

Using poultry litter as fertiliser

Minimising the risk

Poultry litter can be an excellent way of improving the productivity of your pasture or forage crops – either applied freshly as fertiliser or as part of a compost mix.

You should be aware that poultry litter can cause health problems in livestock, but this biosecurity risk can be easily minimised.

Spreading poultry litter on pasture



Photo courtesy of USDA NRCS

What are the biosecurity risks in poultry litter?

Pathogens

Several pathogenic organisms, may be present in poultry litter – in particular, those that can cause diseases such as salmonellosis, mastitis and botulism.

Because of this risk, it is illegal to feed or allow the feeding of chicken litter to ruminants in Tasmania.

Residues and foreign objects

The bedding and faecal material in poultry litter may also include some chemicals that could end up as a residue problem in the meat or milk of livestock that graze areas recently fertilised with chicken litter.

While foreign objects such as glass, plastics and metal are unusual, given the industrial scale of chicken litter distribution, it is important to keep an eye out for these items.

Restricted animal material (RAM)

It is illegal to feed **Restricted Animal Material (RAM)** to ruminants. RAM is any feed that contains meat (of any species) or meat meal, bone meal, fish meal and even feathers.

Poultry litter typically comprises manure, bedding material and water. It will also inevitably contain significant amounts of spilled poultry feed (which may

include some meat or meat meal), feathers and, occasionally, even a carcass or carcass pieces. So, poultry litter inevitably contains some RAM – and therefore ruminants (i.e. sheep, cattle, goats, alpacas, deer etc.) must not be fed on, or allowed access to, poultry litter.

Why is it illegal to feed RAM to ruminants?

The RAM feeding ban was established in Australia in the 1990s as a specific response to the risk of Bovine Spongiform Encephalopathy (BSE, also known as Mad Cow Disease) and its equivalent in sheep, known as scrapie. While BSE has never been detected in Australia, it has been associated with human disease and caused massive disruption to trade for the livestock industries in many other parts of the world.

Having an effective ban in place on feeding RAM to ruminants means that, in the event of BSE or scrapie being detected in Australia, the most important transmission route is already blocked. It also gives our trading partners confidence in our meat products.

What are the steps to take to minimise the biosecurity risks associated with using poultry litter as fertiliser on a livestock farm?

1. When the litter first arrives on your property, make sure your ruminant livestock cannot get at it and eat any of it. Simply fence it off. Do not assume they won't eat it.
2. In good growing conditions, the pasture should be destocked for 21 days – and longer if regrowth is slow. After spreading, the litter needs some rain or irrigation to wash it into the soil. There also needs to be sufficient pasture regrowth to absorb the litter. If you cell graze, and spread the poultry litter just after removing the livestock from that paddock, the cell grazing spell period is usually more than 21 days, so that makes it easy. If you do not cell graze, you will need to spell the paddock for at least 21 days.
3. You should remove any bits of poultry carcass from the litter before spreading, as these will not break down in the spelling period.
4. Spread the litter at the rate of 15 cubic metres per hectare or less. Spreading at a higher rate means that some of the litter may remain on the pasture when the livestock are returned to the paddock three weeks later.

5. Lighter and more frequent applications are best, from a biosecurity risk management point of view, but may involve more time, fuel and possibly expense.
6. If you are applying poultry litter on a paddock that is to be cut for silage, you should ensure that the paddock has been grazed at least once between applying the poultry litter and cutting the silage. Otherwise there is a risk of salmonella developing in the silage.

Which is better – composting poultry litter or using it directly as a fertiliser?

Done properly, composting removes most pathogens from the litter. But note that it usually does not eliminate the botulism risk.

Composting can be a time consuming process and does require a degree of skill and specialised equipment. For example, a low carbon to nitrogen ratio in the compost means that much of the nitrogen is lost – so composting poultry manure on its own would prove expensive in terms of cost per unit of nitrogen.

Good compost is made to a recipe and that may include poultry litter, but would typically also include other ingredients to achieve the desirable carbon to–nitrogen ratio.

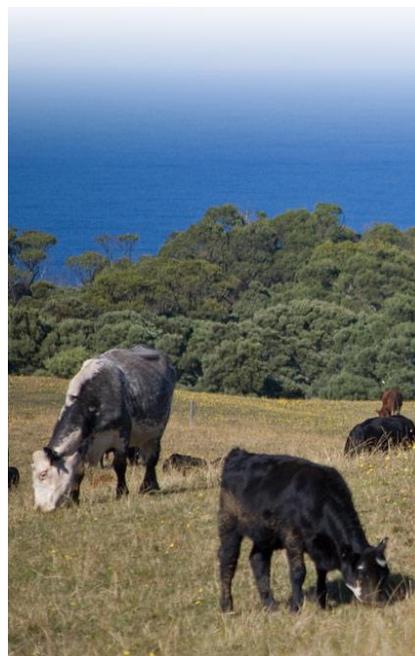
Should you store poultry litter on the farm?

Storage of poultry litter over time will result in nutrient loss and, as a result, potential pollution of nearby watercourses by those nutrients.

So, you should, where possible, arrange for the poultry litter to arrive onsite close to the ideal time for spreading (i.e. the main growing season of the pasture species being fertilised).

If you have to store it onsite for any significant length of time, you can reduce nutrient loss (and therefore the risk of pollution) by having a compacted base and covering the pile with plastic sheeting, or some other kind of roofing.

Any pile of poultry litter should be fenced so that ruminant livestock cannot access it.



Cattle grazing on pasture on the east coast of Tasmania. Image by DPIPW

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