

## **Agricultural Dust Explosions in 2015\***

There were eight dust explosions reported in the U.S. in 2015 according to Kingsly Ambrose, Assistant Professor, Purdue University. This compares to 7 in 2014 and a ten-year average of 9.5 explosions.

There were 0 fatalities and 10 injured.

The explosions were in 4 feed mills, 2 grain elevators, one brewery, and one bakery.

The **probable ignition source** was identified in 1 case as a fire, 1 as hot work, 1 case motor overheating, 1 as smoldering, and 4 unknown.

**Fuel sources** were identified as 2 from corn dust, 3 from mixed feed, 1 baking ingredient, and 2 unknown.

**Dust explosions** occurred in seven different states: 2 in Oklahoma, and 1 each in Ohio, Missouri, Indiana, Georgia, Illinois, and Wisconsin

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\* This report subject to revision as additional information is received.

REPORTED DUST EXPLOSIONS IN U.S. 2015

<u>No</u>	<u>DATE</u>	<u>COMPANY</u>	<u>ADDRESS</u>	<u>FACILITY</u>	<u>FATALITIES</u>	<u>INJURED</u>
1	2015/3/11	Corbion Caravan	Grand View, MO	Bakery	0	3
2	2015/3/23	OK Foods	Heavener, OK	Feed mill	0	3
3	2015/4/16	Co-alliance	LaCrosse, IN	Feed mill	0	4
4	2015/5/2	Pilgrim's Pride	Gainesville, GA	Feed mill	0	0
5	2015/6/29	Miller Coors	Milwaukee, WI	Brewery	0	0
6	2015/7/26	Elburn Cooperative	Maple Park, IL	Grain elevator	0	0
7	2015/9/21	Mid-wood Incorporated	Center Township, OH	Grain elevator	0	0
8	2015/12/1	Simmons Feed Mill	Fairland, OK	Feed mill	0	0



Other	2	1	2	2	1	1	1	1	1	2	14
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Source: Dr. Kingsly Ambrose, Purdue University

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TABLE 2. AGRICULTURAL DUST EXPLOSIONS BY COMMODITY HANDLED AT TIME OF EXPLOSION 2005-2014

<u>COMMODITY</u>	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	<u>TEN YEAR TOTAL</u>
Corn	5	4	14	4	8	3	6	5	3	2	54
Soybeans	0	0	0	0	0	0	3	0	0	0	3
Wheat	0	0	0	0	0	0	0	1	0	0	3
Barley (malted)	0	1	0	0	0	0	0	0	0	1	2
Oats	0	0	0	0	0	0	0	0	0	0	0
Beet pulp	0	0	0	0	0	0	0	0	0	0	0
Corn starch	0	0	0	0	0	0	0	0	0	0	0
Sugar	0	0	0	0	0	0	0	0	0	0	0
Mixed feed	2	1	5	2	3	2	1	0	2	3	21
Rice (Bran)(Flour)(Hulls)	0	0	0	0	0	0	0	0	0	0	0
Wheat Flour	0	0	0	1	0	1	0	0	0	0	2
Wheat (Starch)(Gluten)	1	0	0	0	0	0	0	0	0	0	1
Other	1	1	0	1	0	3	0	1	2	2	11
<b>TOTAL EXPLOSIONS</b>	<b>9</b>	<b>7</b>	<b>19</b>	<b>8</b>	<b>11</b>	<b>9</b>	<b>10</b>	<b>7</b>	<b>7</b>	<b>8</b>	<b>95</b>

Source: Dr. Kingsly Ambrose, Purdue University

TABLE 3. U. S. AGRICULTURAL DUST EXPLOSIONS LEADING STATES - 1958 to Date

<u>STATE</u>	1958-2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	10-YEAR TOTAL	1958-2015
Iowa	94	1	1	4	3	1	1	0	0	0	0	11	105
Illinois	68	0	1	3	2	4	0	1	0	1	1	13	81
Nebraska	72	0	0	1	1	0	2	0	2	0	0	6	78
Minnesota	53	1	0	4	1	0	0	2	0	0	0	8	61
Kansas	50	1	1	0	0	0	1	1	1	0	0	5	55
Texas	44	0	1	1	0	0	0	0	0	0	0	2	46
Ohio	33	0	0	1	0	1	0	0	0	0	1	3	36
Missouri	28	1	1	1	0	0	0	1	0	3	1	8	36
Indiana	26	0	1	0	0	0	0	0	1	0	1	3	29
Louisiana	17	0	0	1	0	0	0	0	0	0	0	1	18
South Dakota	12	0	0	1	0	1	0	1	1	0	0	4	16
Wisconsin	7	0	0	0	0	0	0	0	1	0	0	1	8

Source: Dr. Kingsly Ambrose, Purdue University