

Soils & Fertilizers at a Glance

By Somani LL

Agrotech Publishing Academy

2nd Edition

**SOILS AND FERTILISERS
AT A GLANCE**

(For JRF, ARS, NET, SLET, ASRB, Civil Services,
and other competitive Examinations)

**L L Somani
PC Kanthaliya**



**Agrotech Publishing Academy
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Mrs. Geeta Somani
Agrotech Publishing Academy
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Hiran Magri
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Preface to First Edition

Soils and fertilizers constitute important branches of Agriculture, which have assumed greater dimensions due to their varied fields of specialization. Considering enormous breadth and diversity of the subject, a variety of books have been contributed by many authors encompassing various aspects of soils and fertilizers. However these books have either been far away from the reach of students or the subject matter has been presented in voluminous form complicating the topics and rendering the book less acceptable to the readers. The experience tells that either these books are not available to most of the students of the country or if available remain unread due to broad coverage of the topics. To cater the needs of such students the book SOILS AND FERTILIZERS AT A GLANCE has been written.

The book covers almost entire field of Soils and Fertilisers from formation of soils to efficient use of fertilizers for sustainable productivity, in the form of question and answer. The questions are framed very critically in a manner that they cover entire main topic step by step to trigger a deep interest in readers to the subject matter.

The abridged information in this book provides a ready material for all requisite minds to prepare for traditional as well as internal grading system examinations, competitions, interviews, viva-voce, comprehensive/preliminary examinations in the discipline of soils and fertilisers. This book would help them to revise the entire courses of soils and fertilisers within a short time and recollect the vast knowledge they gained by reading different books of soils and fertilisers. The answers are self-explanatory. Fill in the blanks and multiple-choice questions embodied in the book will not only enable the readers to review the knowledge quickly but will also inculcate an understanding of the subject in depth. The glossary of soil and fertilizer related terms and other pertinent information appended at the end is of added advantage to the candidates appearing in different competitive examinations and update their knowledge. In nutshell, it can be leaned that a scholar seeking knowledge in any branch of soil science will readily find the desired information in this book. As such the book will serve a great purpose of all classes of aspirants. All the chapters in the book have been meticulously comprehended, compiled and presented with a fine skill. The book is an attempt towards reflecting a sea into pot.

We sincerely thank M/s Agrotech Publishing Academy, Udaipur for publishing the book in a shortest possible time.

Suggestions for improvement of the present book from worthy teachers and student will be gratefully acknowledged.

Udaipur

L.L. Somani
P.C. Kanthaliya

CONTENTS

	Preface	3
1	Soil Genesis	7
2	Soil Classification	32
3	Land Use Capability	46
4	Soil Colloids	51
5	Oxidation Reduction Potential	65
6	Soil Acidity and Liming	73
7	Soil Texture	118
8	Soil Colour	125
9	Soil Air	128
10	Soil Temperature	138
11	Soil Structure	145
12	Soil Water	151
13	Tillage and Tilth	169
14	Soil Erosion and Conservation	184
15	Soil Microbiology	201
	15.1 Microbial growth and metabolism	201
	15.2 Soil enzymes	203
	15.3 Soil organisms	207
	15.4 Microbial interations	217
	15.5 Bioremediation	220
	15.6 Rhizosphere	224
16	<i>Azolla</i>	227
17	<i>Azospirillum</i>	253
18	<i>Azotobacter</i>	267
19	Blue Green Algae	281
20	Phosphate Solubilizing Microorganisms	294
21	<i>Rhizobium</i>	311
22	Vesicular Arbuscular Mycorrhiza	349
23	Soil Organic Matter	385
24	Farm Yard Manure	413
25	Composting	417
26	Green Manuring	432
27	Developing Wastelands	443
28	Salt Affected Soils	449
29	Crop Production with Saline Water	480
30	Soils and Chemical Pollution	505
31	Global Warming, Green House Effect and Acid Deposition	530

32	Hydrocarbons	539
33	Soil Management for Sustainable Farming	542
34	Nutrient Absorption by Plants	545
35	Evaluation of Soil Fertility	557
36	Fertilizers and Fertilizer Mixtures	571
37	Fundamentals of Fertilizer Application	585
38	Soil and Fertilizer Nitrogen	611
39	Soil and Fertilizer Phosphorus	648
40	Soil and Fertilizer Potassium	691
41	Soil and Fertilizer Sulphur	713
42	Trace, Toxic and Beneficial Elements	725
42.1	Basic Information	725
42.2	Arsenic	733
42.3	Boron	733
42.4	Chlorine	738
42.5	Cobalt	739
42.6	Copper	741
42.7	Iron	744
42.8	Manganese	754
42.9	Molybdenum	759
42.10	Nickel	764
42.11	Selenium	765
42.12	Silica	767
42.13	Sodium	768
42.14	Zinc	769
43	Glossary	776
44	Acronyms and Abbreviations	873
45	Objective Questions	884
45.1	Tick mark the correct answer	884
45.2	Fill in the blanks	1008
45.3	Match the following	1026
46	List of Important Books	1054

SOIL GENESIS

Q.1 What is soil?

- (i) The unconsolidated mineral and organic material on the immediate surface of the earth that serves as a natural medium for growth of land plants.
- (ii) A mixture of mineral and organic matter that is capable of supporting plant life.
- (iii) The natural product formed from weathered rock by the action of climate and living organisms.
- (iv) Dynamic natural bodies having properties derived from the combined effects of climate and biotic activities, as modified by topography, acting on parent materials over periods of time.
- (v) According to Charles E. Kellogg (USA) soil is that thin film between earth and sky that supports all living things. Beneath lie the sterile rocks, above it are the air and sunshine. From it, all plants and animals and man himself draw their nourishment, either directly or indirectly from other things that live in soil. To it their bodies return. There is no life without soil, and no soil without life.
- (vi) Hilgard gave an edaphic definition of soil as "the more or less loose and friable material in which, by means of their roots, plant may or do find foothold and nourishment as well as other conditions of growth".
- (vii) The unconsolidated mineral matter on the surface of the earth that has been subjected to and influenced by genetic and environmental factors of parent material, climate, macro- and micro-organisms, and topography, all acting over a period of time and producing a product soil that differs from the material from which it is derived in many physical, chemical, biological and morphological properties and characteristics.
- (viii) The soil is a natural body of mineral and organic constituents, differentiated into horizons, of variable depth, which differs from the material below in morphology, physical make up, chemical properties and composition and biological characteristics.
- (ix) In agricultural soil science, the term soil is applied only to the thin upper part of the mantle rock penetrated by the roots of

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Author : **Somani LL**

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