

WHY “HEAT OUTSIDE” WHEN YOU CAN RECOVER HEAT PRODUCED IN AGRICULTURAL BUILDINGS?



by **Dan Zegan, P. Eng., M.Sc., Technology Transfer Agent**
December 2019

Heating farm buildings during cold winters is a major expense that affects the competitiveness of Canadian food producers. Many have thus made significant investments to improve building insulation. In fact these days, as much as 85% of heat losses stem from the ventilation systems that are needed to reduce the threats to workers and livestock caused by germ accumulation in semi-hermetic environments. That said, a more efficient way to bring in fresh air is through the use of heat recovery air exchanger systems.

There are now numerous products on the market that target the needs of the agricultural sector. Their characteristics (dimensions, flow rate, materials used, cost, etc.) vary. However they are all designed to recover heat from stale air and to use it to preheat fresh air coming from the outside. These devices can be very effective. For example an exchanger that removes 1000 liters of air per second can save 120 liters of propane per day when the outside temperature is -20°C.

This raises the question as to why so few Quebec farms take advantage of heat recovery air exchanger systems when the number of Ontario farms doing so is increasing? In all likelihood, their benefits under real-world production conditions remain unappreciated: energy efficiency, economic benefits, reduction of greenhouse gas emissions, improvement of indoor air quality, etc.

WHO SAVES BY USING A HEAT RECOVERY AIR EXCHANGER?

All agricultural production facilities that need heating and ventilation in winter can benefit from the advantages of a heat recovery air exchanger system. This includes:

- Poultry farms (meat chickens, laying hens, turkeys, ducks and hatcheries).
- Pig farms (pig raised on natural straw bedding, maternities, nurseries).
- Greenhouse and mushroom production.

If the air exchanger is made from corrosion-resistant materials, as is the case for the Polymair 1500 which was developed by IRDA, it can also be installed in factories with hostile, humid and dusty conditions.

ELIGIBLE FOR A REBATE FROM TRANSITION ÉNERGÉTIQUE QUÉBEC'S ÉCOPERFORMANCE PROGRAM

For production facilities that require a lot of heating a heat recovery air exchanger quickly pays for itself. Since they help reduce energy consumption many models qualify for subsidy programs that reimburse up to 60% of the acquisition cost. So get informed now about how to get started!

[Click here for more information about Polymair 1500.](#)



A Polymair 1500 system. Built in Canada by PolyAlto.

TO LEARN MORE:

Éric Dion, director of business development and communications
 418-643-2380, ext. 206
eric.dion@irda.qc.ca

