

A slaughterhouse or abattoir

A slaughterhouse or abattoir is a place where animals are slaughtered for consumption as food.

Essential components of abattoir

1. **Lairage:** After transportation, animals are usually kept in a place where cattle or sheep may be rested on the way to slaughter for less than an hour to twenty four hours. Resting time before slaughter depends on climate, the time spent by the animals in transit, the mode of transport, the general health of the animals, and the design of the lairage.

2. **Slaughtering hall:** Slaughtering hall is a place where animals are stunning, bleeding, hanging, dehiding, removing of feet and head, and evisceration.

A. Stunning is done by using captive-bolt stunning for cow, electrical stunning for sheep, and carbon dioxide gas for pig to make the animal unconscious. However, stunning of carcass causes spots of blood in muscles due to increase in the blood pressure of the arterial and venous capillary. An increase in blood pressure and heart rate increase the rate of flow from a cut vessel five to ten times more rapid than in the intact vessel. If the bleeding operation is delayed, the carcass may be imperfectly bled and this may be accompanied by blood splashing (spots of blood in muscles).

B. Bleeding: Bleeding is done by cutting the carotid artery and jugular vein without cutting the esophagus.

C. Hanging: Animals are hung upside down from shackles attached to an automated line. With the carcass hanging upside down and the major blood vessels cut, the majority of the blood is drained from the carcass

D. Dehiding: Dehiding is done using automated machine that rotate in a circular motion to remove hide without damaging the carcass.

E. Removing of feet at the ankle joints

F. Washing the carcass: The carcasses are washing for microbial and visible concerns using steam, hot water spray washes, and a steam-vacuum sanitizer.

G. Evisceration: Evisceration refers to the removal of internal organs. Internal organs can be classified in to edible and inedible viscera

Inedible viscera	Edible viscera
Spleen	heart
Esophagus	liver
lungs	

H. Rewashing the carcass: The carcasses is now subjected to an organic acid wash helps to reduce the number of bacteria present on the tissue surface

I. The head is cut and removed

3. Processing hall: Carcass and viscera are inspected for identifying of disease or other condition using visual examination and palpation. Identify disease or other condition results in the removal or condemnation of the carcass from the processing line. Then, a stamp is applied to the carcass to identify it as inspected and passed for wholesomeness. Stamps used to mark carcass must be a non-toxic, non-corrosive material and readily cleanable.

4. Chilling room: Carcass is chilled by water spray-chilling

5. Meat products processing unit/ meat cutting room

6. Storage: Meat should be refrigerated around 30 °F to reduce the risk of microbial growth

7. Laboratory: Laboratory is essential not only for the primary diagnosis of animal disease but also to maintain the overall hygienic standards.

8. Offices: office is essential for the veterinarian / meat inspectors. The rooms should be provided with hand-washing and shower facilities, and lockers for clothing and meat inspection equipment.

9. Effluent plant/ waste water or sewage treatment

10. Condemned meat room: Condemned carcasses should be disposed off.

11. Isolation block/emergency slaughter unit: In abattoirs isolation block is necessary for isolation of suspected animals for its inspection and treatment and if necessary to do emergency slaughter in case injured animals. The isolation block will have a

small lairage to keep four cattle with a slaughter hall, cooling hall, bacteriological laboratory, an incinerator and sterilization rooms.

Dr. Alaa Alsandaqchi