



Harvesting Blood for Making Black Pudding

Key Message

Blood may be harvested for human consumption, provided it is collected and handled hygienically, and is derived from animals which have been passed fit for human consumption following veterinary ante and post-mortem examination.

Background

Black puddings (or blood sausages) have been a traditional part of Irish and European cuisine for generations. Traditional black pudding is a blend of onions, pork fat, oatmeal/barley, flavourings and blood (usually fresh pig's blood).

Dried blood is also readily available as a food-grade ingredient, and is now widely used as a more convenient, easily handled and stored, alternative to fresh blood. Fresh blood does have some practical issues in terms of storage conditions and a quite limited shelf-life.

Overview

Harvesting, for human consumption, fresh blood from animals slaughtered at approved slaughterhouses can be permitted, provided a number of basic food hygiene principles are observed:

- This activity has been authorised, in advance, by the supervising agency; and
- Collection and storage are done hygienically

It is important to recognise that blood does provide an excellent medium in which bacteria can grow. After slaughter, the acidity of blood remains relatively stable (blood does not undergo the protective increase in acidity that muscle experiences).

Therefore, due to the greater opportunity for bacteria to grow in blood, even relatively low levels of contamination can be a problem. Excellent hygiene, specifically prevention of contamination and temperature control, are essential for the successful harvesting, storage and handling of safe, high quality fresh blood.

The best practice outlined below describes one technique which will meet the necessary fundamental food hygiene requirements.

Other techniques may be used provided they meet these basic principles, and they have been seen and authorised by the supervising agency.

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A Best Practice Technique for Harvesting Blood

1. Equipment and Preparation

- a) Collection container (with mechanised stirrer)
 - b) Hollow handled bleeding knife
 - c) Connecting tube
 - d) Containers for despatch
- Blood should be collected using a **closed system**. A purpose designed hollow handled bleeding knife should be connected through a connecting tube to a covered container. The tube should create a complete seal with the collecting container to prevent cross-contamination of the blood from the animal itself and from the environment (see picture 1).
 - The **collection container** must be made from food grade material, and should be fitted with a close fitting lid, a connection for the connecting tube and a mechanical stirrer (see picture 2).
 - **Hollow handled knives** are designed and manufactured specifically to collect blood intended for human consumption. Various manufacturers sell hollow handled knives which are available from regular butcher's suppliers. The knife used in these photographs includes two blades at right angles, leading to a hollow handle. Knives are available for cattle and for pigs (see picture 3).
 - The **tube** should be of an impervious food grade material, e.g. food grade plastic (see picture 4 of a pig being bled with the knife).
 - The slaughter plant must have a documented **traceability system** in place which correlates each batch of blood to the carcase(s) from which it came.
 - Blood collection and storage must be included in the plant's procedures based on HACCP principles, and must be monitored to ensure the highest food safety standards are maintained.
 - A documented procedure for harvesting edible blood must be available at all establishments carrying out this activity.



Picture 1



Picture 2
 Storage container
 with stirrer



Picture 3
 Hollow Handled Knife



Picture 4
 Sticking with hollow
 handled knife

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2. Procedure

Note: Stunning and killing must comply with animal welfare requirements.

- The hollow handled knife, the tube and the collection container must be cleaned and sanitised before use.
- Attach one end of the connecting tube to the attachment on the hollow handled knife and attach the other end to the collecting container.
- Ensure that the sticking site is clean.
- Use a clean, sanitised knife to cut through the skin at the sticking site.
- Insert the broad blade of the hollow handled knife into the jugular vein and push towards the heart (see Figure1).
- Blood collection should be efficient and rapid.
- After a batch of blood has been collected, it should be refrigerated immediately and labelled with the date of collection, the batch number and the 'use-by' date.
- If the batch contains blood from more than one animal, it must be held until all animals from which the blood has originated have passed post-mortem meat inspection.
- Fresh blood should be stored hygienically at a temperature of 3°C or less.

Figure 1

