



# Black Soldier Fly Larvae and Poultry Feed

## Why in News?

India is among the **top five chicken and egg producers in the world**, but there are challenges to the business for small poultry farmers because of the quality, quantity and cost of feed.

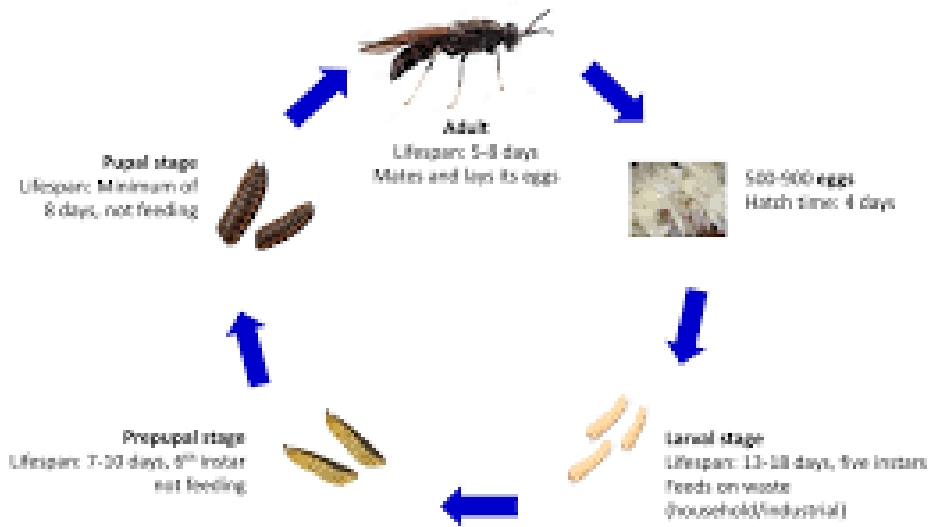
- **Black soldier fly**, since it has a high nutritional value can be one of the substitutes to address these challenges.

## What are the Challenges Related to Poultry Feed?

- Feeds account for up to **70% of the entire cost of poultry production**. Besides, the conventional feed supplied to the poultry, majorly cereals and soya, competes with the **food demands of a growing human population**.
- In addition to rising cost, the **feed resource availability is a major determinant** of the sustainability of the poultry sector.
- One such alternative is **brewers dried grains**, a byproduct of the brewing industry.
  - Though rich in protein and amino acid, **its limitations include high moisture and fibre content**.
- **Rice bran is another economically viable alternative** to wheat in certain parts of the country. It has a comparable apparent metabolisable energy as wheat.
  - However, studies show that the laying performance of the **chicks declined on incorporation** of rice bran to the feed.
- The larvae of **black soldier fly (Hermetia illucens)**, for instance, have a **high nutritional value** and are easy to raise.

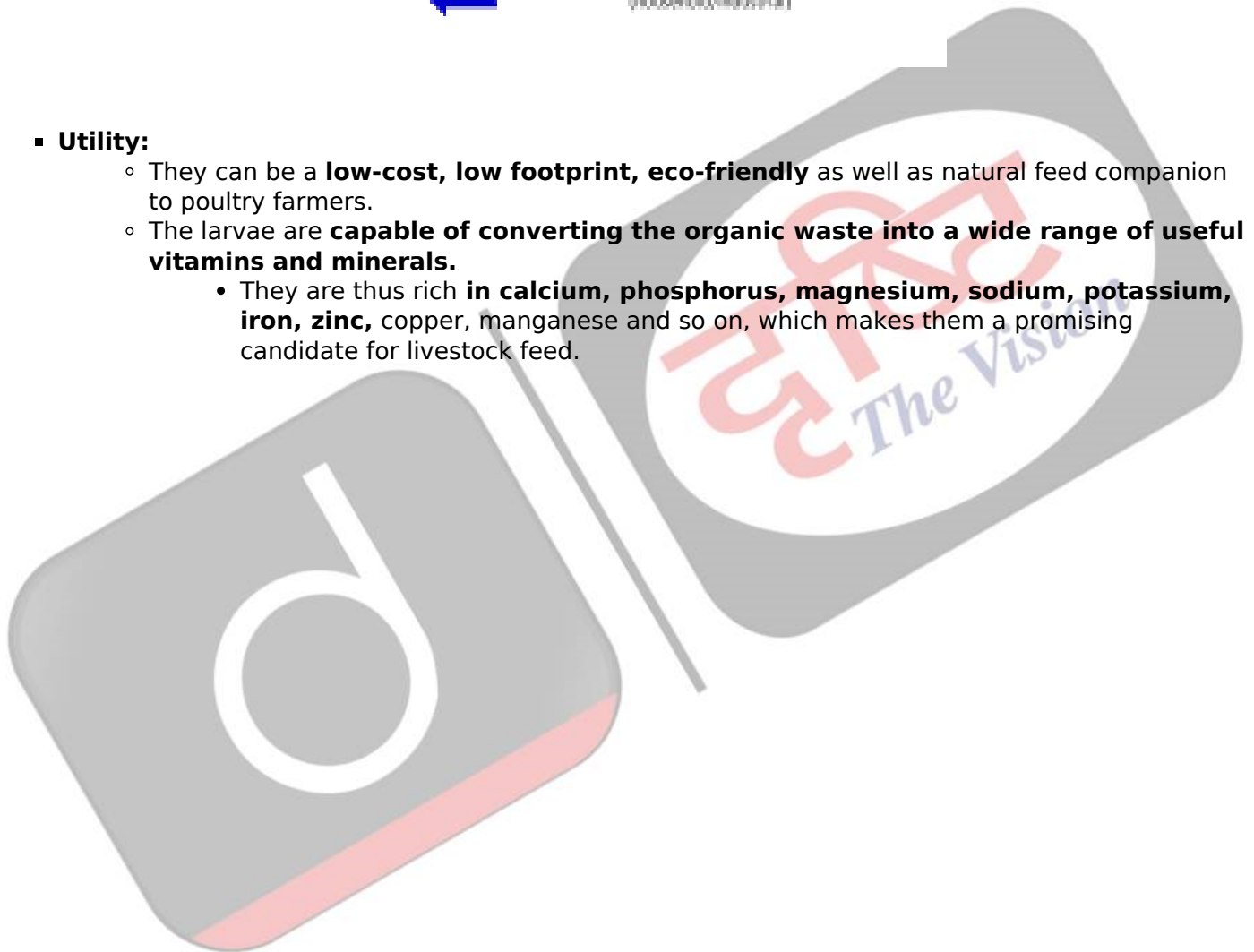
## What is Black Soldier Fly?

- **About:**
  - The black soldier fly is a fly (Diptera) of the **Stratiomyidae** family that is commonly found in many parts of the world.
  - They are a dull, whitish color. They **feed on a variety of organic matter**, from rejected food waste to manure.
  - They also have high **waste-to-biomass conversion** efficiency.
  - This means, unlike hot-blooded mammals and birds, which use a lot of energy to keep themselves warm, **insects are efficient converters of food into body mass**.



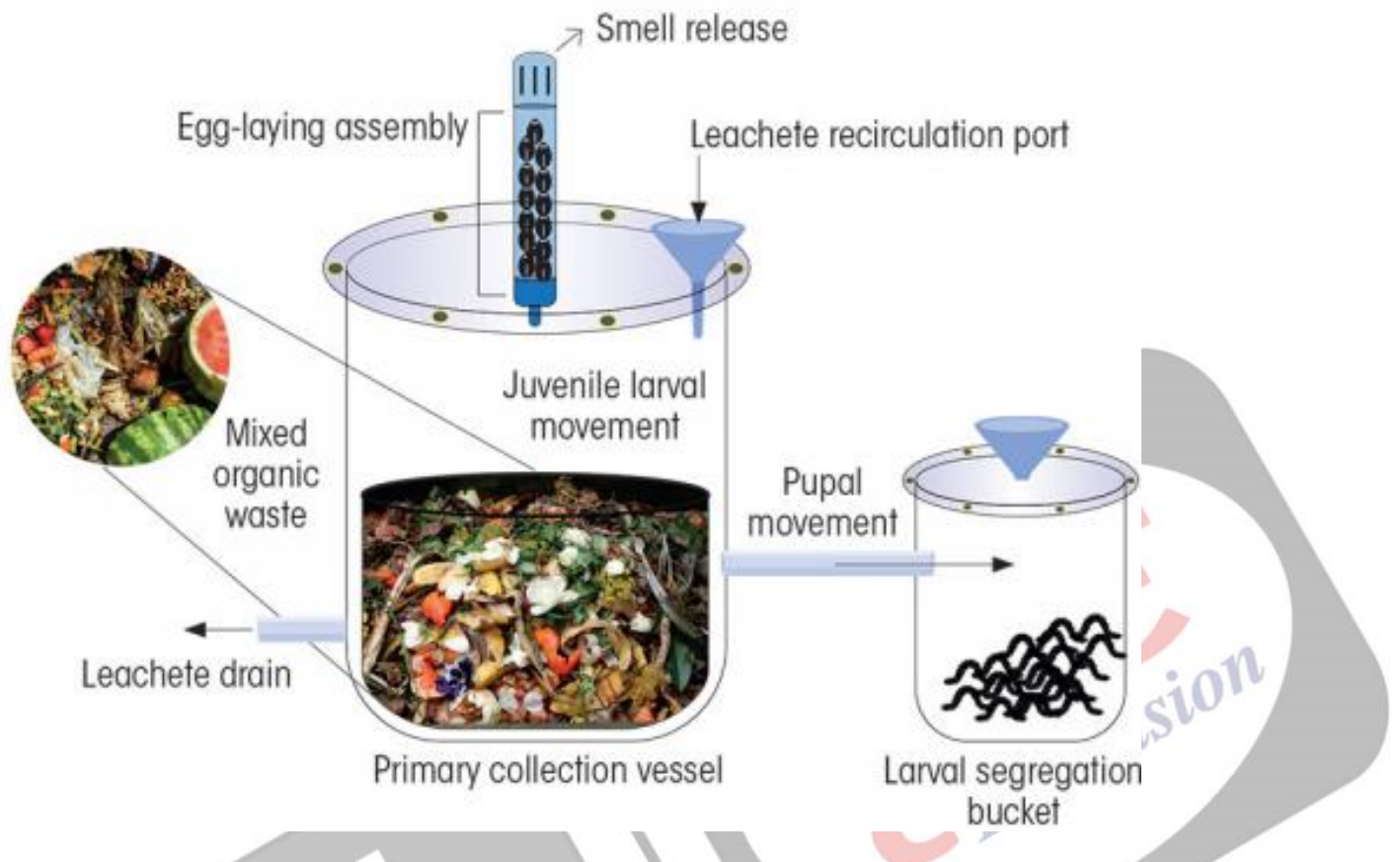
▪ **Utility:**

- They can be a **low-cost, low footprint, eco-friendly** as well as natural feed companion to poultry farmers.
- The larvae are **capable of converting the organic waste into a wide range of useful vitamins and minerals.**
  - They are thus rich in **calcium, phosphorus, magnesium, sodium, potassium, iron, zinc**, copper, manganese and so on, which makes them a promising candidate for livestock feed.



# WIN-WIN STRATEGY

The novel trapping mechanism uses organic food waste and some eggs of black soldier fly to churn out larvae to be used as feed



## UPSC Civil Services Examination, Previous Year Question (PYQ)

**Q. Consider the following statements: (2019)**

1. Agricultural soils release nitrogen oxides into environment.
2. Cattle release ammonia into environment.
3. Poultry industry releases reactive nitrogen compounds into environment.

**Which of the statements given above is/are correct?**

- (a) 1 and 3 only  
(b) 2 and 3 only  
(c) 2 only  
(d) 1, 2 and 3

**Ans: (d)**

**Source: DTE**

