



GRAIN DUST EXPLOSIONS DECLINE IN 1982

The number of grain dust explosions in the U.S. dropped sharply during 1982 according to statistics collected by Robert W. Schoeff, Extension Marketing and Safety Specialist, Kansas State University. These data were assembled throughout the year in cooperation with the individual firms and Mike Lyman, USDA-FGIS, Safety Director and OSHA personnel.

There were 14 reported explosions in 1982 compared to 21 in 1981 and a peak of 44 in 1980. The 10 year average is 19.

The decrease was attributed to:

(A) an increased safety awareness on the part of employees and management that GRAIN DUST IS EXPLOSIVE and must be treated with great respect,

(B) this awareness has come about through safety programs and materials developed by industry, Extension Service, insurance companies, trade associations, Government and trade unions that focus on causes and prevention,

(C) a slow down in overall grain movement that allowed more time for maintenance and housekeeping.

Last year, six individuals were killed and 34 injured compared to 13 killed and 62 injured in 1981. One major accident at Council Bluffs, Iowa accounted for 5 of the deaths and 24 of the injuries.

Property damage ranged from minor to millions of dollars and the total loss of the terminal facility at Council Bluffs and a county elevator at Raymond, Nebraska.

Welding was first among a variety of probable causes of the explosions. Other causes included hot bearings, defective wiring, head pulley out of alignment, fire in soybeans caused by spontaneous combustion, fire in dust that entered a pneumatic pump muffler and a propane gas explosion.

Corn was involved in 50% of the explosions. Dust from sorghum, wheat, soybeans, wheat starch, brewers grains and a mixture of malt sprouts and barely chaff were also involved.

The leading states for grain dust explosions continues to be Nebraska and Iowa with 2 each in 1982.

On the international scene, a major dust explosion occurred in January 1982 that caused 6 deaths and 20 injuries plus extensive damage to the flour milling facility at Sale, Morocco.

"This data is being collected", Schoeff said, "to build an accurate data base on dust explosions that will provide insight and direction for needed research and educational programs, assist insurance firms in more accurately assessing the risks involved and government regulatory agencies in determining the need for new safety regulations."

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NUMBER	DATE	REPORTED GRAIN DUST		EXPLOSIONS, FACILITY	U.S. - 1982		
		FIRM AND	LOCATION		DAMAGE*	KILLED	INJURED
1	Jan. 5	MFA	Caruthersville, MO	Elevator	Severe	0	0
2	Feb.4	Producers Grain	Corpus Christi, TX	Elevator	Not Available	0	0
3	Mar. 10	Continental Grain	Reserve, LA	Elevator	Minor	0	0
4	Mar. 10	Riceland Food Inc.	Helen, AR	Elevator	Moderate	0	2
5	Mar. 14	Feeders Grain & Storage	Tarkio, MO	Elevator	Minor	0	0
6	April 1	Critic Mills	Beardstown, IL	Feed Mill	Severe	1	2
7	April 8	Southern States Feed Mill	Winchester, KY	Feed Mill	Minor	0	2
8	April 20	Agri Industries	Council Bluffs, IA	Elevator	Severe	5	24
9	May 25	Central Soya Company	Henderson, KY	Elevator	Moderate	0	0
10	June 9	Farmers Co-op	Newman Grove, NE	Elevator	Minor	0	0
11	July 12	Farmers Export	Philadelphia, PA	Elevator	Minor	0	4
12	Oct. 18	Henkel Corporation	Keokuk, IA	Starch Plant	Moderate	0	0
13	Nov. 16	Raymond Co-op	Raymond, NE	Elevator	Severe	(6) ¹	(1) ¹
14	Nov. 22	Young Grain Company	Newburgh, IN	Elevator	Minor	0	0
1982: 14 Incidents						6	34
1981: 21 Incidents						13	62

*Minor - Less than \$50,000
 Moderate - 50,000 - \$500,000
 Severe - over \$500,000

Robert W. Schoeff, in cooperation
 with Ralph Regan, FGIS-USDA,
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¹All deaths and injuries were caused by a propane gas explosion under the office building which also caused a grain dust explosion in the wood elevator and fire that resulted in a total loss of the facility.