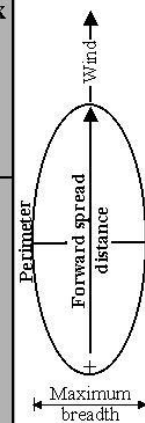


A SIMPLE FIELD GUIDE FOR ESTIMATING THE BEHAVIOUR AND SUPPRESSION REQUIREMENTS OF FIRES DRIVEN BY WIND COMING FROM A CONSTANT DIRECTION, IN OPEN, FULLY CURED GRASSLANDS AT LOW FUEL MOISTURE.

Caution: Flame heights at the fire's head will be greater than 2.5 metres. Under NO circumstances should direct attack be mounted on the head fire. Any containment action must begin from a secured anchor point and progress along the flanks toward the head as the fire edge or perimeter is "knocked down".

Beaufort Wind Force ^a	Forward spread distance/perimeter length/maximum breadth versus elapsed time since ignition -----kilometres-----				Head fire intensity --kW/m--	Head fire flame length -metres-	Minimum firebreak width required to stop head fire ^b -----metres-----	
	0.5 hour	1 hour	1.5 hour	2 hour			Trees absent	Trees present
	0-1	0.7/2.4/0.4	1.3/4.9/0.7	2.0/7.3/1.1			2.6/9.8/1.4	2300
2	1.0/2.7/0.4	2.0/5.5/0.7	2.9/8.2/1.1	3.9/10.9/1.5	3450	3.3	6	13
3	1.6/3.7/0.4	3.2/7.4/0.8	4.8/11.1/1.2	6.3/14.8/1.6	5550	4.1	7	15
4	2.7/5.7/0.6	5.3/11.5/1.1	8.0/17.2/1.7	10.7/22.9/2.2	9350	5.2	8	30+
5	4.4/9.1/0.8	8.7/18.2/1.5	13.1/27.3/2.3	17.5/36.4/3.1	15 300	6.5	10	30+
6	6.1/12.5/1.0	12.2/25.0/1.9	18.2/37.5/2.9	24.3/50.0/3.8	21 300	7.6	12	30+
7	7.2/14.8/1.0	14.5/29.5/2.0	21.7/44.3/3.1	28.9/59.1/4.1	25 300	8.2	13	30+
8 & higher	7.5/15.2/1.0	15.0/30.5/2.1	22.5/45.7/3.1	30.0/60.9/4.1	26 200+	8.4+	14+	30+



^a See reverse side for details on the Beaufort Wind Scale.

^b The "Trees absent" and "Trees present" classes refer to the absence or presence of trees/scrub within 20 meters of the windward side of the firebreak. The presence of trees or scrub has a significant influence on firebreak effectiveness because they supply woody material for firebrands which can spot across the break.

Beaufort Wind Scale for estimating 10 - m open wind speed over land

Beaufort Wind Force	Descriptive Term	10 - m wind speed ---km/h---	Observed wind effects
0	Calm	< 1	Smoke rises vertically.
1	Light air	1 to 5	Direction of wind shown by smoke drift but not by wind vanes.
2	Light breeze	6 to 11	Wind felt on face; leaves rustle; ordinary vanes moved by wind.
3	Gentle breeze	12 to 19	Leaves and small twigs in constant motion; wind extends light flags.
4	Moderate breeze	20 to 28	Wind raises dust and loose paper; small branches are moved.
5	Fresh breeze	29 to 38	Small trees in leaf begin to sway; crested wavelets form on inland waters.
6	Strong breeze	39 to 49	Large branches in motion; whistling heard in telephone wires; umbrellas used with difficulty.
7	Moderate gale	50 to 61	Whole trees in motion; inconvenience felt when walking against wind.
8	Fresh gale	62 to 74	Breaks twigs off trees; generally impedes progress.
9	Strong gale	75 to 88	Slight structural damage occurs (e.g., TV antennas and tiles blown off).
10	Whole gale	89 to 102	Seldom experienced inland; trees uprooted; considerable structural damage.



Note: Fire behaviour predictions in this guide are based on head fire rate of spread in fully cured standing grasslands (Fire Behaviour Prediction System Fuel Type O-1b) on flat to undulating terrain, assuming a fuel load of 3.5 t/ha, a Fine Fuel Moisture Code of 93.2, and the midpoint of the wind speed range associated with each Beaufort Wind Force. Use of the guide is at the reader's sole risk.