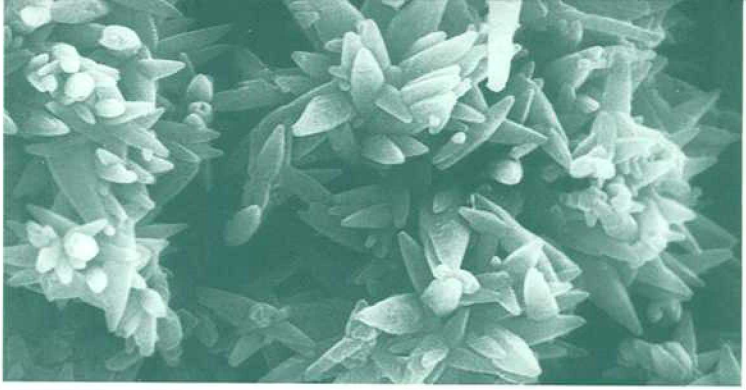
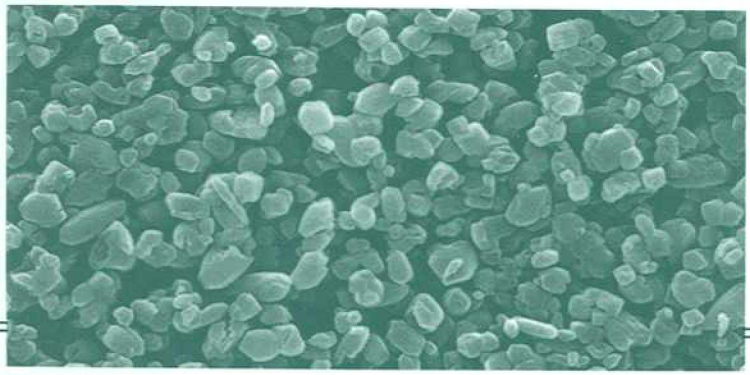


INNOVATIONS AND USES FOR LIME



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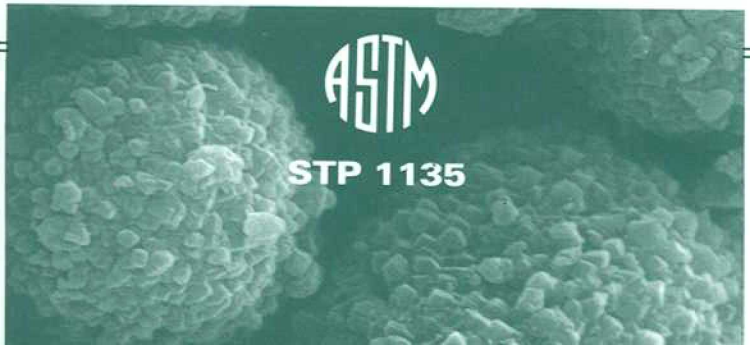

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Innovations and Uses for Lime

Daniel D. Walker, Jr., Thomas B. Hardy, David C. Hoffman, and Dewey D. Stanley, editors

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Foreword

The Symposium on Innovations and Uses for Lime was held 19 June 1990 at San Francisco, CA. The symposium was sponsored by ASTM Committee C-7 on Lime. Daniel D. Walker, Chemstar, Inc., served as chairman of the symposium and Thomas B. Hardy, Unimast, Inc., David C. Hoffman, Chemical Lime, Inc., and Dewey D. Stanley, Marblehead Lime Co., served as co-chairmen. They are also editors of the resulting publication.

Contents

Overview

It is very interesting how, over the years, the predominate uses of lime have changed. Just several years ago the steel industry was demanding research on better ways to manufacture lime to meet their needs in the newer basic oxygen furnaces. Steel went its way, but now environmental stresses are at the forefront and industry is seeking innovative ways to protect the world. Of course, lime is playing a very important role in the cleanup of air, land, and water. As time moves on, the age old chemical, lime, remains a major factor in the life of man.

Therefore, it is the intention of this publication to alert a broad range of scientists, who are engineering the cleanup of the world and devising newer and safer ways of controlling man's environment, to the versatile chemical qualities of lime.

This ASTM STP contains papers from outstanding researchers concerning the "Innovations and Uses for Lime" as presented at a Lime Symposium held at the June 1990 ASTM Committee Week in San Francisco, CA. Considerable effort went into arranging this work, and sincere acknowledgement and thanks must go to these authors. Appreciation must also go to the ASTM staff who managed these efforts.

Innovations refer to new ways of doing things, and the papers herein discuss new processes and technologies designed to streamline and protect the life of man, all with the help of lime. For example, consider the manufacture of paper. Old processes, using acid treatments, simply had to go because these processes eventually led to this type paper's self destruction.

Efficiency in construction has required new ways of building roads, and five of the papers address this subject. Included are papers concerning practical research, as well as theoretical and pure research of lime reactions with soils, including the controversial high sulfate soils.

Environmentally, lime has and is playing an important role in the cleanup of acid rain, acid lakes, and waste sludges. Some innovative uses of lime in this arena are the high surface area hydrated limes being used increasingly in the control of gaseous acid effluents, and the use of waste lime and cement kiln dusts to stabilize hazardous materials, especially the heavy metals.

As time moves on, new and possibly greater challenges will face society. Researchers worldwide are working harder than ever to innovate, control, or find answers to age old problems. In this process of searching, it's important to know what is being done contem-

porarily so that the thread of discovery can be lengthened. One idea leads to many more. The innovations given in this work may very well be the spark to newer and better ways of doing things. If so, the purpose of this lime symposium has been met.

Daniel D. Walker, Jr.

Chemstar Lime Co.
Henderson, NV 89015; symposium chairman and editor.

Thomas B. Hardy

General Lime Co.
Bay Village, OH 44140; symposium co-chairman and editor.

David C. Hoffman

Chemical Lime, Inc.
Fort Worth, TX 76121; symposium co-chairman and editor.

Dewey D. Stanley

Marblehead Lime Co.
Chicago Height, IL 60411; symposium co-chairman and editor.

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