० मे. टन, उपबाजार भिगवण, निमगाव-केतकी व वालचंदनगर चे ठिकाणी ६० मे. टन व क्षमतेचे भुईकाटा असून, त्यांची २४ तास सेवा उपलब्ध असून, याचा लाभ घ्यावा, असे आवाहनही सभापती विलासराव माने यांनी केले.

बाजार समितीने शेतकरी बांधवांच्या शेतीमालास चांगला दर मिळावा या उद्देशाने मुख्य बाजार इंदापूर अकलूज रोडलगतच्या बाजार आवारात धान्य सफाई यंत्र सुविधा उभारली असून, प्रति तास ५ मे. टन क्षमतेने धान्य सफाई केली जाते.

Factors influencing Feedstock Prices



- Suspension of rice supply by FCI led to a steep runup in the price of broken rice to meet the demand from Fuel Ethanol plants.
- Strong exports of Indian broken rice driven by demand in Southeast Asia and Sub-Saharan Africa
- FCI's specification mandating 25% broken rice, whereas modern rice mills produce only 5% broken rice – millers buy BR in open market to comply with this spec.
- Demand for Maize & BR from Ethanol, Starch, Poultry, and Cattle Feed industries.
- Demand for Maize by Fuel Ethanol plants led to a steep price spike, and there is insufficient production in the domestic market – NAFED and NCCF are unable to procure at MSP.

Feedstock Unavailability



- OMC contracted grain Ethanol supply by units to the extent of around 450 Cr litres in ESY 2023-24. Out of which during Nov –June (Eight months) only 211 Cr litres could be supplied.
- It appears that the entire contracted quantity cannot be supplied during the remaining 4 months due to the acute shortage of the feed stock and due to the mis match in feed stock to procurement price.
- For ESY 2024-25 the projected demand of 600 Cr Litres of Grain Ethanol appears to be difficult.

Steps to be taken to keep food as well as fuel security.



1. Various data sources indicate that FCI has surplus rice stock of ~ 17 million MT – after meeting all PDS & free distribution to 80 crore citizens, commitments, and maintaining strategic reserve (emergency buffer stock)

- ~ 19.86 % Year-on-Year increase in Kharif sowing area for rice
- Even after supplying to all ethanol units, FCI will have surplus to meet any exigencies
- **Only 5 Million MT of surplus FCI rice** could bring relief in grain availability and keep grain inflation in control.'

Steps to be taken to keep food as well as fuel security.



2. Specification of procurement Rice by FCI is to be revised from 25% broken to 5% broken (as per the international standards)

- The present specification of procurement of Rice by FCI contains 25% as broken rice, which is age-old specification.
- The modern Rice mills don't produce as much as 25% broken, whereas old millers continue as it is. The modern Rice millers buy broken rice from market to meet the specification of 25% broken. Resulting into short supply of broken rice in the market for other uses.
- By updating specification of FCI procured rice; availability of broken rice (DFG) will greatly increase in the market resulting in controlling grain inflation.

Steps to be taken to keep food as well as fuel security.



3. Duty Free import of Maize under OGL (Open General License) for industries like poultry, starch and starch derivatives be allowed till the maize cultivation and crop is developed to the level of requirement, which might take 3-5 years

- At present maize invites 50% import duty, where as other agriculture crops such as pulses, etc. are allowed either duty free or @ 5% duty.
- Poultry and Starch industry have demanded duty free imports of maize through various representations and media voices.
- By allowing import of maize; inflation in wheat and rice will immediately be controlled, as the grain basket is inter-related.

Steps to be taken to keep food as well as fuel security.



4. Procurement price revision of Maize and DFG based ethanol, must be done to the tune of prevailing raw material prices.

- The Grain Ethanol supply was disturbed until OMCs revised the prices of DFG & Maize Ethanol in **September 2023** and again for Maize in **January 2024**.

Current DFG based Ethanol production cost



DFG (Broken Rice) Ethanol Costing Rs./Ltr - July 2024

ASSUMPTIONS:	
DFG Rice - Rs./kg	27.5
Ethanol Yield on Rice - Liter/ kg	0.450
DDGS rate - Rs./kg	18.00
DDGS Yield - kg/kg rice	0.16
Coal rate - Rs./kg	6.5
Coal to Steam ratio	4
Cost of steam - Rs./kg	1.63
Required Steam - KG/Ltr	4.00

COSTING - Rs./Liter	Ethanol
Grain Cost	61
Steam	6.50
External Power	0.50
Chemicals consumed	1.70
Stores, R&M	1.70
Water @ 26.4/ m3	0.19
Salary & Admin	2.00
Freight difference on supplies	1.20
Material Cost of production	74.90
(-) DDGS	6.40
(-) CO2	NA
Operating Cost of Ethanol	68.50
(+) Interest on Investment	1.50
(+) Depreciation	2.00
Final Cost of Ethanol / Liter	72.00
OMC Purchase price 2023-24	64.00

- Considering
- Avg. DFG price as Rs.27.50/ kg
- DDGS rate as Rs. 18/ kg
- Fuel rate as Rs. 6.50/kg

Procurement price of DFG based ethanol should be revised to Rs. 72.00 / Litre

Current Maize based Ethanol production cost



Maize Ethanol Costing Rs./Ltr - July 2024

* COST OF MAIZE / KG	
*MSP 2024 Kharif	22.25
Mandi Tax @1.2%	0.27
Packing Cost	0.85
Mandi Handling	
Aarthi Commission @1%	
EX-Mandi /Pacs Cost of Maize/kg	23.37
Godown/Storage Cost	0.5
Interest on Storage @10% for 3M	0.8
Freight & Cartage	1.5
Maize cost to Ethanol Plant	26.17

ASSUMPTIONS:	
*Maize cost at plant - Rs./kg	26.17
Ethanol Yield on maize- Ltr/kg	0.380
DDGS rate - Rs./kg	10.00
DDGS Yield - kg/kg maize	0.26
Coal rate - Rs./kg	6.5
Coal to Steam ratio	4.00
Cost of steam - Rs./kg	1.63
Required Steam - KG/Ltr	4.50

COST OF ETHANOL / Litre	
Grain Cost	69
Steam	7.31
External Power	0.50
Chemicals consumed	1.90
Stores, R&M	1.95
Water @ 26.4/ m3	0.26
Salary & Admin	2.50
Freight difference	1.20
Material Cost of production	84.48
(-) DDGS	6.84
(-) CO2	NA
Operating Cost of Ethanol	77.64
(+) Interest on Investment	2.00
(+) Depreciation	2.50
Final Cost of Ethanol / Ltr	82.14
OMC Purchase price Jan'24	71.86

- Considering
- Maize landed price as Rs.26.17/ kg
- DDGS rate as Rs. 11/ kg
- Fuel rate as Rs. 6.50/kg

Procurement price of Maize based ethanol should be revised to Rs. 82.14 / Litre

Conclusion



- Issue of 5 Million MT of surplus FCI rice can bring relief in grain availability and keep grain inflation under control.
- Allow duty free import of Maize under OGL to various industries such as cattle feed, poultry and starch derivatives so that domestic maize is available for requirement of grain ethanol industry. Till such time when Indian maize crop takes over the entire requirement of maize in all segment.
- Give a immediate relief by revising the procurement price of DFG to Rs. 72 Per Litre & Maize to Rs. 82 Per Litre so that existing blending percentage of ethanol may continue.

Thank You For Your Support



thanks
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