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White fungus

- As the central government asks states to notify black fungus or mucormycosis an epidemic, an infection called white fungus has been found to affect some people. It is more dangerous than black fungus.
- **Causes** - White fungus infection can be caused due to low immunity, or if people come in contact with things that contain these moulds.
- Diabetes patients, cancer patients, and those who are taking steroids for a long period of time are more at risk of getting infected.
- White Fungus is affecting those coronavirus patients who are on oxygen support. It is directly affecting the lungs of these patients.
- It is the main reason of Leucorrhoea in women - flow of a whitish, yellowish, or greenish discharge from the vagina.
- **Symptoms** - Patients of white fungus show Covid-like symptoms but test negative; the infection can be diagnosed through CT-Scan or X-ray.
- White fungus can affect the lungs, nails, skin, stomach, kidney, brain, private parts and mouth of the infected person.
- **Prevention** - White Fungus infection can be prevented by sanitising the surroundings. The oxygen or ventilator must be sanitised properly.

Community Transmission Tag

- According to the World Health Organisation (WHO), since the beginning of the pandemic, India has never marked itself as being in 'Community Transition (CT)'.
- Instead, India is opting for the lower, less serious classification called 'cluster of cases'.
- Countries such as the United States, Brazil, United Kingdom, France have all labelled themselves as being in 'community transmission'.
- Among the 10 countries with the most number of confirmed cases, only Italy and Russia didn't label themselves as being in 'CT'.

Community Transmission

- Community Transmission (CT) is a pandemic stage when new cases in the last 14 days can't be traced to those who have an international travel history, when cases can't be linked to specific cluster.

- The WHO guidelines suggest four subcategories within the definition of CT - CT-1 (Lowest Incidence), CT-2, CT-3 and CT-4 (Highest Incidence).

Four Stages of a Pandemic Transmission

- Four Stages - Imported Transmission, Local Transmission, Community Transmission and Epidemic.
- States and countries are expected by WHO to classify themselves appropriately and point to the kind of public health measures in place.
- **Imported Transmission** is a stage when cases of infected people are imported from affected countries without any local origin in that particular home city or country via the borders and airports.
- This can be controlled through thermal screening and quarantine.
- **Local Transmission** is defined as the transmission through direct contact with an infected person (who possibly had a travel history to other already affected countries) within the country.
- **Community Transmission** takes place when the source of an individual's infection can't be traced and isolated.
- This stage signifies that a virus is circulating in the community and can affect people with no travel history to affected areas or of contact with an infected person.
- **Epidemic** is the Stage 4, which is the most severe stage of an infectious disease spreading within a country.
- In this stage, the disease becomes an epidemic in a country, with large numbers of infections and deaths with no end in sight.

Beema Bamboo

- The Tamil Nadu Agricultural University (TNAU) has designed an 'oxygen park' within its premises at Coimbatore with Beema or Bheema Bamboo.
- **Superior Clone** - Beema Bamboo is a superior clone, selected from Bambusa balcooa, a higher biomass yielding bamboo species.
- This thorn-less species is considered to be one of the fastest-growing plants. It grows one-and-a-half feet per day under tropical conditions.
- This clone is developed by the conventional breeding method (Tissue Culture). So, it is free from pest and disease.
- It is not a product of genetically modified organisms. In this case, new culms (hollow stem of a grass or cereal plant especially that bears flower) only grow around the mother shoot and hence it is non-invasive.
- **Sterile** - As it is sterile, this bamboo does not produce any seed and does not die also for several hundred years and keeps growing without death.
- As a result, this species can be able to establish permanent green cover.
- Since the plants are produced through tissue culture, the culms grow almost

solid and adapt to different soil and climatic conditions.
- After every harvest cycle, it re-grows and doesn't require replanting for decades.
- **Carbon Sink** - This species is the best 'carbon sink' to mitigate carbon dioxide (CO_2) emissions.
- A four-year-old bamboo may absorb over 400 kg of CO_2 per annum.
- A fully-grown bamboo tree generates over 300 kg of oxygen annually.
- As its rhizome and root formation provide a strong foundation, the plant becomes robust against natural forces and plays a major role in mitigating global warming and climate change.

Kharif Strategy 2021

- Kharif Strategy 2021 is a multi-pronged strategy adopted by the Agriculture Ministry to achieve self-sufficiency in oilseeds production.
- Under the strategy, the Government of India has approved an ambitious plan for the **free distribution of high yielding varieties (HYV) of seeds** to the farmers for the Kharif season 2021 in the form of mini-kits.
- Both area and productivity enhancement has been formulated for **soybean and groundnut** with a focus on HYV seeds to be provided free of cost under the National Mission (Oil Seeds and Oil Palm) Mission
- This strategy will bring an additional 6.37 lakh hectare area under oilseeds and is likely to produce 120.26 lakh quintals of oilseeds.

- To this end a multi-pronged strategy is being adopted which includes, among others, the following:
    1. Increasing seed replacement ratio with focus on varietal replacement
    2. Area expansion through diversification of low yielding food grains.
    3. Targeting rice fallow areas and high potential districts
    4. Supporting cluster demonstrations for the adoption of good agricultural practices
    5. Creation of 36 oilseed hubs with a focus on regional approach for larger availability of quality seeds
    6. Post-harvest management at farm and village level
    7. Formation of Farmer Producer Organisations

National Food Security Mission on Oilseeds and Oil Palm

- During the 12th Five Year Plan, a new National Mission on Oilseeds and Oil Palm (NMOOP) was launched.
- Under NMOOP, **Mini Mission - II** (MM - II) was dedicated to oil palm area expansion and productivity increases.
- MM - II was implemented in **12 States** - Andhra Pradesh, Telangana,

Chhattisgarh, Tamil Nadu, Kerala, Gujarat, Karnataka, Odisha, Mizoram, Nagaland, Assam and Arunachal Pradesh w.e.f. 01.04.2014.

- Through NMOOP, the Government aims to augment the availability of edible oils and reduce the import of edible oils by increasing the production and productivity of oilseeds and oil palm.
- It also aims to improve the area under plantation of Tree Borne Oilseeds (TBOs) - Olive, Mahua, Kokum, Wild Apricot, Neem, Jojoba, Karanja, Simaroba, Tung, Cheura and Jatropha.

National Animal Disease Control Programme

- Agricultural & Processed Food Products Export Development Authority (APEDA) has said that all importing countries can safely procure Indian origin frozen boneless Buffalo meat.
- APEDA says so with the support of the fact that the Indian Government has made many interventions to control and eradicate various livestock diseases e.g. National Animal Disease Control Programme (NADCP).
- The NADCP was launched in 2019 to control the two diseases namely, Foot & Mouth Disease (FMD) and Brucellosis by **2025** with vaccination, and eradication of the same by **2030**.
- The livestock that will be covered under the programme includes cattle, buffalo, sheep, goats, and pigs against the FMD.
- In order to fully contain and eradicate the diseases, **100% cost of vaccine is borne by the Central Government**.
- Under this programme, all vaccinated animals are ear tagged and a complete traceability is maintained.

Theory on Sun-Earth interaction in Magnetosphere

- Indian Scientists from the Indian Institute of Geomagnetism (IIG) have developed a theory that helps understand the complicated nature of Sun-Earth interaction's happening in the magnetosphere.
- [Magnetosphere is an area of space around Earth that is controlled by the Earth’s magnetic field.]
- This theory solves every bit of uncertainty regarding the conflict between the observations from Magnetospheric Multiscale (MMS) Mission.
    - MMS is a NASA robotic space mission to study the Earth's magnetosphere and theoretical predictions.
    - In 2017, in NASA's expedition to unlock Sun-Earth interaction's complicated nature, MMS spacecraft observed negative monopolar potential.
    - [Negative monopolar potential is the electric field potentials which can

be visualized in the form of single-humped pulse-type structures].

- The new theory provides a better understanding of the characteristics of the ion-hole structures (a localized plasma region where the ion density is lower than the surrounding plasma).
- It has completely ruled out the necessity of the upper limit in the temperature ratio between ions and electrons for the generation of a special kind of wave called Bernstein Green Kruskal (BGK) waves.
- The electrons that are not part of ion hole dynamics also play a vital role.
- The new theory also sheds light on the generation of the structures leading to the unraveling of nature's greatest mystery that causes phenomena - plasma transport and heating of plasma.
- [Plasma is the fourth state of matter after solid, liquid, and gas. It is the most natural and widely observed state of matter in the entire universe.]

Source: PIB, The Hindu, The Indian Express, Down To Earth, Net Meds, DNA India

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