

Textbook of Agricultural and Allied Sciences



Sunil Kumar
P. Smriti Rao
Neelam Kumari
Dangi Pooja Arun
Anjali Verma



TEXTBOOK OF AGRICULTURAL AND ALLIED SCIENCES

**Sunil Kumar
P. Smriti Rao
Neelam Kumari
Dangi Pooja Arun
Anjali Verma**



AGRI-BIOVET PRESS

NEW DELHI-110002 (INDIA)

Textbook of Agricultural and Allied Sciences

© Authors

First Edition 2023

ISBN: 978-93-93405-03-6

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the publisher.

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.

CONTENTS

<i>Preface</i>	<i>v</i>
<i>List of Contributors</i>	<i>vii</i>
1. Integrated Farming System.....	1
<i>Mohd Shah Alam, Jay Nath Patel, Suraj Singh and Pankaj Chaurasiya</i>	
2. Climate Change and Extension Models in Promoting Climate Change Adaptation.....	16
<i>Sunil Kumar and Anjali Verma</i>	
3. Cyber Extension and ICT Worldwide Innovations.....	28
<i>Dangi Pooja Arun and Neelam Kumari</i>	
4. Expert System, e-Agriculture and m-Agriculture.....	36
<i>Neelam Kumari and Dangi Pooja Arun</i>	
5. Geoinformatics in Agriculture	50
<i>Ashish David, Tarence Thomas and P. Smriti Rao</i>	
6. Heroes of Indian Agriculture.....	61
<i>Ashish David, P. Smriti Rao, Ashima Thomas and Tarence Thomas</i>	
7. Nanoscience in Sustainable Agriculture	69
<i>Ashish David, P. Smriti Rao and Tarence Thomas</i>	
8. Soils Nutrients.....	87
<i>P. Smriti Rao, Tarence Thomas and Ashish David</i>	
9. Rural Development Schemes in India through Years ..	96
<i>Sunil Kumar, Anjali Verma</i>	
10. Soils of India	110
<i>P. Smriti Rao, Tarence Thomas and Ashish David</i>	
11. Natural Farming.....	119
<i>Sunil Kumar, Anjali Verma</i>	



Dr. Sunil Kumar Assistant Professor in Department of Agriculture, IIAST, Integral University Lucknow. Dr Kumar has Published 27 research papers, 22 research abstracts, 04 News letter and 10 popular extension articles, and extension brochures, 4 book chapters, 2 books.



Dr. P. Smriti Rao Assistant Professor in Department of Agriculture, IIAST, Integral University, Lucknow. She has Published 19 research papers, 9 research abstracts in national and international conferences, 7 popular articles, 10 book chapters and Editor in 1 Conference Proceeding Book.



Dr. Neelam Kumari (SMS, Agri. Extension), KVK, Babugarh, Hapur (SVPuat, Meerut). She Qualified ASRB ICAR NET in 2021. She has Published 17 research papers, 25 research abstracts in national and 18 in international conferences, 15 popular articles and 8 book chapters.



Dr. Dangi Pooja Arun Assistant Professor (Extension Education). LPU Jalandhar. She Qualified UGC NET in 2019 and ASRB ICAR NET in 2021. She has Published 11 research papers, 14 research abstracts in national and international conferences, 15 popular articles and 8 book chapters.



Miss Anjali Verma has Published 07 research papers, 10 research abstracts, 03 popular extension articles, three book chapters and two books.



PRESS

AGRI- BIOVET PRESS

2/40, 1st Floor, Ansari Road, Daryaganj,
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



9 789393 140503

6

HEROES OF INDIAN AGRICULTURE

*Ashish David, P. Smriti Rao
Ashima Thomas and Tarence Thomas*

For their remarkable contribution to the country, Indian people are honoured with Civilian honours. Agriculture, as we all know, is a significant part of the Indian economy, accounting for roughly 17% of GDP. Over 60% of the population is employed, contributing to the overall GDP. For all agriculture enthusiasts, this year's Agriculture Day is a particularly important and proud occasion. Padma Shri Awards were given to people in the field for their significant and laudable contributions to the country's agriculture, which propelled India's agriculture to unprecedented heights. The Indian government honoured these citizens by bestowing one of the highest honours, "Padmashree" is a prestigious award. Here's the list of Padmashree holders in Agriculture sector from 2019-2022.

1. Sethpal Singh-People were recognised for their excellent contributions in categories ranging from tribal art and folk music to traditional crafts and literature during the occasion. Sethpal Singh was recognised for his contribution and demonstration of agricultural diversification for smallholder farmers' long-term income. He has previously garnered numerous national prizes for conducting new agricultural experiments, and now being awarded the Padma Shri adds to his list of achievements.

In 2012, ICAR honoured him with the Innovative Krishak Samman, and in 2014, he received the Jagjivan Ram Abhinav Kisan Award. In the year 2020, the Fellowship Award will be given once more. Sethpal Singh is one of the pioneers in agricultural experimentation and innovation; for example, he grows water chestnuts in the field rather than in the pond.