On the Pacific coast, wheat farmers have generally found that bluestone-treated seed escapes wholly or in part from soil infection. Bluestone solutions (1 pound to 4 or 5 gallons of water) are so strong that heavy loss in seed germination occurs. To prevent this loss, the bluestoned seed is dipped in a lime solution. This double dipping adds considerably to the cost and labor concerned in the seed treating process. Inquiries are frequently received requesting to know if the lime can not be mixed with the bluestone and but one dipping given. As the lime counteracts the effects of bluestone on smut spores, this process is not advisable.

In devising some means to meet the situation the writer devised tests using the lime sulphur-dip so universally used in spraying fruit trees for fungous pests. Preliminary tests with wheat and barley show the lime sulphur-dip at rather dilute solutions to be very effective against both stinking smut of wheat and covered smut of barley. As a thick coating of the dip adheres to the seed, it is quite effective against soil infection. The germ of seed wheat and barley dipped in a lime-sulphur solution even as strong as one part to one part of water gave, in these preliminary tests, no noticable deleterious effects on seed germination. If further more exhaustive tests confirm the preliminary ones, a fungicide which is much cheaper than bluestone and entirely lacking in destructiveness to the seed germ will have been secured.

W. W. Mackie

University of California,
Berkeley, Cal.

SCIENTIFIC BOOKS

A Text-book of Mycology and Plant Pathology. By John W. Harshberger. P. Blakiston's Son & Co., 1012 Walnut St., Philadelphia, 1917. With 271 illustrations, vii + 779 pages.

Students as well as investigators in mycology and plant pathology will greatly welcome the appearance of the above named work, by Dr. Harshberger. This is perhaps the only American book of its kind which treats of mycology in its true relationship to plant pathology. The book is of special interest, as it is written by a man who combines the knowledge and the technique of the old and the young botanist. Dr. Harshberger's work is the result of twenty-seven years experience in teaching and in preparing men for the botanical profession.

Like all other of his works, Dr. Harshberger's present book is very exhaustive; indeed it may safely be called an encyclopedia of mycology and plant pathology. It contains a wealth of information all written in concise language. It is also abundantly illustrated, and the numerous references will be especially welcomed by students and investigators. A book of this nature should not be judged by some few imperfections, or errors, in spelling, but rather by its scope and its ability to cover the field in a precise way. In this the author seems to have succeeded.

The book is divided into four parts:

Part I. deals with systematic mycology. It is divided into twenty-one chapters in which the Myxomycetes, the Schizomycetes and the Eumycetes are considered at length. The Myxomycetes receive a considerable share of attention and emphasis is laid on the pathogenic forms. A complete bibliography is also appended. The discussion of the Schizomycetes is taken up in a similar fashion as the Myxomycetes. The pages dealing with the fungi are preceded by chapters on histology, chemistry, physiology, ecology, etc. A comprehensive treatment of enzymes in fungi is also given. The chapter on the geographic distribution of fungi will be appreciated by the plant pathologist. The distinctive features of the taxonomic chapters on the fungi is that emphasis is laid on the forms pathogenic to plants.

Part II. takes up a general consideration of plant pathology. The various forms of disease, the predisposing factors, the symptoms, etc., are very clearly set forth.

Part III. deals at first with a list of specific diseases of economic plants. These are taken up alphabetically and the reader is referred to a list of fairly extensive agricultural experiment station bulletins. The second part of

Part III. goes into detailed account of specific diseases of plants in which the hosts are also taken up alphabetically. Only those diseases which are of economic importance are considered. The doubtful ones, or those of little economic importance, are omitted. Here plant pathologists will find ground to differ with the author in his choice of those specific diseases which he considers most important. The survey in the chapter of non-parasitic, or physiologic, diseases will be appreciated by the student.

Part IV. takes up a detailed account of laboratory and teaching methods. Here the author incorporates much of his own methods and technique. This part will be found of particular interest to the teacher of both undergraduate and graduate students. Part IV. is made up of forty-six lessons in which every phase of laboratory technique is elaborately and clearly set forth. Finally the book concludes with an appendix which considers the preparation of fungicides and insecticides, spray calendar, keys for determining species of *Mucor, Aspergillus, Penicillium,* Erysiphaceæ and the fleshy fungi.

The distinctiveness of the book is the extensive field which it covers in mycology and plant pathology. It stands by itself, in its difference from the average American text-book bearing on these subjects. The book fills a timely want, and it should find a place in every library of the teacher, investigator or student.

J. J. TAUBENHAUS
TEXAS AGRICULTURAL EXPERIMENT STATION

THE ROYAL COLLEGE OF PHYSICIANS[1]

THE four hundredth anniversary of the foundation of the Royal College of Physicians of London is an event which can not be allowed to pass without comment. On September 23, 1518, Henry VIII. granted the charter by which the college was constituted. He did so, moved by the example of similar institutions in Italy and elsewhere, and by the instigation of Thomas Linacre and others of his own physicians, and of Wolsey his chancellor, with a view to the improvement and more orderly exercise of the art of physic, and the repression of irregular, unlearned and incompetent practitioners of that faculty. The college consisted of eight persons known as "elects," with power to elect from amongst themselves a President annually, and to choose the "most cunning and expert men" to fill vacancies as occurred in their number. At the same time it was enacted that no person except a graduate of Oxford or Cambridge, without dispensation, should be permitted to practise physics throughout England, unless he had previously been examined and approved by the president and three of the elects. The first meetings of the college were held at Linacre's private house in Knightrider Street, the front portions of which, comprising a parlor below and a chamber above, used as a council room and library, were given to the college during Linacre's lifetime. These small premises—the ground on which they stood only measuring about twenty-four square feet—continued to be used for nearly a hundred years. But in 1581 they were enlarged, and a capacious theater added, in which to deliver the lectures founded by Dr. Caldwell and Lord Lumley, in 1583. Dr. Foster was the first Lumleian lecturer. A botanical garden, under the supervision of Gerard, was also secured. Linacre, founder of the college, learned both as physician and scholar, was president until he died in 1524. Of distinguished successors and benefactors of the college during its first hundred years of existence the names of Clement (1544), professor of Greek at Oxford; of Wotton, the zoologist; of Caius (1555), linguist, critic, physician, naturalist, second founder of Gonville and Caius College, Cambridge, antiquarian and designer of the insignia of office still used by presidents; of William Gilbert (1600), author of "De Magnete" and first physicist of the college, naturally occur to us. The last meeting in the old college in Knightrider Street was on June 25, 1614; the first meeting in the new college, in Amen Corner, Paternoster Row, was on August 23, 1614. Here, in April, 1616, Harvey

[1] From the *British Medical Journal.*