

# WET WINDOWS MEAN STALE INDOOR AIR

It's that time of the year again when houses across Canada start to develop the telltale outline of condensation around the interior surfaces of window panes on cold mornings. It's a sure sign that winter is coming, and more and more Canadian homes are showing damaging levels of wet windows each year. If the causes and solutions behind wet winter windows are a mystery to you, let me show you how to fix the problem once and for all.

**// Solving the window condensation problem involves removing part of this humidity, though don't make the mistake of thinking that a dehumidifier can do the job. //**

Think back to a cold drink you enjoyed this past summer and the condensation that formed on the outside of the glass or can. That same dynamic is what makes the inside of your windows wet during cold winter weather. The window pane is like the drinking glass, and the air inside your house is like summer's hot, humid air. Cooking, showering and breathing all release many litres of water into the air each day. Solving the window condensation problem involves removing part of this humidity, though don't make the mistake of thinking that a dehumidifier can do the job.



*All heat recovery ventilators look similar. This unit is hanging from basement ceiling joists, connected to the outdoors by two ventilation pipes. One draws fresh air in, and the other exhausts stale air outside. Photo credit: Steve Maxwell*

Although the air inside your home may hold enough moisture to condense when it hits cold wintertime glass, the air outside your house will become dry when it enters your house and warms up. This is why leaky, older homes never have window condensation problems, and it's why increasing the ventilation in your house that will dry your windows.

## **DON'T DEPEND ON DEHUMIDIFIERS**

Dehumidifiers are physically incapable of lowering indoor humidity levels enough to stop window condensation, but simply opening a few windows here and there can do the job. Running exhaust fans will help even more, since this draws more dry outdoor air into the house through nooks and crannies. Trouble is, opening windows and running exhaust fans also wastes a lot of hard-earned heat, too.

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### HEAT RECOVERY VENTILATION INVENTION

Canada was one of the first nations to begin building homes tight enough to cause window condensation back in the 1970s, and it wasn't long before solving the problem of window condensation was something we needed to pioneer, too. This is why the heat recovery ventilator (HRV) was invented, and it's becoming more and more important as more homes than ever are tight enough to foster window condensation.

“ ... severely wet windows are more than just annoying sources of mold and mildew. They also indicate that the air quality in your house isn't what it should be. ”

HRVs are ventilation appliances that exchange outdoor and indoor air while recovering a majority of the energy invested in heating. HRVs work this magic by directing a stream of indoor air through thin-walled passages on its way outside. These channels are immediately adjacent to neighbouring channels where outdoor air is flowing into your house in the opposite direction. Thermal energy is exchanged through thin channel walls, without allowing the two air streams to physically mix. The condensation that normally happens on your windows now happens inside the HRV before trickling away harmlessly through a tube connected to a household drain.

Getting an HRV installed in your home costs about \$2000, so it's a pretty hefty investment. That said, severely wet windows are more than just annoying sources of mold and mildew. They also indicate that the air quality in your house isn't what it should be. In the same way that moisture is being

retained in the air because of insufficient ventilation, so are indoor contaminants and pollutants. An HRV is as much about breathing healthier as it is about eliminating the need to dry windows with towels.



Window condensation of this level promotes the growth of mold and mildew, and indicates lower-than-ideal indoor air quality.  
Photo credit: Steve Maxwell

There's no shortage of gimmicks in the air purification business. Snake oil sales are alive and well in any industry where claimed benefits are largely invisible. This is why indoor air quality products are favoured by charlatans. All this being the case, three things you can be sure of: HRVs are legitimate, they give a tremendous boost to indoor air quality, and I've never seen a case of wet winter windows that an HRV didn't cure.

Steve Maxwell, syndicated home improvement and woodworking columnist, has shared his DIY tips, how-to videos and product reviews since 1988. Follow "Canada's Handiest Man" at [SteveMaxwell.ca](http://SteveMaxwell.ca), Facebook or @Maxwells\_Tips on Twitter.

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