



Joseph Jenkins, Inc./ Ecological Sanitation International

The Humanure Handbook

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About Compost Toilet Cover Material

The “cover material” is what is used in a compost toilet to prevent odor, block insects, and create the proper balance of nitrogen and carbon to encourage composting. Toilet contents (feces, urine, toilet paper, etc.) must be buried under the cover material. *There should be a clean layer of cover material on top of the toilet contents at all times!* Cover material of the correct consistency and moisture content, used in adequate amounts, will create an odorless compost toilet no matter where it is located, without the need for venting or urine separation. If an odor is detected, then more cover material should be used. If the cover material is not completely blocking odor, then it may not be correct material (it may be too dry and airy, or too coarse, for example). Odorless compost toilets always require the correct use of cover material.

A suitable, commonly used cover material in North America would be sawdust from sawmills where logs are sawn into rough boards. Any fresh or rotted sawdust from any tree type seems to work. This sawdust is not kiln-dried and is still biologically active. The Loveable Loo compost toilet system was developed in 1977 by Joseph Jenkins because of the availability of local Pennsylvania sawdust and its efficacy as a “biofilter” to block odor. Human excrement, balanced with carbon (plant cellulose), feeds microorganisms in an aerobic compost environment. The finished compost is used to feed the soil and the soil is used to feed plants. Human excrement is never used directly to feed plants and never disposed of directly into the environment. A compost toilet provides a means for collecting human excrement in an odor-free and hygienically safe manner, then directing it into a safe and ecological composting system. You must construct your own compost bins or have your toilet contents collected by someone who will compost it for you.

KILN-DRIED SAWDUST: Kiln-dried boards, such as from a carpenter’s shop, make sawdust that is dry and airy and may allow odor to pass through. If you have a large amount of kiln-dried sawdust, leave it outside in an open pile or in an open-topped, drained container, where it can get rehydrated from rain and become biologically active. It will then be a more effective cover material. Sawdust from glued wood can also be used, but the resulting compost is not recommended for food crops. If using dry sawdust, you may find that you need more cover material to prevent odor and that the compost toilet fills up faster. Or you may need to mist the sawdust with water when applying it as cover material.

WOOD CHIPS AND SHAVINGS: Wood chips and shavings are not recommended in home-based compost piles. Very thin wood shavings will work, but they do allow odors to escape and are slow to break down in compost. Larger, municipal-sized compost piles can better utilize wood shavings. Wood chips are not recommended. The larger the wood particles, the less available they are to the bacteria that heat up the compost pile. Fine or tiny wood particles work best when being used as a cover material in the loo. Wood shavings may benefit from outdoor, exposed storage where they can rehydrate.

SUGAR CANE BAGASSE: Another toilet cover material we have used with good success in tropical locations is sugar cane byproduct (bagasse). It also makes a good cover material in the compost bins.

OTHER COVER MATERIALS: Humanure composters from all over the world have reported that they successfully use rotted leaves (rake them into a pile and let them sit and rot), fresh leaves, rice hulls, peat moss, shredded junk mail (perhaps moistened first), and coco coir (ground coconut husks), among other things. Remember that the cover material **MUST** be carbon based (i.e. it will burn if dried out).

WOOD ASHES AND LIME: Wood ashes and lime (ground limestone) are **NOT** suitable cover materials. They are mineral based, not carbon based, and they do not feed the microorganisms in a compost pile.

IN YOUR COMPOST BIN: You must use cover material in your compost bin. Hay, straw, grass, leaves, and weeds will all work. Pile on as much as you need to block odor. Remember that you don’t put fresh, potentially smelly deposits **ON** a compost pile. You put them **IN** a compost pile. Pull the cover material aside, dig a hole, add your fresh organic material, bury it with the compost, pull the cover material back over it, then add clean cover material on top. Lay a piece of wire fence over it to keep animals out, if needed. Line the bin with wire mesh to keep out rodents, if needed.