



## Current Fertilizer Prices and Projected 2016 Fertilizer Costs

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December 2015 prices are used to project 2016 fertilizer costs for corn grown on high-productivity farmland in central Illinois. December 2015 prices are lower than in recent years, leading to lower projected 2016 fertilizer costs.

### Fertilizer Prices in December

The Agricultural Marketing Service reports fertilizer prices in its twice monthly *Illinois Production Costs Report*. In the December 10<sup>th</sup> issue, the average price of anhydrous ammonia in Illinois is \$650 per ton. This 2015 December price is \$78 per ton lower than the \$728 per ton in December 2014. The \$650 price is the lowest price since 2008 when anhydrous ammonia was selling for \$478 per ton (see Table 1)

Diammonium phosphate (DAP) currently is \$536 per ton. The 2015 price is \$23 per ton lower than the 2014 price of \$559 per ton. DAP has been lower than the 2015 price two times since 2008: \$408 per ton in 2009 and \$501 per ton in 2013 (see Table 1).

Potash is \$414 per ton in December 2015. The 2015 price is \$65 per ton lower than the 2014 price of \$479 per ton. The potash price has not been lower during the 2008 – 2015 period covered in Table 1.

### Fertilizer Costs

Implied fertilizer costs for the coming year are calculated using December prices. These implied costs allow assessing the joint impacts of fertilizer price changes across years as well as to provide predictions of coming year's costs. Per acre fertilizer costs are calculated using requirements for corn producing 200 bushels per acre, with phosphorus and potash applications at replacement levels. Fertilizer requirements come from the *Illinois Agronomy Handbook*. Amounts used in calculations are 215 pounds of anhydrous ammonia, 190 pounds of DAP, and 60 pounds of potash. Resulting costs are shown in the "Implied Corn Fertilizer Costs" column of Table 1

December 2015 prices result in fertilizer costs of \$133 per acre. This cost is below the implied cost using December 2014 prices of \$145 per acre. Overall, the December 2015 prices result in the lower cost than any year back to December 2009. In December 2009, implied costs were \$109 per acre (see Table 1). Lower implied costs suggests that 2016 fertilizer costs will be lower than in recent years.

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**Table 1. Fertilizer Prices in December and Fertilizer Costs, Illinois, 2008 through 2015**

Year	Fertilizer Prices In December <sup>1</sup>			Implied Corn Fertilizer Costs <sup>2</sup>	Actual Corn Fert. Costs in Following Year <sup>3</sup>
	Anhydrous Ammonia	Diammonium Phosphate	Potash		
	\$/ton	\$/ton	\$/ton	\$/acre	\$/acre
2008	880	867	883	204	185
2009	478	408	535	107	122
2010	775	670	557	164	159
2011	862	702	644	178	200
2012	891	623	592	173	193
2013	670	501	467	134	171
2014	728	559	479	145	
2015	650	536	414	133	

<sup>1</sup> Prices taken from Illinois Production Cost Report produced by Agricultural Marketing Service, U.S. Department of Agriculture.

<sup>2</sup> Calculated given an application of 215 pounds of anhydrous ammonia, 190 pounds of DAP, and 60 pounds of potash.

<sup>3</sup> Fertilizer costs taken for corn grown in Central Illinois on high-productivity farmland as reported by Illinois FBFM. The \$185 per acre cost in the 2008 row was incurred growing the crop harvested in 2009. The implied fertilizer costs using December prices are a predictor of fertilizer costs in the following year.

As one would expect, implied fertilizer costs using December prices are not a perfect indicator of fertilizer costs in the following year. December is only one month out of the year while fertilizer is purchased in many months. Moreover, quantities can vary from those used to calculate implied costs. The final column of Table 1 shown actual fertilizer costs for central Illinois high-productivity farmland in the year following the calculation of the implied costs. For example, implied fertilizer costs using December 2008 prices is \$204 per acre while costs incurred in 2009 is \$185 per acre. Even given these differences, December prices are useful predictors of fertilizer costs in the following year.

### Summary

Implied fertilizer costs in December 2015 are lower than in all years since 2009, suggesting that fertilizer costs in 2016 could be lower than in recent years. Current projections put fertilizer costs in 2016 about \$10 per acre lower than in 2015. If fertilizer prices continue to decrease, this cost decrease could become larger.