

Fuel vs Feed: Ethanol Push Disrupts India's Maize & Soyabean Market Balance

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Maize Ethanol Controversy Latest News

- Agriculture provides food, feed, fibre, and fuel. For example, cotton yields lint (fibre), edible oil from seeds (food), and protein-rich cake (feed).
- However, the growing use of crops like maize for fuel is raising concerns among traditional user industries, as it affects the availability and cost of maize for food and feed purposes.

Imbalance from Ethanol: Impact on Maize Supply and Prices

- Until 2021–22, India produced 32–33 million tonnes (mt) of maize, against a domestic demand of 28 mt.
- Surplus allowed for 3.7 mt in exports.

Major demand segments:

- Poultry feed: 15 mt
- Cattle feed: 5 mt
- Industrial starch: 5 mt
- Human consumption: 2 mt
- Seed/other uses: 1 mt

Rising Ethanol Demand

- Maize, rich in starch (68–72%), is now used to produce ethanol for fuel blending.
- 1 tonne of maize = ~380 litres of ethanol.
- Ethanol production from maize:
 - **2022–23:** 0.8 mt maize → 31.51 crore litres
 - **2023–24:** 7.5 mt maize → 286.54 crore litres
 - **2024–25 (contracted):** Projected 12.7 mt maize → 484.35 crore litres

Disruption in Supply Chain

- Biofuel demand has disrupted the earlier demand-supply equilibrium.
- Livestock feed industry, particularly poultry and cattle feed sectors, is hit hard.

Surge in Prices

- Maize prices have risen from **Rs 14,000–15,000** to **Rs 24,000–25,000 per tonne** over four years.
- Main reason: diversion of maize towards ethanol under the blending programme.

Collateral Impact: Ethanol Push Hits Soyabean Market

- After ethanol extraction, the leftover mash is dried to form Distiller's Dried Grains with Solubles (DDGS).
 - DDGS is a by-product of ethanol production, specifically from the fermentation and distillation of starch-rich grains like corn.
- DDGS is protein-rich:
 - **Maize-based DDGS:** 28–30% protein
 - **Rice-based DDGS:** Up to 45% protein

DDGS vs Traditional Protein Sources

- Conventional protein feed ingredients include de-oiled cakes (DOC) of soyabean, mustard, cottonseed, groundnut, and rice bran.
 - DOC refers to the residue left after oil has been extracted from seeds or grains, typically through mechanical pressing or solvent extraction.
 - It's a byproduct of the oil extraction process and is used as a source of protein and nutrients in animal feed and as an organic fertilizer.
- These are **more expensive** than DDGS:
 - Soyabean DOC: ₹31,000–32,000/tonne
 - Maize DDGS: ₹16,000–17,000/tonne
 - Rice DDGS: ₹18,000–19,000/tonne

Pressure on Soyabean Prices

- Increased DDGS supply offers a **cheaper substitute** to soyabean DOC (de-oiled cake).
 - DOC refers to the residue left after oil has been extracted from seeds or grains, typically through mechanical pressing or solvent extraction.
- Livestock feed manufacturers are blending DDGS with soyabean DOC to **cut costs**.
- Result: **Soyabean DOC prices** down by ~30% in two years.
- **Soyabean grain prices** have dropped to ₹4,300/quintal, below the **MSP of ₹4,892**.

Winners and Losers

- **Maize farmers** benefit from rising prices due to ethanol demand (close to or above MSP of ₹2,225/quintal).
- **Soyabean farmers**, however, suffer price declines due to falling demand for soy DOC.

Can Imports Restore Balance in Maize Supply

- **High Maize Dependency in Livestock Feed**
 - Maize share in feed:
 - Broiler chicken: 55–65%
 - Egg-layer poultry: 50–60%
 - Cattle feed: 15–20%
 - Feed industry is under pressure due to rising maize prices and seeks import liberalisation.
- **Current Import Policy Constraints**
 - India allows 0.5 million tonnes (mt) of maize imports annually at 15% duty; anything above that attracts 50% duty.
 - Genetically Modified (GM) maize imports are prohibited for food and feed use.
 - In **April-January 2024-25**, India imported **0.94 mt**:
 - **0.51 mt** from Myanmar
 - **0.39 mt** from Ukraine
 - Both non-GM sources
- **Industry's Proposal: GM Maize for Fuel Use Only**
 - Industry experts propose importing GM maize solely for ethanol production, not for seed, food, or feed.

- This would address the surge in demand from biofuel production without affecting food/feed safety norms.

- **Global Trade Implications**

- Opening GM maize imports would benefit **top exporters**:
 - **US, Brazil, and Argentina** (major GM maize growers)
- The **US is actively seeking new buyers** after China scaled down imports.

- **Balancing Act: A Domestic Production Push**

- Experts suggest increasing **domestic maize production** by:
 - Boosting **yields**
 - Diverting **acreage from rice**, which is **water-intensive** and already in surplus
- A “**win-win**” strategy would ensure maize expansion **does not hurt soyabean or cotton farmers**.

Maize Ethanol Controversy FAQs

Q1. Why are maize prices rising in India?

Ans. Due to growing ethanol demand, maize is being diverted from feed and food to fuel, creating supply shortages and price hikes.

Q2. How does ethanol production affect soyabean farmers?

Ans. Cheaper DDGS from ethanol plants replaces soy DOC in feed, reducing soyabean demand and pushing down market prices below MSP.

Q3. What is DDGS and why is it important?

Ans. Distiller's Dried Grains with Solubles (DDGS) is a protein-rich ethanol by-product, now used as a low-cost livestock feed substitute.

Q4. Can GM maize imports solve the supply issue?

Ans. Only if restricted to ethanol use. It can ease demand pressure without impacting GM restrictions for food and feed applications.

Q5. What is the suggested long-term solution?

Ans. Shift surplus rice acreage to maize and boost yields to meet rising ethanol and feed demand without hurting soy or cotton.

Source: **IE**

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