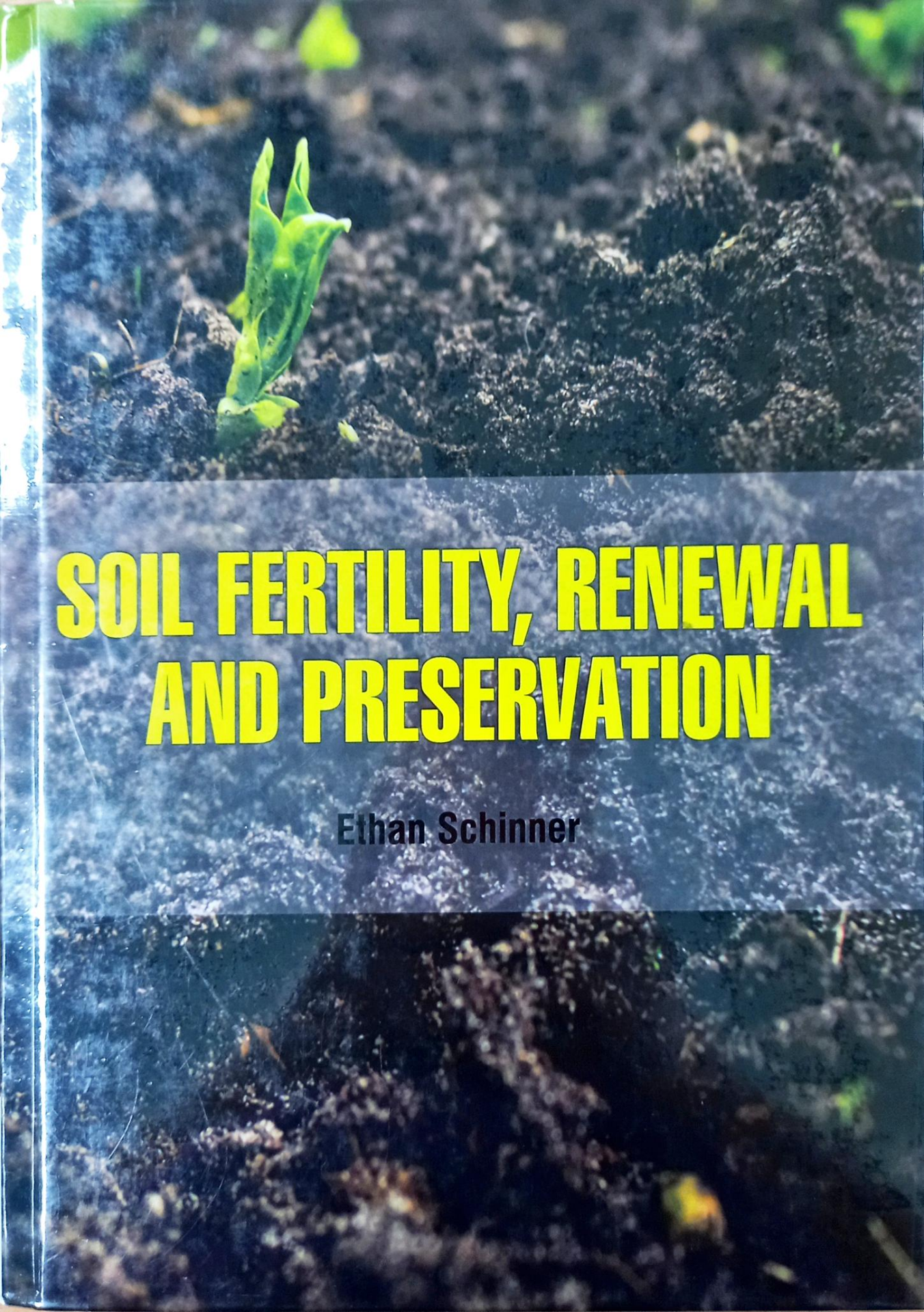
SOIL FERTILITY, RENEWAL AND PRESERVATION
Ethan Schinner

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SOIL FERTILITY, RENEWAL AND PRESERVATION

Soil fertility is a concept based on the amounts of essential nutrients available to the plants. The plant nutrients involved are classified as macronutrients such as nitrogen (N.), phosphorous (P), potassium (K), calcium (Ca), magnesium (Mg), and sulfur (S); or as micronutrients such as i iron (Fe), manganese (Mn), copper (Cu), zinc (Zn), boron (B), and molybdenum (Mb). The amount of each of these nutrients is not the only factor in determining whether there are nutrient shortages. Soil pH (acidity) is also important because under certain pH conditions, nutrients form insoluble compounds which are unavailable to be taken up by plant roots. A shortage of any of these elements in the soil can slow crop development and reduce yields, something which extentionists should consider when working with farmers to improve crop production. Soil Fertility is the ability of soils to supply the nutrients to crops in the form, proportion and amount favourable for their growth and yield. Nutrient cations occur in the soil solution and are loosely held by clay/humic micelle as exchangeable cations and are also fixed by clay minerals in the form of non-exchangeable cations. Nitrate, sulphate and phosphate anions are loosely adsorbed on the surface of hydrous oxides of iron and aluminium in acidic soils and on the surface of calcite in alkaline soils and are also fixed in the non-exchangeable form. The book is concerned primarily with the interrelationships of soils and growing plants. It has been prepared as a textbook for students taking a course in soil fertility and as a reference book for students in soil management courses.

Ethan Schinner is a professor of agricultural sciences at the Munich University. He teaches biodynamic agriculture in the Germany and helped found the Biodynamic Farming & Gardening Association. He is German farmer, educator and organic farming researcher. He studied agriculture and obtained all his degrees from the German University. He has played a pivotal role in globalization of research in Germany with special emphasis to scientific exploration of soil in rural Germany. He was awarded prestigious Endeavour Award from Ministry of Higher Education, Government of Australia and for an advanced level research on soil at University of Canberra, Australia. He has visited number of countries for different academic and research interactions and delivered number of lectures and serves on external expert panels for different government regulatory bodies/Universities. His innovations and research has yielded many international publications in reputed journals out of which some are indexed in Scopus. He has to his credit five patents, five authored and edited books. He is a recognized scientist for different works of Department of Science & Technology, Germany, and acts as host scientist for different visiting scientists of developing countries.

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