

Major classification of Indian soils

According to ICAR (Indian Council of Agricultural Research) soils are divided into 8 categories. they are:

1. Alluvial soil [43%]
2. Red soil [18.5%]
3. Black / regur soil [15%]
4. Arid / desert soil
5. Laterite soil
6. Saline soil
7. Peaty / marshy soil
8. Forest soil
9. Sub-mountain soil
10. Snowfields

Alluvial soil:

- Mostly available soil in India (about 43%) which covers an area of 143 sq.km.
- Widespread in northern plains and river valleys.
- In peninsular-India, they are mostly found in deltas and estuaries.
- Humus, lime and organic matters are present.
- Highly fertile.
- Indus-Ganga-Brahmaputhra plain, Narmada-Tapi plain etc are examples.
- They are depositional soil – transported and deposited by rivers, streams etc.
- Sand content decreases from west to east of the country.
- New alluvium is termed as **Khadar** and old alluvium is termed as **Bhangar**.
- **Colour:** Light Grey to Ash Grey.
- **Texture:** Sandy to silty loam or clay.

Red soil:

- Seen mainly in low rainfall area.
- Also known as **Omnibus group**.

- Porous, friable structure.
- Absence of lime, kankar (impure calcium carbonate).
- **Colour:** Red because of Ferric oxide. The lower layer is reddish yellow or yellow.
- **Texture:** Sandy to clay and loamy.

Black soil / regur soil:

- Regur means **cotton** – best soil for cotton cultivation.
- Most of the Deccan is occupied by Black soil.
- Mature soil.
- High water retaining capacity.
- Swells and will become sticky when wet and shrink when dried.
- **Self-ploughing** is a characteristic of the black soil as it develops wide cracks when dried.
- **Colour:** Deep black to light black.
- **Texture:** Clayey.

Laterite soil:

- Name from Latin word ‘Later’ which means Brick.
- Become so soft when wet and so hard when dried.
- In the areas of high temperature and high rainfall.
- Formed as a result of high leaching.
- Lime and silica will be leached away from the soil.
- Organic matters of the soil will be removed fast by the bacteria as it is high temperature and humus will be taken quickly by the trees and other plants. Thus, humus content is low.
- **Colour:** Red colour due to iron oxide.

Desert / arid soil:

- Seen under Arid and Semi-Arid conditions.
- Deposited mainly by wind activities.
- High salt content.
- Lack of moisture and Humus.

- Kankar or Impure Calcium carbonate content is high which restricts the infiltration of water.
- **Texture:** Sandy
- **Colour:** Red to Brown.

Peaty / marshy soil:

- Areas of heavy rainfall and high humidity.
- Growth of vegetation is very less.
- A large quantity of dead organic matter/humus which makes the soil alkaline.
- Heavy soil with black colour.

Forest soil:

- Regions of high rainfall.
- Humus content is less and thus the soil is acidic.

Mountain soil:

- In the mountain regions of the country.
- Immature soil with low humus and acidic.

Understand the Different types of soils

Types of Soils	States where found	Rich in	Lacks in	Crops grown
Alluvial	Mainly found in the plains of Gujarat, Punjab, Haryana, UP, Bihar, Jharkhand etc.	Potash and Lime	Lime Nitrogen and Phosphorous	Large variety of rabi and kharif crops such as wheat, rice, sugarcane, cotton, jute etc
Black (Regur soil)	Deccan plateau- Maharashtra, Madhya Pradesh, Gujarat, Andhra Pradesh, Tamil Nadu, Valleys of Krishna and Godavari. Lime	Lime, Iron, Magnesia and Alumina, Potash	Phosphorous, Nitrogen and organic matter	Cotton, sugarcane, jowar, tobacco, wheat, rice etc.
Red	Eastern and southern part of the deccan plateau, Orissa, Chattisgarh and southern parts of the middle Ganga plain.	Iron and Potash	Nitrogen, Phosphorous and humus.	Wheat, rice, cotton, sugarcane and pulses
Laterite	Karnataka, Kerala, Tamilnadu, Madhya Pradesh, Assam and Orissa hills.	Western Rajasthan, north Gujarat and southern Punjab	Organic matter, Nitrogen, Phosphate and Calcium	Cashewnuts, tea, coffee, rubber
Arid and Desert	Western Rajasthan, north Gujarat and southern Punjab	Soluble salts, phosphate	Humus, Nitrogen	Only drought resistant and salt tolerant crops such as barley, rape, cotton, millets maize and pulses
Saline and Alkaline	Western Gujarat, deltas of eastern coast, Sunderban areas of West Bengal, Punjab and Haryana	Sodium, Potassium, Magnesium	Nitrogen and Calcium	Unfit for agriculture