Meat Processing by-products/ co-products

**1. Blood**

* Food (Sausages, pudding, cakes, biscuits)
* Non-food (fertilizer, animal feed, medicine etc.)

**Medicinal and pharmaceutical usage of blood**

* As nutrient for tissue culture media
* As ingredient in blood agar and peptones for microbial use
* As adhesive and film former in paper, plywood, fiber, plastic and glue industry
* As a spray adjuncts with insecticide and fungicides
* As stabilizers in cosmetic base formulation
* As foaming agent in fire extinguishers

**2. Hide and skin**

* Clothing, weapon, leather production, gelatin extraction

**Gelatin extraction**

* Gelatin is produced by controlled hydrolysis of a water insoluble collagen.

**3. Bones**

* Gelatin extraction, flavouring ingredients, medicine

**Gelatin from bones**

* Ossein is normally produced from bone for gelatin extraction
* Bones are pre heated at 80-90oC
* Washed several times to get clean
* Treated with HCl to remove minerals
* Dried
* Processed into gelatin

**Medicinal uses of bones**

* Specially processed xiphoid from the breast bone of young cattle is used by plastic surgeon to replace facial lbone

**4. Glands and organs**

* Food, fertilizer, medicine)

**Medicinal uses of organs**

* Brain, nervous system and spinal cord are a source of cholesterol which is raw material for the synthesis of Vitamin D and steroids.

**5. Tallow and Lard**

* Animal fat, sausage, emulsifier, margarine

**6. Meat extract**

* Flavouring

**7. Viscera**

* Sausage casing