

# **Bunching**

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Bunching is a common problem on dairies, especially during the summer months and is characterized by cattle congregating together in one part of the barn, leaving sections of the barn empty and unused. Youngstock may also show this behavior. Bunching is a natural response to stress. To alleviate the bunching, we must identify the cause of the stress and correct it. To determine the cause of the bunching, you need to consider (1) when and where the bunching occurs and (2) if its occurrence is random or if there is a specific pattern (i.e. always in the morning).

## **Causes Of, And Solutions For, Bunching**

### 1. Heat Stress

Heat stress is a very common cause of bunching. However, this is counterintuitive as the bunching actually results in less air movement and then compounds the heat stress. They tend to bunch more as the temperature and/or humidity increases.

#### *Solutions:*

To reduce heat stress, your ventilation system needs to be evaluated to ensure that in the summer, cows have adequate air movement for cooling. For cooling it's mandatory to provide fast moving air over the cows. The velocity of this air must be at least 450 feet/min at the cow level. This can be achieved in two ways: placing fans directly over the stalls or bedded pack (where the cows are lying); or through a tunnel ventilation system. Placing high speed, low velocity fans over top of the cows is the preferred system because we can ensure the high-speed air is being directed ovetop of the cows while they're in their resting space. Tunnel ventilation works best in long narrow barns with low ceilings. With tunnel ventilation, it is critical that the air inlets are large enough and that the exhaust capacity is adequate to achieve the desired air speeds. An engineer should be consulted to design the ventilation system to ensure that it meets the minimum requirements for all four seasons of the year.

Cows typically begin to exhibit heat stress at 18-20°C, so the heat abatement system should be put into operation when the ambient temperature reaches this mark. For maximal cooling, the addition of a sprinkler system along the feed bunk is essential. The goal is to provide enough water to soak the cow but not get the udders wet. Fast-moving air over a wet hair coat results in evaporative cooling. The sprinklers typically run for 1-3 minutes every 15-30 minutes depending on the temperature. As the ambient temperature increases, the sprinkler frequency increases.

It is also very important to remember to clean your fans periodically because dirty fans can lose up to 40% of their airflow capacity. Ensuring they are well maintained and fan belts are tight will ensure maximum airflow and fan efficiency.

### 2. Lack of Fresh Air/ Less Than Adequate Ventilation

Another cause of bunching is lack of fresh air or less than ideal ventilation. This can be due to inadequate air inlets (too small [very common], wrong location, obstructed...) or due to

inadequate exhaust capacity (too small [very common], broken, dirty [very common], too slow...)

*Solutions:*

Ensure that your ventilation system is functioning properly to achieve the desired air changes per hour and suggested air speeds. The adequacy of the ventilation system can be accurately assessed by “fogging” the barn. Fogging is where a coloured smoke is placed by the ventilation inlet and is allowed to disperse within the barn. The problem areas are those where the smoke does not disperse to (called dead zones), and any area where the air speed is too slow. Either problem, if identified, needs to be corrected. Air speed is determined by an anemometer. Many clinics have anemometers and use them often to troubleshoot ventilation problems.

3. Flies

A major cause of bunching, especially in animals on pasture is flies. There are several different species of flies including stable flies, horseflies, deer flies, horn flies, face flies and houseflies. By bunching together the cows are trying to avoid and protect themselves from their painful bites.

*Solutions:*

The main way to minimize bunching from flies is to disrupt the lifecycle of the flies to reduce their numbers. Implementing the following strategies will help to minimize the numbers of all species: (1) frequent cleaning of feed alleys to remove spoiled feed, (2) frequent removal of manure (manure gutters, bedding packs, hutch packs, calf pen packs), (3) storing the spoiled feed and manure farther away from the barn, (4) removing vegetation from around the barn [this will also improve ventilation], (5) avoid water pooling in and around the barn and (6) maintaining a clean facility to reduce/eliminate breeding grounds for flies, and (7) fly repellent therapy (*Cylence*, *BOSS Pour On* are both licensed for lactating cattle).

4. Light Avoidance

Light avoidance tends to be secondary to other stressors such as heat stress. Sunlight on its own can occasionally cause bunching in the darker areas of the barn, but if combined with less than adequate ventilation, it definitely will. There is some research that suggests that cows associate light with heat and that may be a contributing factor. Direct sunlight on a cow's body on its own can make the cow too hot. We see proof of that in freestalls where the wall-stalls are in direct sunlight during certain times of the day (no cows lie in those stalls), and with cows on pasture (lie in the shade wherever possible).

*Solutions:*

After all other stressors and causes of bunching have been investigated, light avoidance should be considered. Reduce the sunlight exposure into the barn by the use of awnings, or by extending the roof-lines, or by the use of shade curtains.

As there are many causes of bunching in cattle. It is important to investigate the problem thoroughly to accurately determine the cause(s). In that way, the issue will be properly addressed. Please speak to your veterinary advisor if you have any questions or concerns regarding bunching in your cattle.