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Superinfections

- Researchers at Sweden's Karolinska Institutet have tried to answer why influenza infections lead to an increased risk of bacterial pneumonia.
- They have described findings leading to so-called "superinfections".
- They cite the example of Spanish flu, which was an influenza pandemic that swept across the world in 1918–20.
- Unlike many other pandemics, the Spanish flu hit young healthy adults, due to the superinfections caused by bacteria, in particular pneumococci.
- Researchers looked at mechanisms behind this increased susceptibility.
- They found that different nutrients and antioxidants leak from the blood.
- This creates an environment in the lungs that favours growth of bacteria.
- The bacteria adapt to the inflammatory environment by increasing the production of HtrA enzyme.
- HtrA weakens the immune system and promotes bacterial growth in the influenza-infected airways.
- The results of the research could be used to find new therapies for double infections between the influenza virus and pneumococcal bacteria.

Arunachal Kiwi

- Arunachal Kiwi got organic certification for Kiwi under Mission Organic Value Chain Development for North East Region (MOVCD-NER).
- [MOVCD-NER is a scheme for the north-eastern states by the Ministry of Agriculture & Farmers' Welfare under the Central government.]
- Arunachal Pradesh is first in the country to get this certification for kiwi.
- These kiwis are grown Ziro Valley located in the Lower Subansiri district in Arunachal.
- An agricultural practice/product is considered organic when there are no chemical fertilisers or pesticides involved in its cultivation process.
- Such certifications can be obtained after scientific assessment done by Agricultural and Processed Food Products Export Development Authority (APEDA).

Zebrafish Gene

- Scientists at Pune-based Agharkar Research Institute have identified

Zebrafish’s genes that can promote heart regeneration.

- They have sought to decode the heart regeneration processes, which can illuminate strategies to improve human cardiac regeneration.
- Zebrafish is a tiny freshwater fish found in the tropical and subtropical regions.
- It is native to South Asia’s Indo-Gangetic plains, where they are mostly found in the paddy fields and even in stagnant water and streams.
- It can regenerate almost all its organs, including the brain, heart, eye, spinal cord within a short time period.
- Its unique characteristics lie in its transparency during its embryonic stages, allowing observing all organs.
- This is why the zebrafish is used as a model organism.

Source: The Indian Express

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