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The central role of soil chemistry in the ecosystem is becoming increasingly evident. The effects of increased levels of atmospheric carbon dioxide, and the accelerated use of pesticides, on soil fertility, for example, have been the focus of much high level debate.

This text begins by defining the relationship between soil chemistry and other fields as diverse as plant science and pollution science. A detailed description of the components of soil follows, including inorganic, mineral and organic matter. The book addresses cogent issues such as soil fertility and soil pollution. In a concluding chapter, a review of future analytic advances in the study of soil chemistry is given, emphasising the importance of the soil chemist in equitable and sustainable land use and agricultural policy.

The book is an ideal starting point for the student undertaking undergraduate study in the environmental and soil sciences.

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SOIL CHEMISTRY AND ITS APPLICATIONS

MALCOLM CRESSER &
KEN KILLHAM
Department of Plant & Soil Science
University of Aberdeen

TONY EDWARDS
Macaulay Land Use Research Institute
Aberdeen

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Published by the Press Syndicate of the University of Cambridge
The Pitt Building, Trumpington Street, Cambridge CB2 1RP
40 West 20th Street, New York, NY 10011-4211 USA
10 Stamford Road, Oakleigh, Melbourne 3166, Australia

© Cambridge University Press 1993

First published 1993
Reprinted 1995

A catalogue record for this book is available from the British Library

Library of Congress cataloguing in publication data

Cresser, Malcolm S.
Soil chemistry and its applications / Malcolm Cresser & Ken Killham, Tony Edwards.
p. cm.—(Cambridge environmental chemistry series)
Includes bibliographical references and index.
ISBN 0-521-32269-3.—ISBN 0-521-31134-9 (pbk.)
1. Soil chemistry. 2. Soil fertility. 3. Soil pollution.
I. Killham, Ken. II. Edwards, Anthony. III. Title. IV. Series.
S592.5.C74 1993
631.4'1—dc20 92-30511 CIP

ISBN 0 521 32269 3 hardback
ISBN 0 521 31134 9 paperback

Transferred to digital printing 1999

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PREFACE

Over recent years, there has been a remarkable rise in the perceived importance of soil chemistry. A couple of decades ago, it tended to be regarded either as a small subdivision of agriculture and horticulture, or as a subject studied for its own interest by a handful of perhaps slightly eccentric physical or organic chemists. Today it is regarded by many as a subject at the core of environmental science. The change has been brought about largely by the worldwide recognition of the vital (and much wider) role played by soil, in controlling the air we breathe, the water many of us drink, and the extent of damage by pollution. In soil chemistry textbooks, however, tradition has largely prevailed, and the main thrust has been on discussion of soil as a medium for plant growth.

The authors decided that the time had come for a rather different approach, and set about preparing this volume. Their aim was to introduce students to the nature of soils, soil processes and soil formation, but in a much broader context than soil fertility alone.

Of necessity they have had to be selective, and no doubt in so doing will not satisfy all potential users of the book. However they hope that the message will get across to students that an understanding of soil chemical behaviour is crucial in the modern world, and that soil is dynamic, so that soil and soil problems are constantly changing. Over coming decades, soil chemistry will grow even more in importance.

The authors are indebted to many students and colleagues who, by their enthusiasm, questions or doubts over many years have lead to the evolution of this text, and to Peter Campbell for many helpful suggestions. They would welcome feedback from users at any level for improvements to a possible second edition.

Aberdeen, 1992

Malcolm Cresser,
Ken Killham,
Tony Edwards.

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