

Manchurian walnut tree

Prelims: Current events of national and international importance

Why in News?

Researchers have found that leaves from the Manchurian walnut tree contain a natural compound, 2Z-decaprenol, that can kill weeds by disrupting their growth pathways and activating their defense systems.

- **Recent discovery** - The study published identified a compound called 2Z-decaprenol extracted from *Juglans mandshurica* leaves.
- The research showed that this compound disrupted root development, triggered defence pathways and interfered with stress-response genes in weeds and showed its extreme strength.
- The plant leaf natural weed killer proved far more potent than juglone, a previously known allelopathic compound found in walnut species.
- This discovery has opened a new chapter in eco-friendly weed management.

Manchurian walnut tree

- It is a ***cold-hardy walnut species*** native to Northeast Asia (China's Manchuria region, North Korea, South Korea, and the Russian Far East).
- **Scientific name** - *Juglans mandshurica*
- **Family** - Juglandaceae
- **Type** - Deciduous tree
- **Height** - Up to 25-30 m
- **Leaves** - Large, pinnate (many leaflets), aromatic when crushed
- **Bark** - Grey-brown, rough and fissured
- **Fruit** - Round nuts with thick, hard shells.
- **Habitat & growth**
 - Thrives in temperate, cold regions
 - Prefers deep, fertile, well-drained soil
 - Tolerates severe frost better than most walnuts
 - Grows best in full sun or light shade

- **Uses**

- **Timber**

- Hard and durable
 - Used for furniture, flooring, and carving

- **Traditional medicine**

- Bark and hulls used in East Asian medicine
 - Contains compounds with antifungal and antiparasitic properties

- **Edible nuts**

- Kernels are edible but harder to extract due to thick shells
 - Less commercially popular than English walnut

- **Ecological role**

- Supports forest biodiversity
 - Provides food for wildlife

- **Chemical feature (Juglone)** - Like other walnuts, it releases juglone, a natural chemical that inhibits the growth of nearby sensitive plants and gives the tree natural pest resistance.

Reference

[Times of India | Manchurian Walnut Tree](#)