

Textbook of Agricultural and Allied Sciences



Sunil Kumar
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TEXTBOOK OF AGRICULTURAL AND ALLIED SCIENCES

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AGRI-BIOVET PRESS

NEW DELHI-110002 (INDIA)

Textbook of Agricultural and Allied Sciences

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First Edition 2023

ISBN: 978-93-93405-03-6

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Published by :

AGRI-BIOVET PRESS

2/40, 1st Floor, Ansari Road, Daryaganj
New Delhi-110 002

Tel: +91-011-43549100, Mob: 9311338010

Email : agribiovetpress@yahoo.com

Website: www.agribiovetpress.com

Printed at : India.

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New Delhi-110002

Phone No.: +91 - 011 - 43549100

Mo.: 93113 38010

Email: agribiovetpress@yahoo.com

Website: www.agribiovet.com

₹ 1095.00

ISBN: 978-93-93405-03-6



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SOILS OF INDIA

P. Smriti Rao, Tarence Thomas and Ashish David

The loose material or the upper layer of the mantle rock (regolith—a layer of loose, heterogeneous material covering solid rock) consisting mainly of very small particles and humus which can support the growth of plants is known as “soil”. Soil mainly consists of mineral/rock particles, portions of decayed organic matter, soil water, soil air and living organisms. The major factors that influence the formation of soil are parent material, relief, climate, vegetation, life forms and time.

In general, soil is composed of four elements:

1. Inorganic or mineral fraction derived from the parent material
2. Organic matter (decayed and decomposed plants and animals)
3. Air
4. Water

The soil is formed when rocks are broken down by the action of wind, water and climate. This process is called weathering. The characteristic features of a soil depend upon the rocks from which it has been formed and the kind of plants that grow in it. Soil forms different layers of particles of different sizes. Each layer is different from the other in texture, colour and chemical composition. Even the thickness of each layer is not the same. A vertical section that shows the different layers of soil is called a soil profile. Each layer is called a horizon.

- **Horizon A (Topsoil)**—It is the topmost layer where the organic materials have got incorporated with the mineral matter, nutrients and water—elements necessary for the growth of plants.