

August 25

? WHY THE WEATHER ?

Dr. Charles F. Brooks,
Secretary, American Meteorological Society,

tells how to prevent:

SWEATING CELLARS

Cellars are proverbially damp in summer, and damper because the constantly urged remedy "Keep the cellar windows open" is adhered to. The rule should read "Keep the cellar windows open when the outdoor air is dry, but keep them closed when humidity is high".

The condensation on cellar walls and cold water pipes is owing to their coolness. The walls have the temperature of the ground at moderate depths, and that temperature is about the average annual temperature of the region in which the building is located. Thus, roughly, taking April air temperatures as guides, the wall temperature is from 40 to 45 degrees from northern Minnesota, Ontario, Quebec, northern New York, through northern New England; 45 to 50 degrees from South Dakota to southern New England; 50 to 55 degrees from Nebraska and Kansas to the Middle Atlantic coast; 55 to 60 from Southern Kansas to Virginia, 60 to 65 from northern Texas to the Carolinas; and above 65 degrees from the southern half of Texas to southern Georgia and Florida. Cold water pipes have about the same temperature, because they enter the cellar from the ground.

Outdoor air often has so much moisture that its dewpoint is above the temperature of the walls. Therefore, while circulating through the cellar, the vapor is chilled and condenses upon the cool surfaces, leaving them damper than before. Thus, the better the circulation the damper the cellar.

The obvious remedy for sweating cellars is to open their windows only when the dewpoint of the out-door air is lower than the temperature of the cellar walls. The dewpoint may be found by stirring with a thermometer a mixture of tepid water and ice in a tin cup and reading the temperature when dew forms on the outside of the cup. As a rule days with northerly winds, and especially the nights, have dry cool air which readily falls into cellars to displace the warmer moist air.

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