

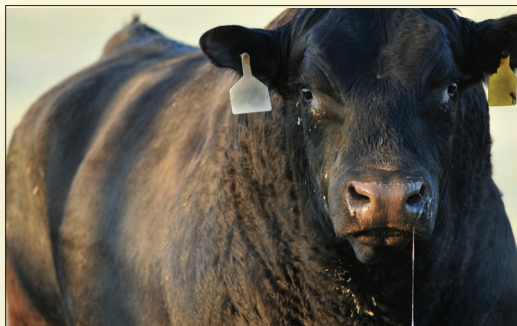





Risk Category	AHLU	Behaviors	Visual	Action Plan
NONE	AHLU = 0	<ul style="list-style-type: none"> » normal breathing, no panting » hard to see chest movement » respiratory rate <40 » panting score 0 		
MILD	AHLU .1 - 10	<ul style="list-style-type: none"> » elevated breathing rate » slight pant, mouth closed » chest movement visible » no drool or foam » restless » increased time standing » respiration rate 40-70 » panting score 1 		
MODERATE	AHLU 10.1 - 25	<ul style="list-style-type: none"> » elevated breathing rate » slight drooling and foaming » most animals are standing » restless » animals may group together » panting score 1-2 		
MEDIUM	AHLU 25.1 - 50	<ul style="list-style-type: none"> » elevated breathing rate » drooling or foaming are present » no open mouth breathing » most animals are standing » restless » animals may group together » panting score 2 » respiration rate 70-120 		
HIGH	AHLU 50.1 - 100	<ul style="list-style-type: none"> » elevated breathing rate » open mouth breathing with occasional tongue extension » possible drooling » neck extended and head usually up » most animals are standing » restless » animals may group together » panting score 2-4 » respiration rate 120-160 		
EXTREME	AHLU > 100	<ul style="list-style-type: none"> » elevated breathing rate with pushing from flanks » open mouth breathing with tongue extended » breathing labored » respiration rate may decrease » drooling may cease » neck can be extended with head up or head down » most animals are standing » restless » individual animals may be isolated from herd » panting score 4 » respiration rate >160 and sometime variable 		






The effects of heat stress

- » Reduced Weight Gain
- » Reduced Feed Efficiency
- » Increased Feed Waste
- » Increased Water Consumption
- » Reduced Fertility
- » Compromised Rumen Health
- » Decreased Carcass Quality
- » Death

THI	Stress Level	Effects and symptoms in cattle
<72	None	<div>» Dairy cows will adjust by seeking shade.</div> <div>» Respiration rate and dilation of the blood vessels will increase.</div> <div>» The effect on milk production will be minimal.</div>
80-89	Moderate	<div>» Both saliva production and respiration rate will increase.</div> <div>» Feed intake will decrease and water consumption will increase.</div> <div>» There will be an increase in body temperature.</div> <div>» Milk production and reproduction will be decreased.</div>
90-98	Severe	<div>» Cows will become very uncomfortable.</div> <div>» Rapid respiration (panting) and excessive saliva production.</div> <div>» Marked decreasein milk production and reproduction.</div>
>98	Danger	<div>» Potential cow deaths can occur.</div>

The unseen effects of heat stress

- » pH of rumen is lowered
- » rumen and gut motility is decreased, slowing the passage of feed through the intestines.
- » Increased peripheral blood flow.
- » Increased thirst and concomitant water consumption causes heavy loss of electrolytes (particularly sodium and potassium)
- » Reproductive hormones affected
- » Embryonic development is affect
- » Bicarbonate is lost
- » Stress hormones appear in the blood
- » Body attempts to shut down metabolic processes and protect heat-sensitive tissues
- » Immune function decreases, increasing susceptibility to disease organisms
- » Lower conception rates
- » Lowered fertility in bulls
- » Increased fetal death
- » Increased neonatal deaths
- » Loss of homeostasis (ability of the body to regulate physiologic processes)

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