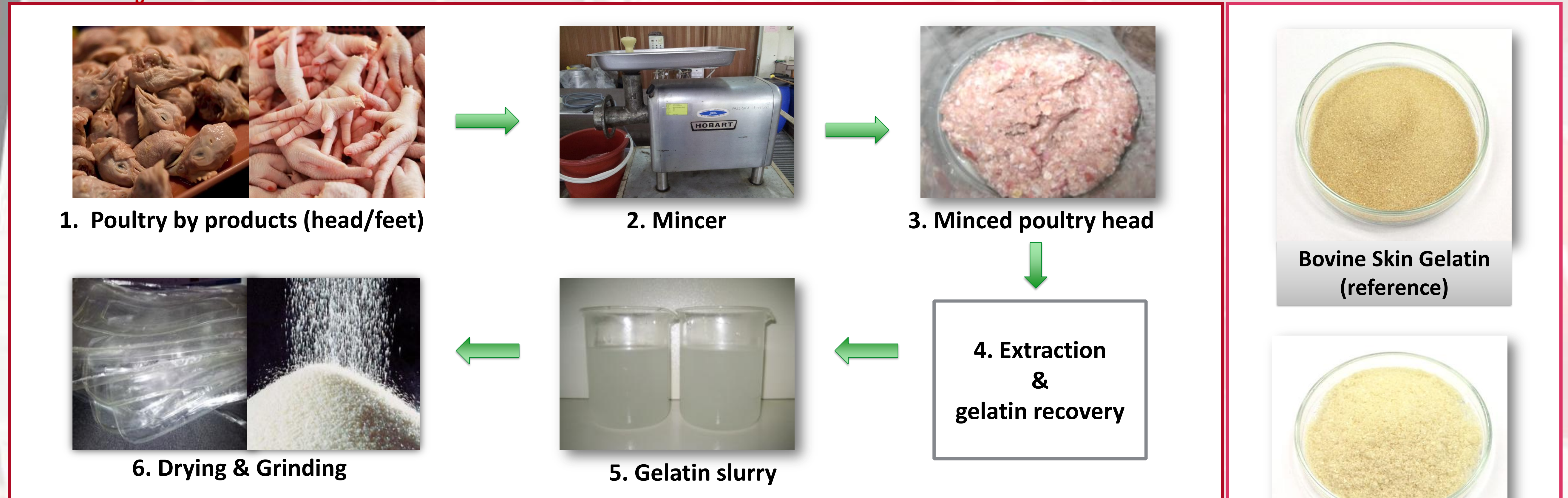


# METHOD FOR PRODUCING HIGH BLOOM GELATIN FROM PLURALITY OF POULTRY BY-PRODUCTS

Patent Pending No.: PI2017700423



## Background

- Commercial gelatins are from **bovine** and **porcine** hide and **bones**.
- Alternative gelatin from non-mammalian especially fish species are still very limited.
- Religious practices** and **safety issues**.
- Increase in demand of the **global gelatin market** (Transparency market research, 2014).
- Need to find alternative sustainable source of gelatin which should be functionally **equal or superior**.
- The existing methods of gelatin extraction are
  - ✓ **time consuming**
  - ✓ use **huge quantity of chemicals** &
  - ✓ the gelatin varies in grade



Table 1: Characteristics of extracted chicken head gelatin in comparison with bovine gelatin

Gelatin source	Gel Bloom (g)	Protein (%)	Ash (%)	Color (L*)	Imino Acid (%)	
					Hyp	Pro
Chicken head gelatin (current)	363.87	91.23	0.17	85.16	12.12	10.86
Bovine skin gelatin (Reference)	190.64	83.98	0.98	75.85	-	-

## Why poultry gelatin?

- Revenue** generating activity
- Commercially viable** – abundant supply
- The **consumption of poultry increase worldwide** (4.3% annual growth) with 78 million ton of poultry meat production (FAO, 2012).
- Malaysia has a **strong poultry processing industry**.
- Recycling** of wastes (~28-32% are poultry by-products).



## Invention

- A **simple, feasible, cost** and **time effective** method of gelatin extraction
- within **short process** with **minimum chemicals**
- at mainly **room temperatures**
- from poultry by-products (head, feet, & bone)
- the **poultry** animals includes chickens, turkeys, geese, ducks, guinea fowls and quails.
- The gelatin extracted from the present method is of superior grade
  - ✓ **high bloom strength** (360 g)
  - ✓ high protein content (83.5-91.2%)
  - ✓ good functionality and physical appearance (whitish color)

## Usefulness/application

- Alternative choice of **halal gelatin**.
- Suitable for use in
  - ✓ **Food industries** – for confectionery and related functional properties such as gelling, emulsifying agents and encapsulation for the food and beverage industry.
  - ✓ **Pharmaceutical** - for the manufacturing of soft and hard shell gelatin capsules, plasma substitute, scaffolding in wound healing and binder in tablet formulations.
  - ✓ **Neutraceutical** - as an ingredient for cosmetic products and as an excipient agent and excellent source of amino acids for the manufacturing of antioxidant/anti-inflammatory supplements.



Multiple functions of gelatin



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