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HOW TO STACK HAY, STRAW AND BEDDING BALES SAFELY



Farmers, straw merchants and equestrianists work with all manner of dangerous machinery, so the process and technique of stacking and unstacking hay, straw and bedding bales can quite often be seen as a fairly low risk activity. When in fact it can bring the most danger with many accidents leading to life-changing injuries or fatalities. This guide offers advice on how to safely stack and unstack bales.

Types of accidents

There are many known health issues associated with handling hay and straw bales even without any accidents occurring. The dust from the bales can cause respiratory problems and could cause infections in open wounds. Hay bales are heavy items and pulling, pushing, pivoting and rolling them can be a manual handling hazard, causing injuries.

Whilst these are mostly manageable, simple accidents can, and do happen often throughout the year. These could be:

- Falling from a bale.
- Falling from a piece of equipment.
- A bale falling onto an individual.
- Bales catching fire.
- Bales catching on overhead power lines.
- Tripping on bale string.
- Falling through unstable/unsuitable bale stack footing.

How can you prevent this?

Taking care to stack bales efficiently is the best way to ensure the safety of you, your colleagues, your livestock or horses and members of the public. Equally, taking the right precautions to secure the bales and maintaining them is essential.

Where do you stack bales?

- Build on firm, dry, level, freely draining ground.
- Away from potential fire hazards.
- Ensure there is good road access.
- Provide signs to warn people to keep clear of bale stacks.
- Away from overhead power lines.

How do you stack bales?

Like any stack, the bottom of it needs to be a solid foundation. How you stack bales depends on a few things though. The size and shape of a stack is important, but density plays a big part. You don't want to have weakly-constructed bales as the base of your stack.

For large square stacks:

- Start with the widest bales and try to use narrow ones as you stack.
- Alternate layers so that there is a clear overlap of roughly half a bale all around the stack.
- Don't stack any higher than 1.5x the width of the base.
- Don't stack more than ten bales on hard-standing or concrete.
- Don't stack more than eight bales where there is no hard-standing available.

For small square stacks:

- Start with the widest bales at the bottom, using narrow ones as you stack.
- Interlock with alternate layers rotated.
- Work as if it's brickwork so that every bale is locked in.

For round bales:

- Use a pyramid system.
- Don't stack bales on their ends.
- Fit outside bales with stakes to keep them in place.
- Overlap layers by roughly half a bale.

How do you unstack bales?

The trick to stacking bales is making sure that you can unstack them when you come to use them. You should never stack so high that your machinery is unable to safely bring them down.

When unstacking you should:

- Try to remember how they were stacked and work in reverse order.
- Work from the top.
- Use appropriate mechanical machinery to unstack, even if you think it's just a case of pushing a bale down.
- Be cautious of settling, this is where a bale sinks into the one below and starts to topple.
- Keep on top of things.

It could be several months from when you stack to when you unstack. In that time, lots could have happened which changed the safety of your stack. You should check bale stacks regularly.

Make sure you look out for:

- Look out for damage to the stack following poor weather.
- Look out for livestock and wild animal damage.
- Ensure children are not using the stack as a play area.
- Check that bales are still rigid in place, if it looks loose, use machinery to fix this.
- Look out for open bales or bales where the string has failed causing instability.
- Dismantle or rebuild any stacks that have become unsafe.



Other problems associated with stacks and bales

Fire

- Your insurance policy will often stipulate a maximum stack size and a minimum distance it should be kept from buildings. It's vital that these requirements are kept so that cover will remain in place should a fire occur.
- Your local fire brigade can also advise on suitable clearance distances between stacks and occupied buildings.
- Where possible, keep stacks away from public access.

Sources of ignition

- Do not store fertilisers or fuel nearby.
- Make sure electrical wiring inside your building is suitable, safe and correctly insulated.
- Do not allow smoking near stacks.
- Keep bale elevator engines free of debris by installing a protective shield or guard.

Overhead power lines

- Do not build stacks under or within 10m horizontal distance of overhead power lines.
- Avoid operating loading equipment below overhead power lines.

Dust

- Whenever possible use machinery for handling bales.
- Keep doors and windows closed on tractors and loaders.
- Avoid working with bales inside a building or enclosed space.

Vermin

- Ensure you have a good vermin control plan. Vermin such as rats can destroy vast amounts of a stack and also cause illnesses such as leptospirosis.

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