

## VENTILATING THE COW BARN

**Some Notes and Observations on Stable Ventilation in general, with specific Information as to Ventilation Requirements of a given Dairy Stable, with Illustrated Instructions for Installation of a Suitable System.**

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The absolute need for pure air in our stables of all kinds is to-day conceded by practically every stockman. Yet only once in many visits does one find things right. The causes of imperfect success where efforts have been made are various. One of the most common is failure to give proper attention to the system installed. Another often met with is imperfect installation, while ignorance of what good ventilation really is accounts for the most failures of all.

To spend good money and careful thought installing a ventilating system, only to neglect keeping it in operation, is criminal. No effective system ever devised for use in stables is automatic in adjustment to varying atmospheric conditions. Changes in temperature or variation in wind velocity will always necessitate some change in the arrangement of the controls or checks.

Neglect to open or increase the capacity once it has been cut off in some measure in a cold time is the most common cause leading to the condemnation of what might otherwise have been a good system. Another quite frequent cause leading to the condemnation of a system is the too small capacity of the installation. The average carpenter is apt to gauge the requirements of the stable in the way of air by the coldest weather requirements. For this reason installations are very apt to be too limited in capacity for average weather conditions, and much too limited for warm weather.

Then again, an installation may be condemned unfairly because the owner of a stable expects it to do more than any system of ventilation could ever do. A common standard by which the effectiveness of a system is judged is its ability to keep the walls and ceiling free from moisture. This is frequently a most unfair test. Precipitation of moisture on walls or ceiling is due to the warm vapor or water-charged exhalations of the animals, rising and lying for too great a length of time in contact with the cold wall or ceiling as the case may be. If the construction of wall or ceiling be faulty, as for instance, where only double boards with paper between constitute the same, then no system of ventilation could keep them dry without lowering the inside temperature to practically the same as the outside. Walls possible of being kept fairly dry must have more or less insulation, that is, a dead-air space or a concrete core or shavings, or something to prevent too rapid conduction of heat. Then with a fairly rapid circulation of air the walls and ceiling may be kept dry. A ceiling protected by straw or hay overhead is the most satisfactory.

Walls with a dead-air space may usually be kept dry fairly easily. Stone walls or solid cement walls must be wood-lined to insure their being fairly dry. No system of ventilation would otherwise ever keep them dry in very cold weather.