



## Brockett's Ag Advice

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### Air movement is critical

Proper air movement for livestock is essential for health reasons, for good feed palatability, for operators comfort and health, and to prevent moisture caused structural damage. Good air movement is most essential for the babies, but does not stop with them.

What does proper ventilation do? Sometimes farmers think all ventilation does is to control temperature. With that thought in mind, they do not become concerned about how the temperature is reduced or how air moves.

Proper ventilation actually does more than control temperature. In fact controlling temperature is the way ventilation does it's more important job, that of moisture and stale air removal.

Look at it this way, cold air contains a lot of real small particles. As it warms up those small particles grow bigger. The bigger they grow the more water they can hold. In a building, that is properly ventilated, the fresh cold air comes in, picks up moisture (from the cows' breath and waste), and then is kicked out by the vent fan.

When the fresh air picks up moisture, it also collects the dust particles that hold odor and germs because they are usually attached to the moisture droplets. Thus they too are expelled from the building. Result is that the building smells better, is more comfortable, and contains fewer germs and dust. A second result is that there is less moisture to condense on cold surfaces in the building which in turn reduces deterioration of parts of the building.

#### Stall Barns

With winter weather coming,

most farmers feel they need to close things up tight. It is true cold, wet drafts can cause mastitis, pneumonia, and uncomfortable animals.

However, still, damp air at nearly any temperature can be just as devastating. It, too, can cause mastitis, pneumonia, and uncomfortable animals. Even in barns with a good ventilation system, air can be stale. The reason may be dirty or plugged inlets or bad thermostats or partially blocked fans.

Let's look at the inlets first. Dust, bird feathers, straw or hay chaff, cobwebs, or a lot of things can plug or partly plug them up. Every year a dairyman should clean them out even if it means taking the outside wire off to do the job.

If they are not working properly, air will come in through cracks, silo and hay chutes, gutter cleaner openings, door and window cracks, and anywhere else it can find an opening. The fan or fans create a vacuum in the stable area. This vacuum needs to be filled with air from some place. The purpose of inlets is to bring the air into the vacuum uniformly so there are no drafts.

Thermostats that do not work properly can also be a problem. They allow the temperature to build up too high which in turn means moisture is increasing. Temperature changes can become quite large as the fans do not turn on and off as often as they should for proper temperature and moisture control. Check the thermostats for corrosion and dirt that could cause them to malfunction.

Partly blocked fans reduce the ability of that fan to move air efficiently. This results in increased fan use to do the job which means extra energy and possibly extra fan repairs. (More cost for the job to be done). Inspect the fans for possible partial blockage. They should also be checked for dirty or rusted shutters which prevent the shutters from opening properly. Clean blades, shutters, and fan mountings. Replace fans that do not work properly.

#### Free Stall Barns:

Unlike stall barns, free stall or loose housing barns can not use temperature as a method of controlling moisture and stale air. This does not mean that moisture and stale air are not a problem for this type of structure. On the contrary, they are serious problems.

In Pennsylvania, natural ventilation can do a very good job of air movement if the building is constructed right. That means openings under the eaves and at the peak of the roof. As air comes into the pole barn under the eaves, it picks up the warm, moisture-laden air from the cows and manure and rises (warm air usually is lighter than cold air because it has bigger particles—think about a balloon).

When it gets to the top of the building, it goes out the hole in the top carrying with it all of that moisture, dust and germs. Do not close the side openings all the way or it will become more difficult to get good, fresh, dry air into the barn to absorb the moisture (water).

Also do not close the top opening, even if snow does drift down from it sometimes, or the warm, moisture-laden air will have no place to go. It will then touch the underside of the roof and cool off. The cooler air particles will shrink in size and deposit water on the wood and metal of the roof. What does water do to metal?



### Ciba-Geigy wins P.R. award

The American Society of Farm Managers and Rural Appraisers presented the Society's "Meritorius Service Communications" award to Ciba-Geigy Corporation at the 1985 annual meeting in Kansas City. The award, accepted by Jim Palmer, at left, director of advertising and promotion, recognized Ciba-Geigy's commercials, sponsored by Dual herbicide, that support the American farmer and broaden the public's understanding of agriculture. At right is James Hutchinson, chairman of the awards committee.

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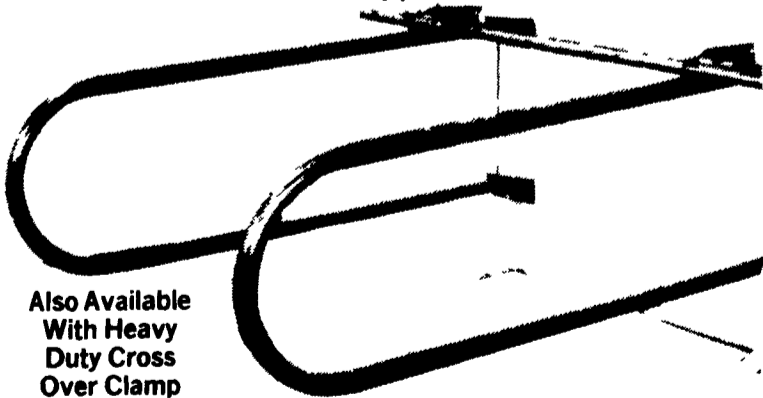
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