

# **Tirupati Laddus Under Scrutiny: Are Animal Fats Present?**

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### **Introduction**

The Tirupati laddu, a revered offering at the Tirumala Tirupati Devasthanams (TTD) in Andhra Pradesh, has faced scrutiny over allegations that the ghee used in its preparation may be adulterated with animal fats, including beef tallow and lard. This controversy has sparked public outrage and raised questions about the laddu's authenticity.

### **Allegations of Adulteration**

The issue arose from a report by the Centre for Analysis and Learning in Livestock and Food (CALF) of the National Dairy Development Board, which found adulterants in the ghee supplied to TTD. The report listed various fats, including soybean, sunflower, and animal fats. Former Andhra Pradesh Chief Minister Chandrababu Naidu's allegations further fueled protests.

### **Detection of Adulteration**

Milk fat, composed of triglycerides, can vary based on its source. Gas chromatography is the most accurate method for detecting adulteration, separating chemical components to identify various triglycerides. A method developed by Dietz Precht uses five equations to generate 's values' that indicate specific adulterants. For pure cow ghee, all five values must fall within defined ranges; any deviation signals adulteration.

### **Findings from the Tirupati Laddu Analysis**

Analysis of two ghee samples showed all 's values' were outside the acceptable ranges, indicating adulteration. For example, the s3 value for palm oil and beef tallow was recorded at 22.43, far below the acceptable range. However, this does not definitively confirm the presence of beef tallow, as the tests identify groups of fats rather than specific ones.

### **Challenges in Differentiating Fat Sources**

Identifying the exact sources of fat poses challenges, especially in India. Testing methods are calibrated for European cows and may not apply directly to Indian breeds. A lack of baseline data for Indian bovines complicates the accuracy of tests. Experts

emphasize the need for a comprehensive database on Indian ghee and animal fats for precise detection. Dr. Madhusudhan Rao suggests that advanced spectrography methods could improve accuracy if India-specific data were available.

## **Conclusion**

The allegations of adulteration in Tirupati laddus highlight concerns about food safety and authenticity. While advanced testing indicates the presence of foreign fats, identifying specific adulterants remains complex without localized data. This situation underscores the importance of stringent quality checks, transparency, and reliable data tailored to Indian conditions to ensure the purity of culturally and religiously significant offerings.



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