

There's Money in Moisture When It Comes to Grain Storage Management

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Getting the best return for your harvested crop is all about managing moisture content and delivering optimum quality grain. An OPI grain storage management system with moisture cables can help you optimize returns, giving you a better understanding of your storage conditions and helping you manage your aeration and conditioning systems at the right time for the best results.

What is 'shrink' and why is it important?

Loosely defined, shrink is any moisture content that's below the optimum desired level you want to take grain to market. For example, if the allowable limit for cereal grains is 14.5%, delivering grain at 2.0% lower (at 12.5%) will result in 2.3% shrink, per the following equation:



$$\% \text{ Grain Shrinkage} = 100\% - \frac{(100 - \% \text{ Initial Moisture Content})}{(100 - \% \text{ Final Moisture Content})} \times 100$$

Losing this much value at the time of sale often includes additional costs caused by over-aeration, a common practise in the absence of good monitoring and control. Shrink can also result from field over-drying, leading to grain being binned at lower moisture contents. Ideally, grain can be harvested earlier at a higher moisture content then dried to target, provided there is enough airflow of the right (EMC-based) quality, over time. Although re-hydration can work to a limited extent, it takes about 10 times more energy to push moisture back into grain, so it is best to avoid getting into that situation wherever possible.

How to hit optimal moisture targets?

- 1. Airflow** - Have the right aeration system, based on the rule-of-thumb:
 - 0.10 cfm/bus for aeration-based temperature control
 - 0.50 cfm/bus for conditioning moisture up or down up to 2%
 - 0.75 cfm/bus when removing up to 5% points of moisture with Natural Air Drying
- 2. Moisture potential** - Understand EMC (Equilibrium Moisture Content) so fans are run only at the right time.

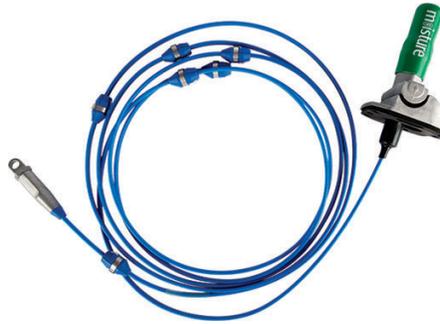
Enter Values Below to Calculate Your EMC	
Grain Type	Wheat
Units	Celsius
Ambient Temp. (°C)	20.00
Plenum Rise (°C)	2.00
RH (%)	70.00
Your Results	
Plenum RH	61.91
Ambient EMC	15.31%
Plenum EMC	13.82%

To get a sense how ambient air of a specific relative humidity and temperature will affect moisture content, check out OPI’s online EMC calculator:
<http://www.advancedgrainmanagement.com/learn-grain-management/emc-calculator/>



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- 3. Grain monitoring** - An OPI system with moisture cables, and the right curve that's matched to your specific varieties, is a great way to understand what's going on inside your bin. Having moisture sensors every 4' up the length of the moisture cables enables you to see how moisture is changing up through the grain mass, well before over-drying takes place.



OPI is proud and committed to supporting the advancement of grain production on your farming operation. Should you have any further questions regarding OPI moisture cable technology or grain storage management, we would be happy to assist you. Please contact us at 1-800-661-1055.

OPI is proud of the contribution we've made to the agricultural industry in Canada and around the world in our 30 year history. Our on-going commitment to advancing grain storage management has yielded numerous innovations to help farmers and agribusiness protect and optimize the value of their stored grain assets. We are the recognized world leading supplier of grain storage management solutions. In 2014 OPI launched OPI Blue - putting 30 years of grain monitoring expertise in the palm of your hand.