To reduce indoor humidity, follow these simple tips:

- While cooking, bathing and laundering, use an exhaust vent. Make sure the exhaust is vented to the outside and not into the attic or crawl-space.
- Never run your clothes dryer with the exhaust vented to the inside. Also you might want to avoid hanging wet clothes inside your home during cold weather.
- Cover pots and pans while boiling foods.
- If you have a crawl space keep the moisture in the ground by covering it with 6 mil plastic sheathing.

2. Surface Temperature Control.

In order for moisture vapor to condense, it must come in contact with a cold surface like a poorly insulated or uninsulated wall or single-pane window. Warm air holds more moisture than cold air and warm air will naturally move toward a cold surface. If warm moist air comes into contact with a cold surface it will condense forming water, frost or ice on the surface.

To reduce surface condensation here are some simple solutions:

- Have your walls, ceiling and floor checked for insulation. This can be done by calling your HRDC, an insulation contractor or your utility. If insulation levels are low or the insulation isn't filling all the nooks and crannies, cold surfaces will result. Insulation resistance “R” values should be at least:
  - Ceiling/Roof: .................................................. R 38
  - Side Walls Above Ground Level: ...................... R 19
  - Below Ground Walls: ...................................... R 11
  - Floors Over Unheated Spaces: ........................... R 19
- Add storm windows. If your windows are single-pane, condensation is probably a common problem. Installing a plastic or glass storm window over the window increases the surface temperature which reduces the condensation. The storm window must be installed with at least a 1/2 inch space between the two windows and sealed on the edges. While it may not be cost-effective, adding a storm window to a double-pane window will allow for a higher relative humidity in the home without condensation taking place.
- Allow air to circulate around the room—especially across cold surfaces. Do not cover furnace supply or return registers. Use a ceiling fan to move air. During the day leave drapes open to allow air to circulate freely over the windows. During the night close drapes to prevent warm moist air from reaching the cold window surface.
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3. Moisture Migration Control.

Even with properly installed insulation, moisture can migrate into cold walls, attic spaces and crawlspaces to form condensation. Although condensation taking place in these areas is less obvious, it is where moisture can do the most harm—not the framing, degrade insulation and corrode fasten-

ers. Moisture can sneak into these cold areas through cracks or diffuse through building materials.
Ventilation is effective in removing moisture that has migrated into an attic or crawl-space. To be effective, ventilation must provide air movement through the entire area. The most effective attic ventilation should have inlet vents along the eave and outlet vents near the ridge. Eave vents must not be blocked by ceiling insulation.

The amount of attic ventilation depends on the type of vent, roof and vapor barrier used. As a rule of thumb for attics without a vapor barrier: one square foot of attic vent should be installed for every 150 square feet of attic space.

Crawl-spaces should be vented to the outdoors. If the vents are near a corner, they will permit good air movement through the crawl-space. In a typical crawl-space, the total vent area should be at least one square foot for each 150 square feet of floor area.

So, if we reduce the indoor moisture and put on an interior storm window, we won’t have ice on the windows!

For the HRDC or tribal weatherization office nearest you, call 1-800-332-2272.