Heat stress in Sheep & Goats

Compiled by

Dr.Ashokkumar Valupadasu

Deputy Director, V&AHD, Telangana

- Sheep and Goats tend to be less susceptible to heat stress than other livestock
- Goats :
 - Goat tolerates heat better than sheep
 - o Goats with loose skin and floppy ears are more heat tolerant
- Sheep :
 - o Wool Sheep tolerates extreme heat
 - o Black skin S/G suffers more with heat stress
 - Sheep with a one-inch fleece are more tolerant to heat than Sheep with less wool
 - o Lambs are very susceptible to heat stress

Avoiding Heat stress

- Provide plenty of clean, fresh water
- Change waterers more often
- Provide waterers in shade
- Provide electrolytes
- Provide easy access to shade
- Provide extra artificial shade /Shelter
- Not to shear Sheep and Goats in extreme heat
- Avoid transportation

Indicators of heat stress

 Behavior & Panting score (0 – 4) are the two indicators of Heat stress

stress

Heat stress Behavior

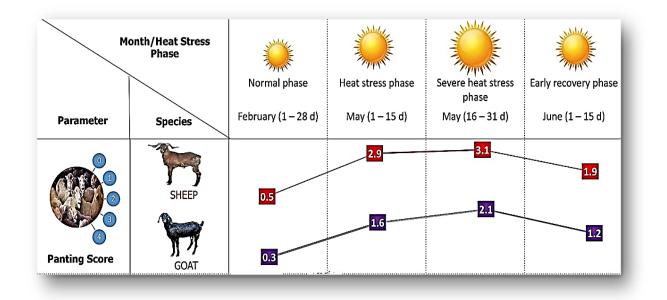
- Increased standing
- Decreased dry matter intake
- Crowding at water troughs
- Increased water intake
- Bunching (to seek shade from other Sheep)
- Increased respiratory rate





Panting score # measured as 0 - 4

0 – Normal 1 – Moderate <u>2 – Cautious</u> 3 – Severe 4 - Extreme



Measuring heat stress

The **<u>Heat index</u>** (temperature plus humidity) is a more accurate measure of heat stress than temperature alone

Reading Heat Index

- The <u>Heat index</u> is a read of External temperature & humidity
- It is used to measure heat stress in Sheep & Goats
- Reading Heat Index ?

Ex : as per below chart, if humidity is 50% & Temp is 86 F

= Heat Index is 88

The ambient Heat stress Index for Sheep & Goats is 35-40

Temperature (°F)

	80 82 84 85 88 90 92 94 96 98 100 102 104 106 108 11															
	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110
40	80	81	83	85	88	91	94	97	101	105	109	114	119	124	130	
45	80	82	84	87	89	93	96	100	104	109	114	119	124	1.60		
50	81	83	85	88	91	95	99	103	108	113	118	124	131	1.97		
55	81	84	86	89	93	97	101	106	112	117	124	180				
60	82	84	88	91	95	100	105	110	116	123	129					
65	82	85	89	93	98	103	108	114	121	128						
70	83	86	90	95	100	105	112	119	126	1.38						
75	84	88	92	97	103	109	116	124								
80	84	89	94	100	106	113	121	123								
85	85	90	96	102	110	117	125									
90	86	91	98	105	113	122										
95	86	93	100	108	117	127										
100	87	95	103	112	121											

Likelihood of Heat Disorders with Prolonged Exposure or Strenuous Activity
Caution Extreme Caution Danger Extreme Danger