



## Teak Leaves for Laser Protection

**Source:** [PIB](#)

Indian scientists have discovered that **teak leaf extract** could be harnessed as a **natural, eco-friendly optical limiter** to protect eyes and sensitive sensors from **high-intensity laser radiation**.

- **Teak leaves** contain **anthocyanins**, natural pigments with **nonlinear optical (NLO) properties**, making them suitable for **optical power-limiting applications** such as **laser safety goggles, optical shields, and laser-resistant coatings**.

### Teak (*Tectona grandis*)

- **About:** Teak (Sagwan) is a **moist deciduous tree** known as the "**King of Timbers**" for its **durability, strength, and resistance to pests, water, and decay**, making it ideal for **shipbuilding, premium furniture, flooring, exterior construction, carving, turnings, and musical instruments**.
  - **India holds 35% of the world's planted teak forests**, while **Asia accounts for 95% of global teak resources**.
- **Geographic Distribution:** It is native to **South and Southeast Asia**, including **India, Myanmar, Thailand, Laos, and Indonesia**.
  - In **India**, it grows in **Madhya Pradesh, Maharashtra, Karnataka, Kerala, Tamil Nadu, Assam, and the Northeast**, thriving in **well-drained soils and full sunlight**.
- **Botanical Features:** Teak is a **large deciduous tree** with a **straight cylindrical trunk** (1–1.5 m diameter), **oblong dark green leaves in opposite pairs**, and **small, fragrant white/cream flowers in clusters**.
- **Regulatory Status:** **Green felling is prohibited** in government forests under the **Forest Conservation Act, 1980** and the **National Forest Policy, 1988**, making **private teak plantations** essential to meet **domestic and export demands**.

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