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Hanta Virus

- According to Chinese media source, a person from Yunnan Province who tested positive for the Hantavirus has died recently.
- The Hantavirus is not novel and its first case dates back to 1993, according to the US Centre for Disease Control (CDC).
- It is contracted by humans from infected rodents.
- Cases of the Hantavirus in humans occur mostly in rural areas where forests, fields and farms offer suitable habitat for infected rodents, CDC explains.
- In the Americas, the family of viruses is known as 'New World hantaviruses'.
- It is the cause of Hantavirus pulmonary disease (HPS), a severe respiratory disease.
- The CDC maintains that HPS can be fatal and has a mortality rate of 38 per cent.
- It remains unclear whether human-to-human transmission of the virus is possible.
- A person infected with the virus may show symptoms within the first to eighth week after they have been exposed to fresh urine, faeces or the saliva of infected rodents.
- Symptoms may include fever, fatigue, muscle aches, headaches, chills and abdominal problems.
- Four to ten days after being infected, late symptoms of HPS may start to appear, which include coughing and shortness of breath.

Legacy Waste

- Legacy wastes are the wastes that have been collected and kept for years at some barren land or a place dedicated for Landfill (an area to dump solid waste).
- Legacy wastes not only occupy large space, but also become a breeding ground for pathogens, flies, malodours and generation of leachate, which may lead to water contamination.
- They also contribute to generation of greenhouse gases and pose risk of

uncontrollable fire.

- This waste can be roughly grouped into four categories:

1. Contained and/or stored waste (contained or stored waste are wastes in tanks, canisters, and stainless steel bins).
2. Buried waste.
3. Contaminated soil and groundwater
4. Contaminated building materials and structures.

- Bio-mining method has been proposed by the Central Pollution Control Board (CPCB) for the effective disposal of legacy wastes.
- Recently, the National Green Tribunal (NGT) has directed a committee to assess the amount of damage caused to the environment due to the dump sites (legacy waste) in Delhi.
- The committee comprises representatives from the Central Pollution Control Board, National Environmental Engineering Research Institute (NEERI) and IIT Delhi.

Biomining

- Biomining or bioremediation is the process of using microorganisms (microbes) to extract metals of economic interest from rock ores or mine waste.
- Biomining techniques may also be used to clean up sites that have been polluted with metals.
- It is usually used for old dumped waste that remains in a partly or fully decomposed state with no segregation in existence between wet and dry waste.
- In the cost effective method of bioremediation, treatment is done by dividing the garbage heap at the site into suitable blocks to let the air percolate in the heap.
- As a result, the leachate which is the water in the heap with suspended solid particles is drained off and microbes are sprayed in the heap to initiate biological decompositions.
- The waste is turned over several times in order to devoid the waste to leachate as much as possible.
- This biological decomposition of the waste decreases the volume of the waste by 40%.

MACS 4028

- Recently, scientists from Agharkar Research Institute (ARI), Pune, have

developed a bio fortified durum wheat variety MACS 4028.

- Bio fortification is a process to increase the bioavailability and the concentration of nutrients in crops through both conventional plant breeding and genetic engineering.
- Durum is a kind of hard wheat grown in arid regions that is typically ground into semolina and used to make pasta.
- Durum wheat, or Triticum turgidum, is the second most cultivated species of wheat after bread wheat, which is also called common wheat or Triticum aestivum.
- Biofortified durum MACS 4028 wheat variety shows high protein content of about 14.7%, better nutritional quality having zinc 40.3 ppm, and iron content of 40.3 ppm and 46.1 ppm respectively, good milling quality and overall acceptability.
- MACS 4028, is a semi-dwarf variety, which matures in 102 days and has shown the superior and stable yielding ability of 19.3 quintals per hectare.
- It is resistant to stem rust, leaf rust, foliar aphids, root aphids, and brown wheat mite.
- The MACS 4028 variety is also included by the Krishi Vigyan Kendra (KVK) programme for United Nations Children's Fund (UNICEF) to alleviate malnutrition in a sustainable way and can boost the Vision 2022 “Kuposhan Mukt Bharat”, the National Nutrition Strategy.
- The Indian Council of Agricultural Research (ICAR) has also tagged this variety under the Biofortified category during the year 2019.
- MACS 4028 has been notified by the Central Sub-Committee on Crop Standards, Notification and Release of Varieties for Agricultural Crops (CVRC) for timely sown, rainfed condition of Peninsular Zone, comprising Maharashtra and Karnataka.
- In the peninsular zone of India (Maharashtra and Karnataka states), wheat cultivation is majorly done under rainfed and limited irrigation conditions. Under such conditions, the crop experiences moisture stress.

Agharkar Research Institute

- ARI Pune is an autonomous institute under the Department of Science & Technology, Government of India.
- Efforts for the development of high yielding, early maturing varieties with good quality and disease resistance for rainfed conditions are carried out at Agharkar Research Institute, Pune under All India coordinated Wheat and Barley improvement programme, coordinated through Indian Institute of Wheat and Barley Research, Karnal governed by the ICAR.

- All India Coordinated Research Project on Wheat and Barley (AICRP) mandates multidisciplinary and multilocational testing of varietal, newly developed improved genotypes, crop management and crop protection technologies across the diverse ecosystems for increasing and stabilizing the wheat production.

Wheat

- This is the second most important cereal crop in India after rice.
- It is the main food crop, in north and north-western part of the country.
- Wheat is a Rabi crop that requires a cool growing season and a bright sunshine at the time of ripening.
- It requires 50 to 75 cm of annual rainfall evenly-distributed over the growing season.
- There are two important wheat-growing zones in the country

1. The Ganga-Sutlej plains in the north-west.
2. Black soil region of the Deccan.

- The Major wheat-producing states are Punjab, Haryana, and Uttar Pradesh etc.

Regional Rural Banks

- Regional Rural Banks (RRBs) are financial institutions which ensure adequate credit for agriculture and other rural sectors.
- RRBs were set up on the basis of the recommendations of the Narasimham Working Group (1975), and after the legislation of the Regional Rural Banks Act, 1976.
- The first Regional Rural Bank “Prathama Grameen Bank” was set up on 2nd October, 1975.
- The equity of a regional rural bank is held by the Central Government, concerned State Government and the Sponsor Bank in the proportion of 50:15:35.
- The RRBs combine the characteristics of a cooperative in terms of the familiarity of the rural problems and a commercial bank in terms of its professionalism and ability to mobilize financial resources.
- Each RRB operates within the local limits as notified by the Government.
- The main objectives of RRBs are

1. To provide credit and other facilities to the small and marginal farmers, agricultural labourers, artisans and small entrepreneurs in rural areas.
2. To check the outflow of rural deposits to urban areas and reduce regional

imbalances and increase rural employment generation.

3. The RRBs are required to provide 75% of their total credit as priority sector lending.

Re-Capitalization of RRBs

- Recently, the Centre has approved a ₹1,340-crore recapitalization plan for Regional Rural Banks (RRBs).
- The move is crucial to ensure liquidity in rural areas during the lockdown due to the COVID-19 crisis.
- This recapitalization (a strategy of enhancing the financial base of an entity to overcome a rough financial situation) would improve their capital-to-risk weighted assets ratio (CRAR) and strengthen these institutions for providing credit in rural areas.
- The step will help those RRBs which are unable to maintain a minimum CRAR of 9%, as per the regulatory norms prescribed by the RBI.
- The recapitalization process of RRBs was approved by the cabinet in 2011 based on the recommendations of a committee set up under the Chairmanship of K C Chakraborty.
- The National Bank for Agriculture and Rural Development (NABARD) identifies those RRBs, which require recapitalization assistance to maintain the mandatory CRAR of 9% based on the CRAR position of RRBs, as on 31st March of every year.
- The scheme for recapitalization of RRBs was extended up to 2019-20 in a phased manner post 2011.

Capital-to-risk Weighted Assets Ratio

- CRAR or Capital Adequacy Ratio (CAR) is the ratio of a bank's capital in relation to its risk weighted assets and current liabilities.
- It is decided by central banks and bank regulators to prevent commercial banks from taking excess leverage and becoming insolvent in the process.
- The Basel III norms stipulated a capital to risk weighted assets of 8%.
- However, as per RBI norms, Indian scheduled commercial banks are required to maintain a CRAR of 9%.

Source: The Hindu, PIB, Indian Express



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