

*Technology and Policy for Suppressing
Grain Dust Explosions in Storage Facilities*

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Technology and Policy for Suppressing
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Foreword

In 1993 the House Committee on Agriculture acted on legislation authorizing appropriations for the Federal Grain Inspection Service of the U.S. Department of Agriculture. During consideration of the bill, the Committee devoted extensive discussion to technologies used to suppress hazardous grain dust. Left uncontrolled, grain dust can become highly explosive under certain conditions, posing grave threats to the lives of facility employees and others.

To ensure workplace safety, grain handling facilities engage in a variety of activities to control the accumulation of grain dust, such as good housekeeping practices, pneumatic systems, and liquid additives. The application of liquid substances -- either water or oil -- to grain is an effective but controversial method of dust suppression. The Committee heard conflicting testimony from scientists on the effectiveness and cost of liquid additives from how effective they were for dust suppression to how detrimental these technologies were to end-use characteristics of the grain. In addition, the Committee was made aware of an ongoing federal criminal investigation about the alleged use of water systems to increase the value of grain by increasing its weight.

This report responds to the bipartisan request of the House Committee on Agriculture to assess these alternative technologies with regard to their effectiveness in suppressing grain dust, the benefits and costs of each technology, and the costs of banning the use of water as a dust suppressant. Although water can be very effective in suppressing grain dust the potential for abuse to increase the weight of grain, its moisture content, or its value is great. The most effective method of preventing the illegal application of water on grain is to remove the economic incentives from the addition of moisture. As long as the weight of grain sold can be increased, without decreasing the sale price, farmers and grain handlers will have a strong incentive to add water by any of several means. Changing marketing practices to remove the economic incentive to gain from the addition of water would be the most effective way to solve this problem.

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