



Death of Elephants due to Kodo Millet Poisoning

Why in News?

Recently, a group of [elephants](#) in Madhya Pradesh's [Bandhavgarh Tiger Reserve](#) died due to suspected [kodo millet](#) poisoning, a grain that can become toxic under certain environmental conditions.

Key Points

▪ About Kodo Millet:

- Kodo millet known as *Paspalum scrobiculatum* is a resilient, [drought-tolerant crop with high yield and excellent storage](#), often serving as a staple for tribal and economically disadvantaged communities in India.
- **India, particularly Madhya Pradesh**, is one of its largest producers.
- Apart from MP, the millet is cultivated in **Gujarat, Karnataka, Chhattisgarh, and parts of Tamil Nadu**.

▪ Kodo Millet's Toxicity:

- Millets, especially kodo millet, are prone to [fungal infections](#) like **ergot**, which can produce toxins that harm grain yield and cause poisoning if consumed. These infections are particularly damaging in humid conditions.
- Toxicity arises when environmental conditions foster fungal growth, producing the **mycotoxin cyclopiazonic acid (CPA)**.
- CPA affects the nervous and [cardiovascular systems](#), causing symptoms like **vomiting, tremors, and cold extremities in animals**.

▪ Historical Cases of Kodo Poisoning:

- Documented cases date back to 1922, with both humans and animals affected by **mycotoxin-laden millet**.
- Kodo millet poisoning has led to periodic wildlife fatalities, including an elephant death in 2022.

▪ Detection and Prevention:

- Detection requires chemical analysis, such as **chromatography** or rapid methods like [ELISA](#).
- To prevent contamination, experts advise proper storage and **biocontrol methods**, which involve beneficial organisms that limit fungal spread.

Millet

▪ About:

- It is a collective term referring to a number of small-seeded annual grasses that are cultivated as grain crops, primarily on marginal lands in dry areas in temperate, [subtropical and tropical regions](#).
- Some of the common millets available in India are Ragi (Finger millet), Jowar (Sorghum), Sama (Little millet), Bajra (Pearl millet), and Variga (Proso millet).
 - The earliest evidence for these grains has been found in [Indus civilization](#) and was one of the first plants domesticated for food.
- It is grown in about 131 countries and is the traditional food for around 60 crore people in

Asia & Africa.

- India is the largest producer of millet in the world.
 - It accounts for 20% of global production and 80% of Asia's production.

▪ **Global Distribution:**

- India, Nigeria and China are the largest producers of millets in the world, accounting for more than 55% of the global production.
- For many years, India was a major producer of millets. However, in recent years, millet production has increased dramatically in Africa.

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