

Voluntary Grain Harvesting Guide

A joint Victorian Farmers Federation and CFA initiative



Scope

This voluntary guide applies to all grain harvesting and grain handling operations that occur “in the paddock”, including operation of grain harvesters, operation of vehicles involved in transporting grain, grain dryers and grain augers. The prevention of fire and early suppression of accidental fires are likely to reduce damage to crops and machinery as well as, protecting life and property.

The intent of this document is to preserve the valuable work completed by those in the grain harvesting industries, whilst minimising the impact on the safety of communities. This voluntary guide relates to Grain harvesting specifically.

Advocated practices

1. Suspend grains harvesting operations when the **local GFDI exceeds 35**. The local actual GFDI can be determined:
 - By operators considering the weather forecast and anticipating which part of the day may exceed GFDI of 35. This can be confirmed in consultation with local farmers, via locally established networks, or
 - As measured and calculated by the machinery operator using a hand held weather station, local weather station or similar localised tool.
2. Adopt a regular maintenance program, both before and during grain harvest operations, paying particular attention to wearing parts and bearings and build-up of combustible materials. This is critical prior to and during the fire danger period.
3. Operators should be aware of potential varying ignition sources from the machinery they are utilising.
4. Have immediate access to a UHF CB radio or mobile phone.

Recommended practices

1. In the lead up to summer and conditions become dryer and warmer, increased maintenance and vigilance should be practiced. Whilst in operation operators should ensure they are regularly removing the build-up of debris from their machinery.
2. In the lead up to summer and conditions become dryer and warmer, actively seek information on voluntary harvesting cessation practices.
3. Prior to harvesting commencing, establish a minimum perimeter 4-metre fuel break around crops or paddocks to be harvested, or alternately, review your property lay-out and establish or identify a network of strategic fire breaks. These may consist of a 4-metre mown or chemical break with a 2-metre ploughed strip incorporated within it.
4. Have a well-maintained and fully operational farm fire-fighting unit with 250 litres of water located in the paddock area where harvesting or grain handling operations are occurring.
5. Operators should monitor total fire ban information advice, weather conditions and current fire incidents via sources such as the media, Bureau of Meteorology, or the VicEmergency App/VicEmergency website emergency.vic.gov.au
6. As per recommendations made in CFA's publications 'On the Land' and 'Fire Ready Kit', operators of harvesting equipment should be bushfire ready by having appropriate **fire fighting clothing available including sturdy footwear** and a plan for the protection of themselves, their equipment and the community.
7. Inexperienced operators should make themselves familiar with the fire behaviour and suppression principles within the CFA's 'On the land' publication and in CFA's 'Guidelines for Operating Private Equipment at Fires'. These are available on CFA's Website.
8. Phone 000 as soon as you detect a fire.
9. In the event of a harvester fire, if safe to do so without causing additional fires and endangering your own life, relocate the machinery to a fuel reduced area, in an attempt to prevent fire spread.

Grassland Fire Danger Index (GFDI) Fire Behaviour Relationships

GRASSLAND FIRE DANGER INDEX	RATE OF SPREAD (km/h)	DIFFICULTY OF SUPPRESSION	MAXIMUM AREA AT VARIOUS TIMES FROM START (hectares)				AVERAGE FINAL SIZE OF FIRE (hectares)
			½ hr	1 hr	2 hr	4 hr	
0-11	0.3-0.6	Low-Moderate Headfire stopped by road and tracks Head attack easy with water	3-6	20-40	80-160	320-640	3-16
12-24	1.3	High Head attack generally successful with water	15	90	360	1440	65
25-49	2.6	Very High Head attack will generally succeed at this Index	35	210	840	3360	450
50-99	5.2	Severe Head attack may fail except in favourable circumstances	80	480	2000	8000	2400
100-149	6.4-12.8	Extreme Direct attack will generally fail	105-300	630-1800	2500-7000	10000-28000	4000-32000
150+	12.8+	CODE RED	300+	1800+	7000+	28000+	32000+

For further information

VicEmergency Hotline 1800 226 226 emergency.vic.gov.au
 Victorian Farmers Federation 1300 882 833 vff.org.au
 Country Fire Authority cfa.vic.gov.au

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Voluntary Grain Harvesting Table

The table below calculates the average wind speed (kilometres per hour) for different temperature (degrees Celsius) and relative humidity (RH) combinations that equate to a Grassland Fire Danger Index (GFDI) of 35.



		2 Relative Humidity										
		5%	10%	15%	20%	25%	30%	40%	50%	60%	65%	
Temperature	15 °C	31	35	38	40	43	45	49	53	56	58	AVERAGE WIND SPEED (KPH) that equals to 35 GFDI
	20 °C	29	33	36	38	40	43	46	50	53	55	
	25 °C	27	30	33	36	38	40	44	47	50	52	
	30 °C	25	28	31	33	35	37	41	44	47	49	
	35 °C	23	26	28	31	33	35	38	41	44	46	
	40 °C	21	24	26	28	30	32	35	39	41	43	
	45 °C	19	22	24	26	28	30	33	36	39	40	
		5%	10%	15%	20%	25%	30%	40%	50%	60%	65%	

Table derived from Purton 1982. Using assumptions: fuel load of 4.5 t/ha and fuel 100% cured.

Obtain relative humidity, temperature and wind speed details as per measuring instruments operating instructions.

IT IS RECOMMENDED THAT GRAINS HARVESTING OPERATIONS CEASE WHEN THE AVERAGE WIND SPEED FOR A PARTICULAR TEMP AND RH COMBINATION IS EXCEEDED

Is the wind speed too high for me to harvest right now?

Combination example Refer to the highlighted areas on the table above.

- 1 TEMP= 40°
- 2 RELATIVE HUMIDITY (RH) = 17% (Round down to 15%)
- 3 For this combination of TEMP and RH, it is recommended that grain harvesting operations cease when the average wind speed is greater than 26kph.