DIRECT ANIMAL FEED

Input materials	Pre-condition/Pre-treatment	Operation & maintenance needs	Objectives / Key features	Key technical parameters
Suitable organic waste: – Food leftovers – Vegetables/fruit peels **Unsuitable waste:** – Wood, branches – Leaves – Animal manure	Segregate and ensure purity of specific organic waste types that are considered suitable feed for the type of animals considered	Low operation & maintenance required	Use specific organic waste as animal feed for animal breeding purposes. For instance pigs are omnivorous and can eat various organic waste materials.	Process time: - Mass reduction: - Space: -
Outputs / products	**Technical complexity**	**Maturity level**	**Educational aspect**	
Farmed animals that themselves or their products are used	Very easy to do No particular skills required No infrastructure required	Widespread practice	**Topics:** Animal growth, Nutrients recycling **Practical exercises:** Feeding animals (if done onsite)	

Organic waste can be used for feeding animals either inside or outside the school compound. Care should be taken to provide only pure organic waste to animal (i.e. segregated at source and without any plastic or contaminating material in it).

Using organic waste as animal feed is a very-well established option to recover the nutrients contained in the waste. Humans have beenfeeding biowaste to animals since the beginning of animal domestication [1]. This process works very well for swine breeding as omnivorous animals. Other animals can also be fed with organic waste but a selection of specific organic waste types suitable as feed for the targeted animals must be considered.

Applicability: Small or large-scale operation is possible, and animal feeding can happen in the school or outside the school. If no animals are bred onsite, it is possible to ask nearby farmers if they are interested in collecting food leftovers and vegetable/fruit peels from the school to feed their animals.

Technical considerations: Using organic waste as animal feed is very easy to do and does not require any particular skill, knowledge or infrastructure if done at small scale. Yet it is very important to make sure that the waste given as animal feed is pure and free of any pathogen. For that, segregating the waste at source and making sure that no substances that are toxic to the animal are present in the waste is key. Also, be aware of the risk of bioaccumulation of heavy metals, PAHs, organochlorine pesticides [1].

Materials needed: Specific recipients for collecting pure organic waste are needed.

Technical operation & maintenance: Recipients should be washed regularly to avoid any contamination.

Health and safety: Make sure to properly wash hands after handling organic waste. If organic waste is not properly handled and free of pathogen, there is a risk of diseases transmission.

Costs: -

Social, legal, and environmental considerations: Using organic waste to feed animal might be restricted by law to avoid diseases transmission. Revise the local legislation and regulation framework.

Strengths and weaknesses:

- ⊕ Largely practiced
- ⊕ Easy process
- ⊖ Pure organic waste free is needed to avoid diseases transmission

> References and further reading

1. Lohri, C.R., et al., Treatment technologies for urban solid biowaste to create value products: a review with focus on low- and middle-income settings. Reviews in Environmental Science and Bio-Technology, 2017. 16(1): p. 81-130.