

Carcinogens in Grilled Meat

Prelims: Science and technology | current events of national and international importance.

Why in News?

Recently, the American Institute for Cancer Research found that grilling meat over high heat or an open flame produces cancer-causing carcinogens.

Recent Issue

- **Grilled meat** Contains carcinogenic compounds that cause changes in the DNA.
- Cancer It *causes inflammation* that makes you prone to cancer.
- Carcinogens found Polycyclic aromatic hydrocarbons (PAHs) and heterocyclic aromatic amines (HCAs)
- Carcinogen group Group 1.

Heterocyclic aromatic amines (HCAs)

- **Formation** Formed when amino acids (the building blocks of proteins), sugars, and creatine or creatinine (substances found in muscle) react at high temperatures.
- **Effects** Potent <u>mutagens</u> and <u>carcinogens</u> linked to an increased risk of various cancers.

Polycyclic Aromatic Hydrocarbons (PAHs)

- **Formation** -They are formed when fat and juices from meat grilled directly over a heated surface or open fire drip onto the surface or fire, causing flames and smoke.
- The smoke contains PAHs that then adhere to the surface of the meat.
- Other sources Forest fires and volcanic eruptions.
- **Effects** Carcinogens, mutagens, teratogens, and infertility.

Classification of carcinogens



Reducing steps

- While grilling Always marinate, meat Shorten grill time, Flip the meat often.
- Food preferences Never binge eat barbecue, always choose leaner meats.

Reference

Times now | Grilled meat contains carcinogens

