

## UPSC Daily Current Affairs | Prelim Bits 19-07-2024

### Late Blight Diseases

Central Potato Research Institute (CPRI) has issued an advisory for potato farmers across the country, warning a high risk of late blight disease in the crop due to changes in weather conditions.

- Late blight is a **water mold disease** that can affect tomato and potato plants and is caused by the fungal-like pathogen, **Phytophthora infestans**.



- **Favored condition** - Late blight is favored by cool, damp conditions and humid regions with temperatures between 4 and 29 °C.
- **Symptoms**
  - **Leaves** - Large, dark brown blotches with a green gray edge.
  - **Stems** - Firm, dark brown with a rounded edge.
  - **Fruits** - Firm, dark brown, circular spots that may become mushy.
  - **Tubers** - Discolored, anywhere from brown to red to purple.
  - **Lesions** - Round or irregularly shaped areas that range in color from dark green to purplish black.
- **Threat** - The disease spreads quickly in fields and can result in total crop failure if untreated.
- **Prevention** - Farmers are advised to spray fungicides like cymoxanil + mancozeb, fermion + mancozeb, or dimethomorph + mancozeb.
- **Prevalent Regions** - Late blight occurs frequently in the districts of Hoshiarpur, Jalandhar, Nawan Shehar, Kapurthala, Ropar and Amritsar of Punjab.

### Lahaul Valley

- Lahaul Valley, a coldest desert in Himachal Pradesh, which is a prominent place of potato producing.
- Low Aphid population in the state also a reason that contributing the disease-resistant potatoes.
- Lahaul Valley is famous for cultivating prized seed varieties of potatoes Kufri Chandramukhi, Kufri Jyoti, Table Santana, and Shepody

## Reference

[Hindustan Times | Light Blate Diseases](#)

## Chagos Archipelago

India has reiterated its support for Mauritius in its sovereignty dispute with the UK over the Chagos archipelago.

- **Chagos Archipelago** - It is a group of islands located in the *central Indian Ocean*.
- **Location**- It is situated approximately 1,600 kilometers (1,000 miles) south of *India and Sri Lanka*.



- **Physiography**- It consists of about *60 small islands*, with the largest and most significant being *Diego Garcia*.
- **Climate**- They have a *tropical climate* with warm temperatures year-round, high humidity, and seasonal rainfall.
- **Biodiversity**- It is known for its rich biodiversity, including coral reefs, various species of fish, and seabirds.
- It is part of the *British Indian Ocean Territory Marine Protected Area*, which aims to conserve its unique marine environment.
- **Territorial dispute**- The dispute is *between Mauritius and the United Kingdom (UK)*.
- **Historical background**- It was originally a part of the British colony of Mauritius.
- In 1965, the UK separated it from Mauritius and established it as the *British Indian Ocean Territory (BIOT)*.

- In 1966, Britain leased Diego Garcia to the United States, which was seeking a military base in the region.
- Mauritius, which gained independence from Britain in 1968, has consistently maintained its claim over the Chagos Islands
- **Current status** - In 2019, the International Court of Justice ruled that the UK had no right to govern the Chagos Islands and urged it to withdraw from the archipelago.

## References

1. [Hindustan times | Chagos Archipelago](#)
2. [Chagos trust | Chagos Archipelago](#)

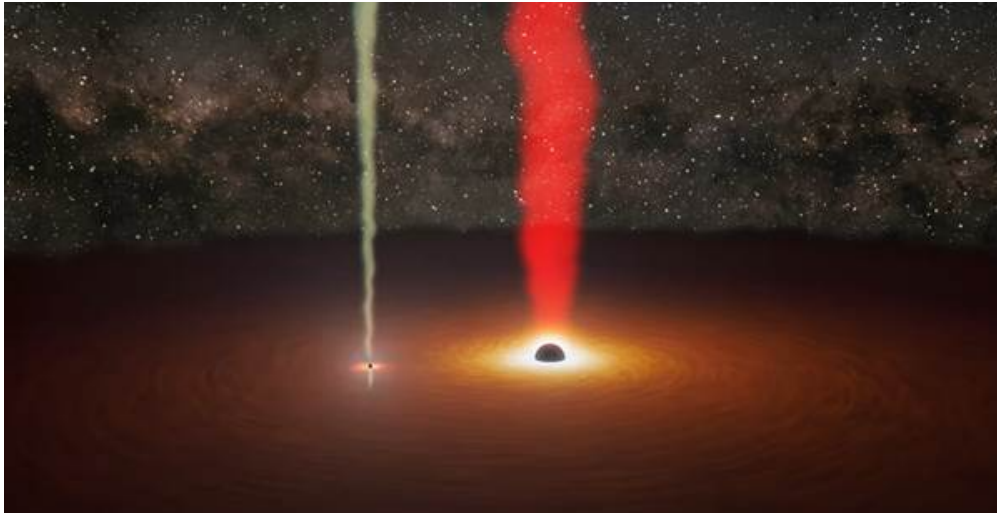
## OJ 287 and Black Hole Pairs

*A recent study has spotted the smaller black hole in a pair, marking the first confirmed sighting of an orbiting black hole.*

- **OJ 287** - It is a distant galaxy, four billion light years away.
- **Black holes in OJ 287** - NASA's TESS satellite have confirmed the theory that there are two black holes at the centre of OJ 287.
- Researchers have found indirect evidence that a very massive black hole in OJ 287 is orbiting a giant black hole 100 times its size.
- **Discovery** - TESS monitored the brightness of the primary black hole and the jet associated with it.
- **Observation of black hole orbiting another** - Direct observation of the smaller black hole orbiting the larger one is very difficult, but its presence was revealed by a sudden burst of brightness.
- **Fast burst of brightness** - It occurs when the smaller black hole "swallows" a large slice of the accretion disk surrounding the larger black hole, turning it into an outward jet of gas.

*Both black holes have jets associated with them, the larger one with reddish colour, and the smaller one with a yellowish colour jet.*

- The jet of the smaller black hole is then brighter than that of the larger black hole for about twelve hours.
- **Color changes** - This event makes the colour of OJ287 less reddish, or "yellow", instead of the normal red and after the burst, the red colour returns.
- The "yellow" colour indicates that for the 12-hour period, we are seeing the light from the smaller black hole.



### Transiting Exoplanet Survey Satellite (TESS)

- **TESS** - It is an Astrophysics Explorer mission.
- **Launched by**- NASA, led and operated by MIT in Cambridge and Massachusetts.
- **Aim**- To discover thousands of exoplanets orbit around the brightest dwarf stars in the sky.
- **Findings** - It is finding planets ranging from small, rocky worlds to giant planets, showcasing the diversity of planets in our galaxy.
- **Significance**- It has so far found 410 confirmed exoplanets or new worlds circling stars other than the Sun.

### References

1. [PIB| Galaxy OJ 287 and Black Hole Pairs](#)

### Shadow Cabinet

*Recently, Leader of the Opposition (LoP) in Odisha has formed a Shadow Cabinet in legislative assembly to track Government Works.*

- **Origin** - It is a unique system of British Cabinet system.
- **Shadow Cabinet** - It is formed by the opposition party to balance the ruling cabinet and to prepare its members for future ministerial office.
- Almost every member in the ruling cabinet is 'shadowed' by a corresponding member in the opposition cabinet.
- **Role** - It serves as the 'alternate cabinet' if there is change of government.

*Ivor Jennings described the leader of Opposition as the 'alternative Prime Minister' considering the importance of shadow cabinet.*

- **Existence** - United Kingdom, Australia, Canada, and New Zealand.
- In Britain, the opposition enjoys an official recognition and is well organised as the government and thus runs a 'Parallel' government with its shadow cabinet.

- **In India** - As of now, there is *no official shadow cabinet* formed in *the Parliament* and is *not mandated by the law*.
- The Parliament can amend its rules to formally recognize the LoP and grant them the right to appoint a shadow cabinet.
- Previously, Maharashtra, Kerala, Madhya Pradesh, and Goa governments has experiments with Shadow Cabinet in India.
- In Odisha, 50 MLAs were assigned various departments for monitoring the policies and programmes implemented by the ruling government in the state.
- **Benefits** - By shadowing each ministries, MLAs/MPs can gain knowledge, expertise, and enabling them to participate during assembly debates.

## Reference

[Indian Express| Shadow Cabinet](#)

