

Thumb Rules for slaughter house waste management

Introduction

“***Slaughter***” means the killing or destruction of any animal for the purpose of food and includes all the processes and operations performed on all such animals in order to prepare it for being slaughtered.

“***Slaughter house***” means a slaughter house wherein 10 or more than 10 animals are slaughtered per day and is duly licensed or recognize under a Central, State or provincial act or any rules regulations made there under - as per the notification S.O.270 (E) "Prevention of cruelty to animals (slaughter house) Rules, 2001".

Slaughterhouse waste needs to be scientifically processed & disposed to recover useful fractions and for safe disposal of pathogenic biological wastes.

Processes undertaken in a modern slaughterhouse waste include slaughtering, dressing, cutting and inspection of meats, refrigeration, curing and manufacturing of by-products.

Based on scale of operations, slaughter houses have been classified into three categories as per CPCB guidelines below:

<i>S. No.</i>	<i>Category</i>	<i>Nos. /day slaughtered</i>	<i>Tons of Live Weight Killed Per Day (TLWK)</i>	<i>Daily waste generated</i>
1.	<i>Large</i>	Above 200 large animals or more than 1000 small animals	More than 70 Tons	6-7 TPD
2.	<i>Medium</i>	50 to 200 large animals or more than 300 upto 1000 Small animals	15- 70 Tons	2-6 TPD
3.	<i>Small</i>	Less than 50 large animal and 300 small animals	Below 15 Tons	0.5-1 TPD

Processing of slaughter house waste generated

The solid waste of slaughter houses can be broadly classified into two categories as below

Type of waste	Constitution	Category of slaughter house	Disposal method
Type I	Vegetables matter such as Rumen and stomach and intestine contents dung, agricultural residue etc.	Large	Bio-methanation
		Medium	Bio-methanation Or composting
		Small	Bio-methanation or composting
Type II	Animal matter, such as inedible offals, tissue, meat trimmings, waste and condemned meat, bones, etc.	large	Rendering
		Medium	Rendering or Composting with Type I waste
		Small	Composting with Type I waste or Burial

(Source: Manual on Municipal solid waste, 2016)

Rendering: Rendering plants are set up for the recovery of fats and bone and meat meal. This is a useful method for the recovery of by-products from slaughter house waste in large and medium scale plants.

All animal matter such as inedible offal, tissues, meat trimmings, waste and condemned meat, bones etc. can be processed in a rendering system. Rendering is based on heating; heat ruptures the connective tissue of individual fat and muscle cells so that raw fat and other material bound within is released.

Rendering is of two types; viz., Wet rendering and dry rendering. Dry rendering enables 20% higher yield than wet rendering.

For small slaughter houses, composting or deep burial facility is suggested.

Composting

Composting is an aerobic biological decomposition of organic material, resulting in a stable humus like product. This is a common practice of waste stabilization but requires proper understanding of the method.

