**Edible Insects: Food of the Future.**

**The Study:**

A joint research project by the **University of Leeds** (England) and the **University of Veracruz** (Mexico), **published in July 2019** in *Comprehensive Reviews in Food Science and Food Safety*, explores how edible insects could help avoid a global food crisis if consumers can overcome the “ick factor.”

* At the **University of Leeds**, many of the most advanced innovations of our time are being tested.
* The **University of Veracruz**, located in Mexico, conducts scientific and technological research to foster innovation in **health, environment, culture, and engineering**.

**Why Governments Are Promoting Edible Insects:**

* **Rapid climate change**, **population growth**, and the **increasing demand for food** are driving the need for alternative food sources.
* Edible insects are a **good alternative** because they contain **natural proteins** and have **high nutritional value**.

**Sustainability:**

* Edible insects are an **environmentally sustainable food source**, with a **significantly lower carbon footprint** than meat production.
* **Carbon footprint** refers to the amount of greenhouse gases (especially CO₂) released by a person, activity, or product. It shows how much someone or something contributes to climate change.
* Insect farming can be done in **urban areas** and uses **smaller amounts of land, water, and food**, while producing **fewer greenhouse gases** compared to meat production.

**Barriers to Adoption:**

* In Western countries, **eating insects is still considered unusual**.
* In some regions where insects were traditionally eaten, **younger populations associate them with poverty**.
* The **“ick factor”**, an interjection that mimics the sounds of sickness or revulsion (like “bleah” or “eww”), refers to the **visceral reaction of disgust** people have when faced with something unpleasant, gross, or morally questionable. It remains one of the **biggest obstacles** to edible insects becoming mainstream.

**Strategies for Normalization:**

* **Target younger generations**, especially those in **early childhood**, as eating behavior is shaped during that stage.
* These groups show interest in **unrecognizable forms** like **flour or powder** used in cookies or energy drinks.
* **Serve insects as snacks between meals** to help integrate them into daily eating habits.

**Cultural Trends:**

* The **“foodies boom”**, television programs that deal with cooking, has increased curiosity about new food experiences.
* The rise of **veganism** and **flexitarianism** has opened the door to alternative protein sources:
  + **Vegetarianism**: The practice of abstaining from the consumption of meat and fish.
  + **Veganism**: The practice of consuming only food that does not come from animals.
  + **Flexitarianism**: A flexible eating style that includes vegetables, eggs, meat, fish, and dairy, but these are consumed in small portions and infrequently.
  + **Flexitarians** and **vegetarians** are more open to experimenting with sustainable food options like insects.

**Farming and Technology:**

* **Current farming techniques and technologies need to change** to meet future demand.
* A shift is needed from **wild harvesting to large-scale indoor farming** that is **economically efficient, safe and sustainable**.

**Health Considerations:**

* **Severe allergies** may occur, similar to those caused by **shellfish** (e.g., shrimp).
* Risk of **contamination** from **bacteria or parasites**.
* Potential **accumulation of toxic substances** like **heavy metals** or **pesticides**.
* **Difficulty digesting chitin**, a component of insect exoskeletons.
* **Psychological or cultural rejection**, especially in societies unfamiliar with entomophagy.

**Expert Insights:**

* Dr. Alan-Javier Hernandez-Alvarez (University of Leeds): “Edible insects could be the solution to the problem of how to meet the growing global demand for food in a sustainable way.”
* Dr. Guiomar Melgar-Lalanne (University of Veracruz): “The ‘foodies boom’ and the rise of veganism and flexitarians have opened the door to alternative food sources. Promoting insects as an environmentally sustainable protein source appeals to the current attitudes in the younger generation.”

**Global Context:**

The **World Economic Forum (WEF)** is an **international organization based in Switzerland** that brings together leaders from **politics, business, academia, and civic society** to address global challenges. It is **best known for its annual meeting in Davos**, where participants discuss issues such as **climate change, artificial intelligence, economic development, and international cooperation**.