

The amount of labor needed to operate a drying system will vary considerably with the type of system. A high-temperature, fast-drying system may require frequent monitoring, while a slower system may need to be checked much less often. The labor cost per bushel dried can be estimated by dividing a typical farm labor wage rate per hour by the number of bushels typically dried in an hour by the system, then multiplying by the percent of the total drying time that labor is needed.

Total Cost

The total of annual depreciation and interest, plus maintenance and repair costs can be divided by the number of bushels dried annually to estimate a fixed cost per bushel. This value can be added to the cost per bushel for labor and handling. Dividing this total by the number of points of moisture typically removed provides an estimate of cost per point. This can be added to the cost per point for fuel and electricity to find a total cost per point of moisture removed. This value can be used to compare among different drying systems, or to a commercial drying charge. By far the largest cost components for drying grain will be fuel and/or electricity, so these costs should receive the most attention when estimating total costs.

References

Hellevang, K., and Tommy Reff. "Calculating Grain Drying Cost." AE-923, North Dakota State University Extension Service, April 1987. library.ndsu.edu/tools/dspace/load/?file=/repository/bitstream/handle/10365/17697/AE-923-1987.pdf?sequence=2

Nichols, T.E. "Economics of On-Farm Corn Drying." NCH-21, National Corn Handbook, May 1985. corn.agronomy.wisc.edu/Management/pdfs/NCH21.pdf

Shouse, Shawn, Mark Hanna and Dana Petersen. "Managing High-Temperature Grain Dryers for Energy Efficiency." PM 2089f, Iowa State University Extension and Outreach, May 2010. store.extension.iastate.edu/Product/Managing-High-Temperature-Grain-Dryers-for-Energy-Efficiency-Farm-Energy

Shouse, Shawn, Mark Hanna and Dana Petersen. "Energy Considerations for Low-temperature Grain Drying." PM 2089u, Iowa State University Extension and Outreach, May 2012. store.extension.iastate.edu/Product/Energy-considerations-for-low-temperature-grain-drying-Farm-Energy

Interest Rate	20-year Life	25-year Life
10%	.1175	.1102
9%	.1096	.1018
8%	.1018	.0937
7%	.0944	.0858
6%	.0872	.0782
5%	.0802	.0710
4%	.0736	.0640
3%	.0672	.0574

Type of Drying System	LP Gas	Electricity
Natural air	0.0000	0.2531
Low temperature	0.0068	0.1582
In-bin, stirred	0.0159	0.0076
In-bin, continuous flow	0.0159	0.0076
High temperature, air recirculating	0.0173	0.0169
High temperature, no air recirculating	0.0221	0.0105

Source: Hellevang and Reff

Worksheet for Estimating the Cost of Drying Corn Grain

- (a) Depreciation and interest:
initial investment in drying system \$ _____ x Table 1 factor _____ = \$ _____
- (b) Repairs and maintenance:
initial investment in drying system \$ _____ x .03 = \$ _____
- (c) Total fixed costs: (a) + (b) \$ _____
- (d) Average number of bushels dried per year:
_____ bushels per acre x _____ acres = _____
- (e) Fixed cost per bushel: (c) / (d) \$ _____
- (f) Handling cost: \$ _____ per bushel \$ _____
- (g) Labor cost:
wage rate \$ _____ per hr. / bushels dried per hr. _____
x _____ % of drying time labor is needed = \$ _____
- (h) Cost per bushel: (e) + (f) + (g) \$ _____
- (i) Average points of moisture removed:
beginning moisture _____ % - ending moisture _____ % = _____
- (j) Fuel cost:
fuel price \$ _____ per gallon x Table 2 LP gas factor _____ x (i) = \$ _____
- (k) Electricity cost:
electricity price \$ _____ per kWh x Table 2 electricity factor _____ x (i) = \$ _____
- (l) Total cost per bushel dried: (h) + (j) + (k) = \$ _____
- (m) Total cost per year: (l) x (d) = \$ _____
- (n) Cost per point of moisture removed: (l) / (i) \$ _____
-

... and justice for all

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Many materials can be made available in alternative formats for ADA clients. To file a complaint of discrimination, write USDA, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964.

Issued in furtherance of Cooperative Extension work, Acts of May 8 and July 30, 1914, in cooperation with the U.S. Department of Agriculture. Cathann A. Kress, director, Cooperative Extension Service, Iowa State University of Science and Technology, Ames, Iowa.
