Need to Know: Stress Factors for Beef Cattle

WHAT TO KNOW ABOUT STRESS IN BEEF CATTLE

Stress is defined as the symptom resulting from exposure to a situation or environment that is not normal for an animal. Stress can often be seen when animals are handled and/or transported.

Stress affects animals in two ways:

• Psychologically – fear resulting from restraint, handling, neglect or unfamiliar objects or environments
• Physically – hunger, thirst, fatigue, injury or thermal extremes

A number of specific factors produce stress. These factors include:

1. Temperature:
   • Effective ambient temperature – the combination of humidity, precipitation and heat radiation
   • Comfort zone – range in which an animal does not have to increase normal metabolic rate
   • Lower critical temperature – animal shows symptoms of cold stress (i.e., increases feed intake)
   • Upper critical temperature – animal show symptoms of heat stress (i.e., decrease feed intake)

2. Poor ventilation – the movement of air through the environment

3. Overcrowding – overpopulation of animals in one area of an environment

4. Transportation – trailer, truck or cage
5. Changed housing or facility – unfamiliar living space
6. Working equipment – unfamiliar facilities and equipment
7. Pests – flies, mosquitoes, lice and ticks that irritate physically and psychologically
8. Human exposure – extent of familiarity or socialization with people.

Symptoms of Stress

Animals often show common behaviours when they are experiencing stress. These behaviours include:

• Making noise
• Attempting to run away
• Lethargy
• Decrease in, or lack of, appetite
• Isolation
• An elevated or increased respiratory rate
• Dehydration
• An elevated heart rate.

Cattle show specific behaviours when they experience stress. Symptoms to watch for include:

• "Bawling" noise
• Fight or flight aggression
• Lethargy
• Decrease in or lack of appetite
• Isolation from herd
• Increased respiratory rate
• Dehydration.
Factors that Help Prevent Stress

**Heat**

Provide shade and use bedding that does not hold heat, rinse down the environment, provide fresh water daily and utilize window or fans when temperature is over 24°C.

**Ventilation**

Ensure there is adequate ventilation and provide an outside area for animals when possible during the day.

**Overcrowding**

Make sure there is room for each animal to lie down and have their own water and feed trough space. Time should be given to move animals from one place to the other to prevent crowding in pens and chutes. Never move animals in the heat of the day or when it is very windy. Both of these conditions can cause stress.

**Transportation**

Ensure a clean and safe mode of transportation that has room for each animal and adequate ventilation. If the trip is long, provide only a few stops to exercise, feed and water animals. When possible, practise loading and moving animals for shorter distances to get them used to travelling.

Housing or Facilities

Provide similar environments to the one the animal was in before and allow the animal time to get used to its environment before working with it.

**Working Equipment**

Chutes, pens and other equipment should reflect the animal’s normal motions and actions without causing any pain.

**Pests**

Provide pest control in the environment and on the animals to stop infestations. Ensure that living spaces are kept clean and well maintained.

**Human Exposure**

Take time and small steps to approach and work with an animal. Be patient and give the animal time to adjust to its environment and the people who will be working with it.

**Treatments for stress**

- Remove stress-producing factors from the animal’s living and working environments.
- Provide water for dehydration.
- Increase opportunities to exercise.