

## **Watch for heating hay stacks!**

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Several hay stacks spontaneously combust i.e. self-ignite, every season in the northern and western area of Victoria. Once the hay is in the stack all you can do now is regularly monitor it for heating, taking action if necessary. Unfortunately, after all this time and technological advances in machinery for harvesting conserved fodder, there is still nothing relatively cheap to help farmers and contractors to monitor the stack temperatures internally in haystack. So it's back to what we do know and can do.

### **Watch for signs of heating**

Keep an eye out for signs of your haystack is heating. Steam condensation on the roof, mould growth, acrid fumes, and hot, humid air at the top of the stack are all good indicators. When you build stacks with suspect wet hay, always stack the bales loosely to allow air movement through them. Also spread the stack over a wide area, i.e., over several bays, thereby reducing heat build-up.

Most heating will occur over the first one or two weeks but has been known to reach "flash point" up to approximately eight weeks after baling. Monitor the stack temperature regularly from when heating is first noticed. Do this using a crowbar inserted into as deep as possible into the stack. The crowbar, when pushed into the stack and left there for two hours, can be felt by hand to give you a rough guide of the internal stack temperatures.

### **Determine the stack temperature?**

The temperature is up to about 50°C if you can hold the bar without discomfort. It is up to 60°C if the bar can be held for a short time only and up to 70°C if the bar can be touched only briefly. If you can't hold the bar, temperature is above 70°C and fire is a real possibility. Treat the stack with caution!

In the past it has been suggested to push a small pipe into the stack and lower a small thermometer to the end of the pipe to measure the temperature. While this is fine for warming hay, it is not so for severely heating hay. This action could actually allow oxygen to gain access to the inner oxygen deprived section of the stack, and CAUSE a fire to start! Very dangerous!

### **What can be done if the stack heats to danger levels?**

If a stack starts to get 'dangerously hot' pull it apart as quickly as possible. Avoid walking on the stack if you can because the extremely high temperatures may have charred the centre of the stack. You won't see this from outside. Your extra weight on top of the stack might be enough to cause the top of the stack, and you, to collapse into the dangerously hot centre. Please believe me when I say that it will be a lot more serious than just having your hair singed!

If you must walk on the top of the stack, lay down a ladder or long wide plank to walk on. Attach a rope to yourself and have someone on hand to quickly retrieve you if the plant collapses into the centre of the stack.

Be aware that as the bales are pulled out, especially in a tightly built stack, oxygen will now get access to the hot spot and actually cause ignition, similarly to throwing petrol on a simmering fire! Have the local CFA fire brigade on hand, or at least a fire cart and definitely other people around for safety reasons.

**Warning!**

If there is the slightest risk of a fire starting due to wet hay, NEVER keep machinery in the hayshed and do not allow the children to play in or near heating stacks!