Floods can lead to haystack fires!

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"Floods and haystacks don't mix," says Frank Mickan, Pasture and Fodder Conservation Specialist, DPI, Ellinbank. Not wishing to add to your existing stress and workload as a result of the floods, I do want to ensure that you don't lose any hay from spontaneous combustion i.e. fire!

What causes the hay to heat?

Hay contains sugars and protein as well as other constituents, but it's particularly the sugars and proteins to a lesser extent which are of interest to a heap of mould and fungal spores, heat resistant bacteria, mites, etc.

Yes, the grass, lucerne or cereal hay did cure to become very dry but all hays will always have a large quantity of spores in the material just waiting for the right bits to fall into place. Think of hay that is baled too wet or is rained on after baling. Don't they heat and become mouldy?

Unfortunately, this situation is no different! Your hay, if flooded, has now gotten all the bits they need to become active. **Food** (sugars, protein) plus **moisture** (floodwaters) plus **heat**. Initial heat is not felt as the water acts as a "soak" but then it warms and eventually become very warm, often too warm!

Some bales would have been "drowned", some may only be damp, and some bales or upper sections of bales will now be commencing to be slightly damp. Why? Because the dry forage acts as a "wick" drawing water upwards by capillary action and may rise up to 30 cm. This is where your problem will start and the heating will be first felt, if you can get to it. This is where you need to stick the crowbar to monitor whether the stack is heating or not

What should I do?

Inspect the entire stack base. Water may have only seeped into the back corner and may be easily missed upon inspection. If the rear and side(s) are tin walled and you suspect water may have washed or seeped in, yank a sheet or three off. Believe me, this hassle and expense is nothing compared to the shed going up!

If the bottom bales have obviously been wetted, consider moving the dry bales above them and feed the wet bottom bales out as soon as possible, as some guys are already doing. They are now rapidly becoming compost anyway.

Now, remember the wind and driving rain? Has a sheet of iron lifted completely or partly to allow some bales on top to become wet?

Monitor the heating in the stack regularly.

How can I monitor the heating?

Monitor the stack temperature regularly by using a crowbar inserted into the stack as deep as possible in the area just above the wet zone. Lave it there for two hours then remove it and feel it by hand to give you a rough guide of the internal stack temperatures.

If you can hold the bar without discomfort, temperature is up to about 50°C. If it can only be held for a short time temperature is up to about 60°C. If the bar can only be touched very briefly, temperature is about 70°C, think about panicking. If you can't hold the bar, temperature is above 70°C, start panicking! Fire is a real possibility.

What are the signs of hay heating?

Normally you would watch for signs of heating in your haystack such as steam condensation on the roof, mould growth, acrid fumes, and hot, humid air at the top of the stack. Given that these wet bales are at the base, and most are likely to be large rectangular bales which will be tightly stacked, the above signs may not be so obvious!

What do I do if heating is at dangerous levels?

Treat the stack with caution! Before the stack reaches this dangerously high temperature, pull it apart as quickly as possible. Avoid walking on top of the stack itself and use a wide plank is crossing the top is unavoidable. The extremely high temperatures may have charred well up into the centre of the stack and invisible from the 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 extremely hot centre.

Have a fire truck and definitely other people on hand for safety reasons. As bales are removed, especially in a tightly built stack, air (oxygen) will now rush in to the hot spot more quickly, and can often lead to fire.

When might spontaneous combustion (FIRE) start?

Spontaneous combustion may occur anywhere from about a week after wetting up to about 7 – 8 weeks, possibly longer in large rectangular bales. If heating is occurring, and it will, it is essential that you monitor the stack's temperature over at least period of time. The stack may cool down after a few days or weeks depending on how wet it became, type of bale, extent to which heat can escape from the shed, etc.

Snakes!

Watch for'em if moving bales now, or later. They will have been looking for a dry warm home during the floods.