

# TRACK YOUR CONDITIONS TO MANAGE HEAT STRESS



KemTRACE<sup>®</sup>  
**CHROMIUM**  
Essential to you and your operation.

### DAIRY COW TEMPERATURE-HUMIDITY INDEX (THI)

TEMPERATURE (°F)	110	81	83	84	86	87	89	90	91	93	95	96	97	99	100	101	103	104	106	107
	108	81	82	83	85	86	88	89	90	92	93	94	96	97	98	100	101	103	104	105
	106	80	81	82	84	85	87	88	89	90	91	93	94	95	97	98	99	101	102	103
	104	79	80	81	83	84	85	86	88	89	90	91	93	94	95	96	98	99	100	101
	102	78	79	80	82	83	84	85	86	87	89	90	91	92	94	95	96	97	98	100
	100	77	78	79	81	82	83	84	85	86	87	88	90	91	92	93	94	95	96	98
	98	76	77	78	80	80	82	83	83	85	86	87	88	89	90	91	92	93	94	95
	96	75	76	77	78	79	80	81	82	83	85	86	87	88	89	90	91	92	93	94
	94	74	75	76	77	78	79	80	81	82	83	84	86	86	87	88	89	90	91	92
	92	73	74	75	76	77	78	79	80	81	82	83	84	85	85	86	87	88	89	90
	90	72	73	74	75	76	77	78	79	79	80	81	82	83	84	85	86	86	87	88
	88	72	72	73	74	75	76	76	77	78	79	80	81	81	82	83	84	85	86	86
	86	71	71	72	73	74	74	75	76	77	78	78	79	80	81	81	82	83	84	84
	84	70	70	71	72	73	73	74	75	75	76	77	78	78	79	80	80	81	82	83
	82	69	69	70	70	71	72	73	73	74	75	75	76	77	77	78	79	79	80	80
	80	68	69	69	70	70	71	72	72	73	74	75	75	76	76	77	78	78	79	79
	78	67	68	68	69	69	70	70	71	71	72	72	73	73	74	74	75	75	76	76
76	66	67	67	68	68	69	69	70	70	71	71	72	72	73	73	74	74	75	75	
74	65	66	66	67	67	67	68	68	69	69	70	70	71	71	72	72	73	73	73	
72	64	65	65	65	66	66	67	67	67	68	68	69	69	69	70	70	70	71	71	
	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	
	HUMIDITY (%)																			

### HUMAN HEAT INDEX

TEMPERATURE (°F)	110	136																		
	108	130	137																	
	106	124	130	137																
	104	119	124	131	137															
	102	114	119	124	130	137														
	100	109	114	118	124	129	136													
	98	105	109	113	117	123	128	134												
	96	101	104	108	112	116	121	126	132											
	94	97	100	103	106	110	114	119	124	129	135									
	92	94	96	99	101	105	108	112	116	121	126	131								
	90	91	93	95	97	100	103	105	109	113	117	122								
	88	88	89	91	93	95	98	100	103	106	110	113								
	86	85	87	88	89	91	93	95	97	100	102	105								
	84	83	84	85	86	88	89	90	92	94	96	98								
	82	81	82	83	84	84	85	86	88	89	90	91								
	80	80	80	81	81	82	82	83	84	84	85	86								
		40	45	50	55	60	65	70	75	80	85	90								
	HUMIDITY (%)																			

<b>EMERGENCY</b> > 90	Severe stress — life threatening conditions for lactating cows. Respiration rates are 120-140 BPM. Rectal temperatures may exceed 106°F. Extreme danger of heat exhaustion and/or heat stroke for people when working in these conditions.
<b>MODERATE</b> 80-89	Moderate to severe stress for lactating cows. Respiration rate exceeds 85 BPM. Milk losses ~ 8.7 lbs/cow/day. Rectal temperature exceeds 104°F. Danger for people depending on age, exposure and activity.
<b>MODERATE</b> 72-79	Mild to moderate stress for lactating cows. Respiration rates may exceed 75 BPM. Milk losses ~ 6 lbs/cow/day. Rectal temperatures will exceed 102.2°F. Extreme caution for people depending on age, exposure and activity.
<b>MILD</b> 68-71	Stress threshold for lactating cows. Respiration rate may exceed 60 BPM. Milk losses begin ~ 2.5 lbs/cow/day. Reproductive losses are detectable and rectal temperature exceeds 101.3°F. Caution for people depending on age, exposure and activity. People may not feel heat stress until 80°F and 40% humidity.

## HOT TIPS TO ABATE HEAT:

### SHADE

Provide shade in places animals frequently stand outside including feed bunks, waterers and resting areas.



### WATER

Make drinking water available in multiple locations in every pen and exit alleys from the parlor. Ensure water is clean, appealing and palatable, which means cleaning waterers daily.



### FANS & SOAKERS

Keep additional methods of cooling, such as fans and sprinklers or soakers, accessible for all cattle, especially when space is tight.

In order of importance, these areas include:

- Holding pens
- Far-off and close-up dry cows
- Maternity pens
- Fresh cow and heifer pens
- High production and milking pens
- Milk parlor and exit alley
- Hospital pen
- Work areas, such as cattle chutes and palpation rails



[kemin.com/heatstress](http://kemin.com/heatstress)