

# Appendix 1 Temperature Humidity Index

The following table presents the Temperature Humidity Index (THI), calculated from temperature (in degrees Farenheit or Centigrade) and relative humidity (%), highlighting its effect on cow stress and hence performance.

Temperature		Relative humidity																																							
Deg F	Deg C	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100																			
72	22.2																					72	72																		
73	22.8																					72	72	73	73																
74	23.3																					72	72	73	73	74	74														
75	23.9																						72	72	73	73	74	74	75	75											
76	24.4																						72	72	73	73	74	74	75	76	76										
77	25.0																						72	72	73	73	74	74	75	76	77	77									
78	25.6																						72	72	73	73	74	74	75	76	77	77	77								
79	26.1																						72	72	73	73	74	74	75	76	77	77	77	77							
80	26.7																						72	72	73	73	74	74	75	76	77	77	77	77	77						
81	27.2																						72	72	73	73	74	74	75	76	77	77	77	77	77	77					
82	27.8																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77				
83	28.3																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77			
84	28.9																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77		
85	29.4																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77		
86	30.0																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77		
87	30.6																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77	77	
88	31.1																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77	77	
89	31.7																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77	77	
90	32.2																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77	77	
91	32.8																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77	77	
92	33.3																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77	77	
93	33.9																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77	77	
94	34.4																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77	77	
95	35.0																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77	77	77
96	35.6																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77	77	77
97	36.1																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77	77	77
98	36.7																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77	77	77
99	37.2																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77	77	77
100	37.8																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77	77	77
101	38.3																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77	77	77
102	38.9																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77	77	77
103	39.6																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77	77	77
104	40.0																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77	77	77
105	40.6																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77	77	77
106	41.1																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77	77	77
107	41.7																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77	77	77
108	42.2																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77	77	77
109	42.8																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77	77	77
110	43.3																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77	77	77
111	43.9																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77	77	77
112	44.4																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77	77	77
113	45.0																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77	77	77
114	45.4																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77	77	77
115	46.1																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77	77	77
116	46.7																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77	77	77
117	47.2																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77	77	77
118	47.8																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77	77	77
119	48.3																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77	77	77
120	48.9																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77	77	77
121	49.4																						72	72	73	73	74	74	75	76	77	77	77	77	77	77	77	77	77	77	77

**Five comfort zones for milking cows**

- A <72 No stress
- B 72-78 Mild stress
- C 78-89 Severe stress
- D 89-98 Very severe stress
- E >98 Dead cows

Source: Dr Frank Wiersama (pers. comm. 1990). Dep Agric. Eng., University of Arizona, Tuscon, Arizona, USA