

## Pusa Decomposer

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**Indian Agriculture Research Institute (IARI)** has come up with a **bio enzyme** (Pusa decomposer) that can decompose the rice stubble as an alternative to farmers burning it.

- IARI has tied up an agritech start-up called **nurture farm** to distribute the bio enzyme to farmers in stubble burning states **for free**.



[Ref: Indian Express]

### **Pusa Decomposer:**

- The Pusa Decomposer comprises of **seven species** of fungi.
  - Most of these fungi **live in the soil** and are known for their ability to **decompose paddy straw**.
- This is **sprayed on the paddy straw** after it is harvested, and takes **25 to 30 days** to decompose the straw.
- This is a **long-term sustainable solution** for keeping good soil health and controlling pollution.

### **Issue of Stubble burning:**

- **North-western plains** (which includes Punjab, Haryana and western Uttar Pradesh) follow cropping cycle where rice followed by the wheat crop.
- There is not **much gap** between the period when rice is harvested and wheat is sowed. If the sowing is delayed, the **wheat output comes down significantly**.
- Therefore, farmers **resort to burning paddy stalks** and get the fields ready quickly. This happens towards the **end of October** and the **first week of November**.
  - This causes major air pollution issue, especially for **Delhi** in winters.

### **Key Facts:**

- **Punjab** grows rice on **3 million hectares** of land and **Haryana** grows rice in **1.2 million hectares** of land.

- About **15 to 20 million tonnes of paddy biomass** is produced on three million hectares of land, which is huge.
- Machine substitutions for baling, happy seeders and super seeders can aid stubble burning.
- **Air (Prevention and Control of Pollution) Act, 1981** puts ban on stubble burning and action against those burning crop residue.
  - In 2020 around 76,590 cases of farm fire occurrence were reported in Punjab.
  - In 2019 there were 52,991 such incidents, while in 2018, 51,766 incidents were recorded.