

Manure and compost for horticulture

Organic fertilisers are an important resource for adding nutrients to soils and improving crop success and productivity. However, as an organic waste product, manures come with several contamination risks mostly relating to pathogens and chemicals. Ways to lower these risks include storing and composting to help degrade these.



What are the risks?

- Contamination of food crops can lead to zoonotic pathogens causing disease in humans and risk putting a grower out of business
- Crops that may be co-grazed, used as fodder or byproducts fed to livestock could cause disease impacting animal health and productivity.
- Ready-to-eat foods that may not get cooked are at most risk

What are the regulations

For use on ready-to-eat crops (see the table below), where raw manure or processed manure is considered, these must be followed:

1. Fresh manure/slurry can only be applied if there is a **12-month gap to harvesting**, inclusive of a **6-month gap between application and drilling/planting** of crops
2. Alternatively, manure must be **passively stored for 6 months** (no additional fresh manure being added during this period) and then can be applied.
3. Self-composted manure must be **turned at least twice in the first 7 days** and **reach 55°C for a minimum of 3 days**
4. The total length of composting with manures should be **at least 3 months** before their application, to increase pathogen removal
5. For mixed growers, where animals are directly adding manure to fields, the same **considerations as point 1 apply** regarding gaps
6. **DO NOT** – apply manure to already growing crops as these pose a high risk for contamination, **all applications should occur prior to drilling/planting**
7. **DO NOT** – source manure from animals known to have a **notifiable disease**

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Ready-to-eat crops		
Top fruit * (apples, pears etc.)	Lettuce and leafy salads	Soil based protected cropping (including tomatoes, cucumbers, peppers, cress etc.) Mushrooms
Stone fruit * (plums, cherries etc.)	Radish	
Vines *	Onions	
Nuts *	Beans (including runner, broad and dwarf French)	
	Vining peas	
	Podded peas sold fresh	
	Mangetout	
	Cabbage	
	Cauliflower	
	Calabrese/broccoli/kale	
	Courgettes	
	Celery	
	Red beet	
	Carrots	
	Herbs	
	Asparagus *	
	Garlic	
	Shallot	
	Spinach	
	Chicory	
	Celeriac	
	Fennel	
	Soft fruit * (currants and berries)	

How to do it faster

One way to potentially speed up the process of using manure is to ensure eradication of pathogens to safe levels. There are heat treatment systems that can be used for this, but these can be complicated and expensive.

Another faster way involves performing more accurate and monitored composting up to a safety standard known as 'Publicly Available Specification for Composted Materials' (PAS 100). Materials composted to this standard are no longer classified as waste and therefore do not have the regulation restrictions associated. There are costs associated with having the infrastructure and tools to perform composting to this level, along with direct accrediting body costs. Unless you have a scalable business plan to include this it might not be viable.

It could benefit you to find local PAS100 producers and looking at manure supply arrangements in return for reduced cost safe high-quality compost

Other considerations

Organic

When growing organic food it is advised that the livestock manure source is also organic. If this is not the case then you are required by many organic certification bodies to check for contamination. One example being testing for GMO contamination and filling out GMO declaration forms as well as performing pesticide residue testing.



Storage

Storage is another period where manure or composted manure can become contaminated by pathogens, as such maintaining high biosecurity during this process is key.



Application

When applying to soils, consider when, where and how you apply these amendments, to avoid contamination and run-off into neighbouring areas and water sources.



Supplier guidelines

Be aware that specific supplier guidelines may stack on top of safety regulations, so look into these when negotiating sales contracts as a grower.



Useful resources

[Horticulture Farming Connect](#)
[Food Standard Agency Guidance](#)
[Organic food certification bodies](#)
[Composting for Horticulture Guidebook](#)
[Manure Compost e-learning](#)
[On site composting e-learning](#)