

## **SMALL ESTABLISHMENTS – EU-REQUIREMENTS**

### ***Equipment for traditional (artisanal) slaughter***

#### **Introduction**

The technique used for slaughter of cattle for the production of meat for human consumption is of great importance in any establishment, because of the possibility of contamination of the meat during hide removal and evisceration.

#### **Previous requirements - Current requirements**

Previously there were different legal requirements in the EU for large and small slaughterhouses. Large and medium-sized slaughterhouses had to be approved and could trade EU-wide, but small establishments that had to satisfy certain limited legal requirements could only trade locally and/or nationally..

The current requirements, in force since the first of January 2006, do not differentiate between large and small establishments. All slaughterhouses are subject to the same rules and are consequently able to sell their products within the EU without restrictions. However, all small establishments have to receive an EU approval number if they intend to continue after 31 December 2009.

#### **Problems of small establishments**

The hygienic conditions of the individual steps of cattle slaughter depend mainly on two factors, the technical equipment used and the slaughter personnel.

In small establishments which sometimes are a part of a butcher shop, the technical equipment is in most cases rather simple. Therefore, the slaughter personnel have a large impact on the slaughter hygiene because one person has to perform not only clean, but also unclean working procedures.

The separation between unclean and clean working areas and unclean and clean working procedures in these establishments is therefore very difficult to maintain.

It is concluded that slaughter hygiene in small establishments is influenced far more by the personnel than in larger and technically better equipped establishments.

#### **Looking for a solution**

A new concept for slaughtering in small establishments has been developed, attempting to standardize the slaughtering process as far as possible to achieve a similar degree of standardization as in medium size and large establishments. This new approach should improve and standardize the slaughter in small scale establishments resulting in better work environment, improved hygiene and full compliance with legal requirements.

The technical equipment proposed should fit easily into most existing establishments.

A small slaughterhouse near Stuttgart in Germany is the first establishment where this equipment has been installed. It has now been used for several months.

#### **Workplace for traditional (artisanal) slaughter**

The workplace for traditional (artisanal) slaughter consists only of a few basic parts which can be built easily into already existing rooms.

- The frame is placed directly on the floor of the slaughter room. The total weight is approximately 1.5 tons. The weight bearing parts of the construction are made from galvanized steel profiles but other parts are made from stainless steel (e.g. apron wash cabinet, chains etc.).
- The lifting equipment is upright and is connected to the basic frame. The frame does not have to be connected to the walls or ceiling, but should be connected to existing transport

- rails and water pipes.
- Electricity can be connected easily, e.g. from the ceiling. Two electrical engines are used for lifting and operating the hide-roller, 1.8 kilowatt and 1.0 kilowatt respectively.
- The height of the room where the lifting equipment is located should be of more than 5.0 meters. In the establishment where the workplace is already installed, the width of the construction is 2.60 meters, the ceiling of the room where the lifting equipment is located has a height of 5.00 meters. These parameters could, however, be adjusted to different circumstances (Photo No.1 ).

## **Description of the working procedures**

### Preparatory procedures

The animal is stunned in a stunning box and bled in a suspended position in a room which is well separated from the slaughter room. After bleeding the animal is put onto a cradle on wheels and transported lying on its back into the slaughter room with the hind legs pointing to the workplace (Photo No.2).

The oesophagus is not opened but separated from the connective tissue using a rodding device. A closing clip is put on the oesophagus and pushed forwards to the diaphragm. This procedure could also be performed directly after the bleeding when the animal is still suspended (Photo No.3).

The method described is being used to push any content still in the oesophagus back into the stomach preventing any content being released which could contaminate the meat.

The preskinned hind-legs are then hooked onto the lifting beam which at this moment is lowered to its lowest position and the skin of the pre-skinned hind legs is connected to the hide roller. It is important at this point that the hind legs are well spread out. .

The spreading of the hind legs is necessary and has to be done forcefully to achieve a slight lifting of the hide of the lower part of the stomach area and the inner part of the hind legs. A fold of skin should appear between the two pre-skinned hind legs (Photo No.4).

The hide is cut with a hooked knife along the fold between the two pre-dehided hind legs (the so-called "Gondola Cut") followed by a cut from the middle of the first cut towards the stomach area or even the sternum. These two cuts are the only hide cuts being made before dehiding (Photo No.5).

### Working procedures during hide removal.

The removal of the hide of the inner side of the hind leg and the lower part of the stomach is done by hand. This must be done with great care and the skin must be hanging well down on both sides. A further pre-skinning is certainly possible but not necessary (Photo No.6).

At the beginning of the hide removal the animal is in a horizontal position on its back. First the skin of the outer side of the hind legs is pulled down by using the hide roller (Photo No.7). As soon as the folding rim of the skin reaches the anal tract (Photo No.8) the pull of the hide roller is released completely and the skin on both sides of the anal tract is freed by using a knife in addition to cutting the skin connection between the anal tract and the root of the tail on the inner side of the skin (Photo No.9).

After tightening the hide using the hide roller, the anal tract is closed and separated from the inner side of the hide. Only one or two holes are left in the hide. The anal tract is now slightly extracted from the body, bagged and lowered into the pelvic cavity.

It is important to note that the loosened skin is cut from the root of the tail from the inner side of the hide so that it is hanging down next to the root of the tail on both sides.

The tail can then be removed by using the hide roller and the knife.

### Removal of the hide from the back, the breast, the front legs and the head

After lifting the animal with the lifting beam up to a vertical position the hide roller is used to remove the hide from the flanks, the breast, the front legs and the head. At certain places the pulling of the hide roller has to be supported by using a knife, for example around the area of the horns and the front and side of the head (Photo No.10 a,10 b,10 c ).

### Further working steps

The special construction of the lifting beam permits the free hanging animal to be turned around the vertical axis, facilitating the evisceration and the splitting of the carcass from the working platform ( Photo No.11, Photo No.12 ).

Finally, both parts of the carcass are put onto the transport rails and are transported into the chilling rooms Photo No.13).

### **Final remarks**

It must be emphasized that the use of the above-described work platform for traditional (artisanal) slaughter of cattle in the above-described manner shows some important advantages.

- Nearly all the clean working procedures are carried out by one person from an elevated work platform. A clear separation between unclean and clean is therefore possible both in regard to the working areas and the working procedures.
- The work platform provides all technical prerequisites for a hygienic slaughter operation.
- The type of removal of the hide diminishes the possibility of contamination of the meat due to a reduced number of hide cuts.
- The separation of the skin from the meat is done mainly mechanically; a knife must only be used at few places, for pre-skinning and to support the mechanical hide removal.
- In particular, it must be emphasized that no hide cuts are done from the outside in the anal area.

### **Summary**

The workplace for traditional (artisanal) slaughter of bovines described above demonstrates that it is possible to fulfil the requirements of the present EU legislation in small scale establishments. .

The goal of standardizing the slaughter process in small establishments can be achieved by using this technique.

With some technical amendments of the platform even a higher throughput is possible if required.

Due to the unique construction of this workplace a clear separation has been achieved between “clean” and “unclean” working areas and “clean” and “unclean” working procedures..

It should be stressed in particular that no hide cuts are necessary in the anal region which could potentially cause a contamination of the meat.



Photo 1. Totale



Photo 2. Hindlegs towards platform

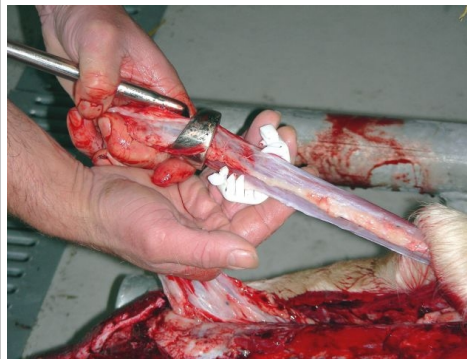


Photo 3. Rodding



Photo 4. Elevation of skin between hindlegs



Photo 5. The Condola cut



Photo 6. Removal of skin from stomach area



Photo 7. Removal of skin from hindlegs



Photo 8. Removal of skin from pelvic area





Photo 9. Freeing the bung



Photo 10a. Removal of skin from flanks



Photo 10b. Removal of skin from breast



Photo 10c. Removal of skin from front legs



Photo 11. Turning the lifting beam



Photo 12. Splitting the carcass



Photo 13. Transport to chilling room