

EVENTS AND ACTIVITIES HELD ON HOT DAYS

Introduction

The PCV State Office is often asked when events or activities such as rallies or clinics should be cancelled or restricted to the cooler hours of the day.

The Federation Equestre Internationale (FEI), Equestrian Australia (EA) and Sports Medicine Australia (SMA) use the Wet Bulb Globe Temperature (WBGT) to guide them when decisions need to be made.

Horse and Human Welfare

We all know from experience that it is easier for us and our horses to work in conditions of low humidity even when the temperature is higher than it is in conditions of high humidity. The addition of a breeze creates added comfort. This is because the body is cooled by the evaporation of sweat on the skin. Evaporation slows as humidity rises and air circulation reduces.

An overheating body will suffer heat stress and, without intervention, ultimately death.

The WBGT combines a number of measures such as temperature, humidity, wind and radiation to calculate an index of the heat load. The Australian Bureau of Meteorology (BOM) has created a simplified chart that approximates the WBGT for sunny conditions with light winds.

		Temperature (°C)																														
		20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
Relative Humidity (%)	0	15	16	16	17	18	18	19	19	20	20	21	22	22	23	23	24	24	25	25	26	27	27	28	28	29	29	30	31	31	32	32
	5	16	16	17	18	18	19	19	20	21	21	22	22	23	24	24	25	26	26	27	27	28	29	29	30	31	31	32	33	33	34	35
	10	16	17	17	18	19	19	20	21	21	22	23	23	24	25	25	26	27	27	28	29	30	30	31	32	32	33	34	35	36	36	37
	15	17	17	18	19	19	20	21	21	22	23	23	24	25	26	26	27	28	29	29	30	31	32	33	33	34	35	36	37	38	39	
	20	17	18	18	19	20	21	21	22	23	24	24	25	26	27	27	28	29	30	31	32	32	33	34	35	36	37	38	39			
	25	18	18	19	20	20	21	22	23	24	24	25	26	27	28	28	29	30	31	32	33	34	35	36	37	38	39					
	30	18	19	20	20	21	22	23	23	24	25	26	27	28	29	29	30	31	32	33	34	35	36	37	39							
	35	18	19	20	21	22	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39								
	40	19	20	21	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39									
	45	19	20	21	22	23	24	25	26	27	27	28	29	30	32	33	34	35	36	37	38											
	50	20	21	22	23	23	24	25	26	27	28	29	30	31	33	34	35	36	37	39												
	55	20	21	22	23	24	25	26	27	28	29	30	31	32	34	35	36	37	38													
	60	21	22	23	24	25	26	27	28	29	30	31	32	33	35	36	37	38														
	65	21	22	23	24	25	26	27	28	29	31	32	33	34	36	37	38															
	70	22	23	24	25	26	27	28	29	30	31	33	34	35	36	38	39															
	75	22	23	24	25	26	27	29	30	31	32	33	35	36	37	39																
80	23	24	25	26	27	28	29	30	32	33	34	36	37	38																		
85	23	24	25	26	28	29	30	31	32	34	35	37	38	39																		
90	24	25	26	27	28	29	31	32	33	35	36	37	39																			
95	24	25	26	27	29	30	31	33	34	35	37	38																				
100	24	26	27	28	29	31	32	33	35	36	38	39																				

Note: This table is compiled from an approximate formula which only depends on temperature and humidity. The formula is valid for full sunshine and a light wind

BOM notes: The approximation used by the Bureau of Meteorology does not take into account variations in the intensity of solar radiation or of wind speed, and assumes a moderately high radiation level in light wind conditions. Use of this approximation may lead to incorrect estimates of thermal stress, particularly in cloudy and windy conditions. Under these conditions the approximation is likely to lead to an overestimate of the stress. The approximation will also overestimate night time and early morning conditions when the sun is low or below the horizon.

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BOM publishes daily the approximate WBGT ('sunny' and 'shade') and AT ('shade') together with all of its other readings from its weather stations around the State. This will allow clubs and organisers to obtain information pertinent to their location. This information can be found on the Thermal Comfort Observations page: <http://www.bom.gov.au/products/IDV65079.shtml>

The Thermal Comfort Observations page also contains a link with information for Sporting Organisations that goes directly to the Sports Medicine Australia (SMA) hot weather policies for humans taking part in activities in hot conditions. SMA also uses the WBGT and gives indications about when activities should be managed or modified to prevent heat stress

Sports Medicine Australia website <http://sma.org.au/resources/policies/hot-weather/>

How to use this information

Many factors come in to play when determining the impact of the heat load. These include such things as fitness and acclimatisation of horse and rider, hydration, re-hydration and cooling down. The venue and facilities available also play a part, indoor/outdoor, shade, availability of water etc.as does the type of activity planned

Education of riders in the management of their horses in hot conditions is also vital as they may not be aware of the necessity to cool their horses appropriately.

As conditions and venue facilities vary across the State, PCV recommends that Clubs and Event Organisers follow the EA recommendations in hot weather as follows;

When the WBGT reaches or is expected to reach 32 or more extreme values, particularly in clear and calm conditions, organisers should assess their venue/event situation and consider temporarily suspending, stopping or cancelling the events.

In any case once WBGT values are over 25, they should remind riders to frequently re-hydrate and actively cool their horses.

Other Resources

- [GowGates Hot Weather Guidelines](#)
- [EA Hot Weather Policy](#)