

How to Properly Manage Horse Manure

Properly managing your manure will reduce flies, odour and dust and will prevent pollution to nearby waterways. Important factors to consider when managing manure are addressed below.



waste storage

Manure should be stored away from places where runoff may enter waterways or drains or where flood waters may sweep away manure.

Manure should be placed:

- more than 50 metres from surface water and private bores
- at least 150 metres from public bores
- at least 10 metres away from property boundaries
- away from a residence on a neighbouring property.

on average a horse
produces 20kg of
manure per day which
is approximately
7,300kg per year

storage size and design

In order to calculate the amount of storage you will need, measure the average daily waste (manure and bedding) and multiply that amount by the number of days between planned removal for disposal or use.

If spreading on paddocks, the time frame may need to be extended if the paddocks are inaccessible due to heavy rains. When designing the space, also consider what sort of equipment you will be maneuvering to access the manure.

Some storage options to consider are:

- covered dumpster
- 3-walled structure with roof or tarp cover
- 3-bin compost system with cover
- covered or enclosed truck bed or manure spreader
- concrete pad with one or two walls (walls will make removing manure easier)
- trash cans with lids for small facilities.

water management

Roof gutters and diversions keep clean water from entering the stable or manure pile. A cover or tarp should be used to keep rainwater out of waste storage area. Using a concrete pad on the bottom of the pile will help protect groundwater and make manure disposal easier.

composting

Composting will increase the value of manure, kill parasites and weed seeds and decrease the volume of waste.

Compost piles should be located away from buildings since they may spontaneously combust.

Piles must be turned either on a weekly basis or based on the internal temperature of the pile.

Passively aerated piles are not turned but have perforated pipes placed in the pile.

Internal temperatures of compost should reach about 60° C.

A minimum pile size of 1m³ is needed to achieve appropriate composting temperatures. A three-bin system can be used on smaller farms or windrows (long free-standing piles) can be used on larger farms.

Some guidelines for composting are:

- piles should be turned when temperatures fall below 45° C or above 60° C
- base width of the pile should be twice its height
- moisture content should be that of a wrung out sponge (30-40% dry matter)
- the ideal carbon:nitrogen ratio is 20:1 to 40:1 (horse manure with no bedding is 25:1, rice straw is 79:1 and oat straw is 48:1, wood products are 500:1, so more frequent turning may be needed or nitrogen may need to be added in the form of urea or manure if bedding is included in the mix)
- finished compost will have a soil-like texture and smell earthy
- the process can take as little as 3 months with frequent turning.

spreading

Spreading is a common way to handle manure. Some things to keep in mind:

Nutrients in manure and availability to plants

In general, manure contains 21% solids, 50kg/yr Nitrogen, 27kg/yr phosphate and 50 kg/yr potash. The amount of nitrogen available is a result of the chemical composition of the manure, manure application and management. Available nitrogen ranges from 35% if spread and left on the surface of the soil to 60% if spread and worked into the soil within a day. Available phosphorus ranges from 80% from phosphate and 90% from potash.

Time of year

It is ideal to spread manure in the spring so that you minimise potential losses before the crop can take it up and nutrients are supplied for the upcoming growing season. Spreading in the autumn is also a good idea.

Pasture versus crop paddocks

Pasture | parasite eggs or weed seeds can cause a problem if applied to pastures. If applied too thickly, grasses may be smothered.

Crops | as bedding materials are broken down by microorganisms, nitrogen depletion of the soil may occur. Nitrogen fertiliser may need to be added to prevent

this. Soil should be tested to determine crop needs and manure applied should not exceed the crop needs. Manure can be collected and packaged to send to a soil testing laboratory for analysis. A standard N-P-K (nitrogen, phosphorus, potassium) value can be determined in order to decide how many square metres the manure should be spread on.

Methods of spreading

Manure can easily be spread with a tractor and spreader. Other methods can be employed but may be more labor intensive. You might consider purchasing equipment with a friend or group of friends if it is cost prohibitive for your budget. Compost can be spread 1-3cm thick and then mixed well into the soil.

disposal

There are several options for disposal:

- rent a skip bin from a waste collection company and have it removed on a regular basis
- have a local farmer or landscaper remove manure or take manure to them on a regular basis. A hydraulic dump trailer can make delivery easier
- give manure to family, friends and neighbours for use in gardens or landscaping (ensure the use off-site does not create nuisances such as odour, dust, flies or water pollution)
- use manure or compost on crops and paddocks. If using uncomposted waste, remember that nitrogen depletion of the soil may occur as bedding materials are broken down and ensure nuisances such as odour, dust, flies or water pollution does not occur.

you, your neighbours and
your horse will be healthier
and happier with effective
manure management

The best time to consider manure management is before you even have horses on your property. However, there's no time like the present to reevaluate what you are doing and determine if you can manage manure more effectively.

Further Information

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