



# **Industrial by products from different food production plant**

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The food industry generate large amount of wastes or by-products annually around the world from a variety of sources.

In that food wastes or by-products are an excellent source of nutraceuticals, bio actives, inherently functional and possess many components that are good for human health.

Food wastes or by-products convert to the functional food ingredients it is the healthy trends in the food industry.

The waste management is one of the major parts of food industries.

The large volume of the low cost by-product gives economical advantage of its potentially valuable components and environmental benefits.

Therefore, the recovery of by-products to health beneficial product and economic benefit to labor, stakeholder and country.

## **Food Waste**

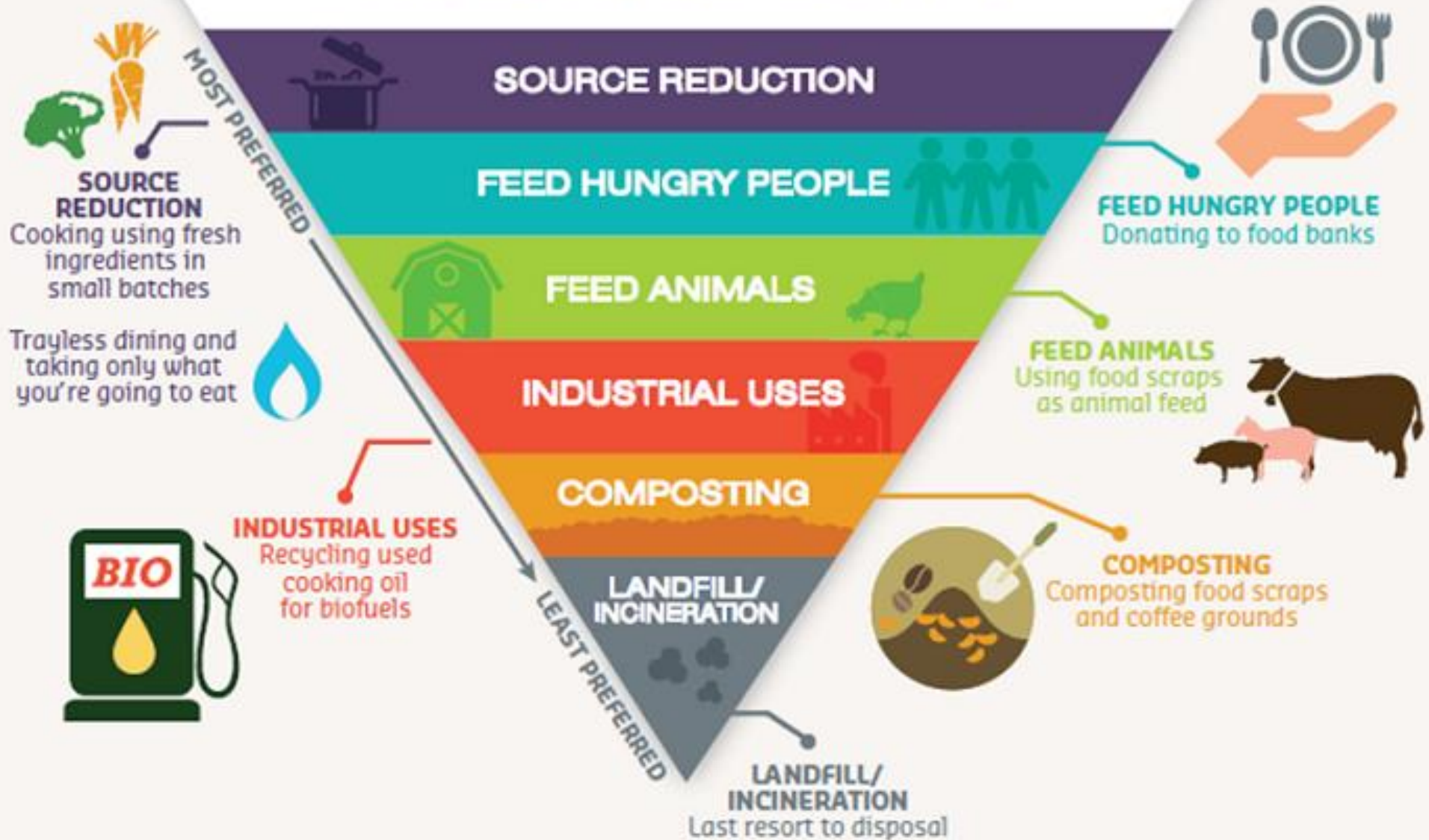
Food waste or by-products most commonly refers to edible food products, which are intended for the purposes of human consumption, but have instead been discarded, lost degraded or consumed by pests, and does not include the inedible or undesirable portions of food stuffs. The food industries categorized by following.

- 1) Fruit and Vegetable Industry
- 2) Grain Processing Industry
- 3) Brewery and Winery Industry
- 4) Marine Industry
- 5) Meat Industry
- 6) Dairy Industry





# FOOD RECOVERY HIERARCHY





# Waste Management in Food Processing Industry

1. UTILIZATION OF FOOD INDUSTRY WASTES
2. ULTRAFILTRATION IN THE RECOVERY OF FOOD WASTE
3. RECOVERY OF FRUIT AND VEGETABLE WASTES
4. RECOVERY OF PROTEIN

5. THE SCREENING OF VEGETABLE WASTES

6. FAT EXTRACTION

7. TREATMENT OF FATTY EFFLUENTS

8. RECOVERY AND UTILIZATION OF PROTEIN

9. CONVERSION OF BONE TO EDIBLE  
PRODUCTS



10. UTILIZATION OF WASTE IN ANIMAL FEEDS

11. PRODUCTION OF EARTHWORM PROTEINS

12. PECTATE GELLING AGENTS IN FOODS

13. ANAEROBIC TREATMENT OF FOOD PROCESSING WASTES AND AGRICULTURAL EFFLUENTS

14. UNDERUTILIZED PROTEINS FOR  
BEVERAGES

15. COFFEE AND TEA WASTES

16. AEROBIC PROCESS FOR THE TREATMENT  
OF A WHEAT STARCH EFFLUENT

17. TEXTURIZATION OF RECOVERED  
PROTEINS

18. BY-PRODUCTS FROM MALTING,  
BREWING AND DISTILLING

19. USE OF MICROBIOLOGICAL AGENTS IN  
UPGRADING WASTE FOR FEED AND  
FOOD

20. THE USES OF ENZYMES

21. THE TREATMENT OF DIARY WASTES

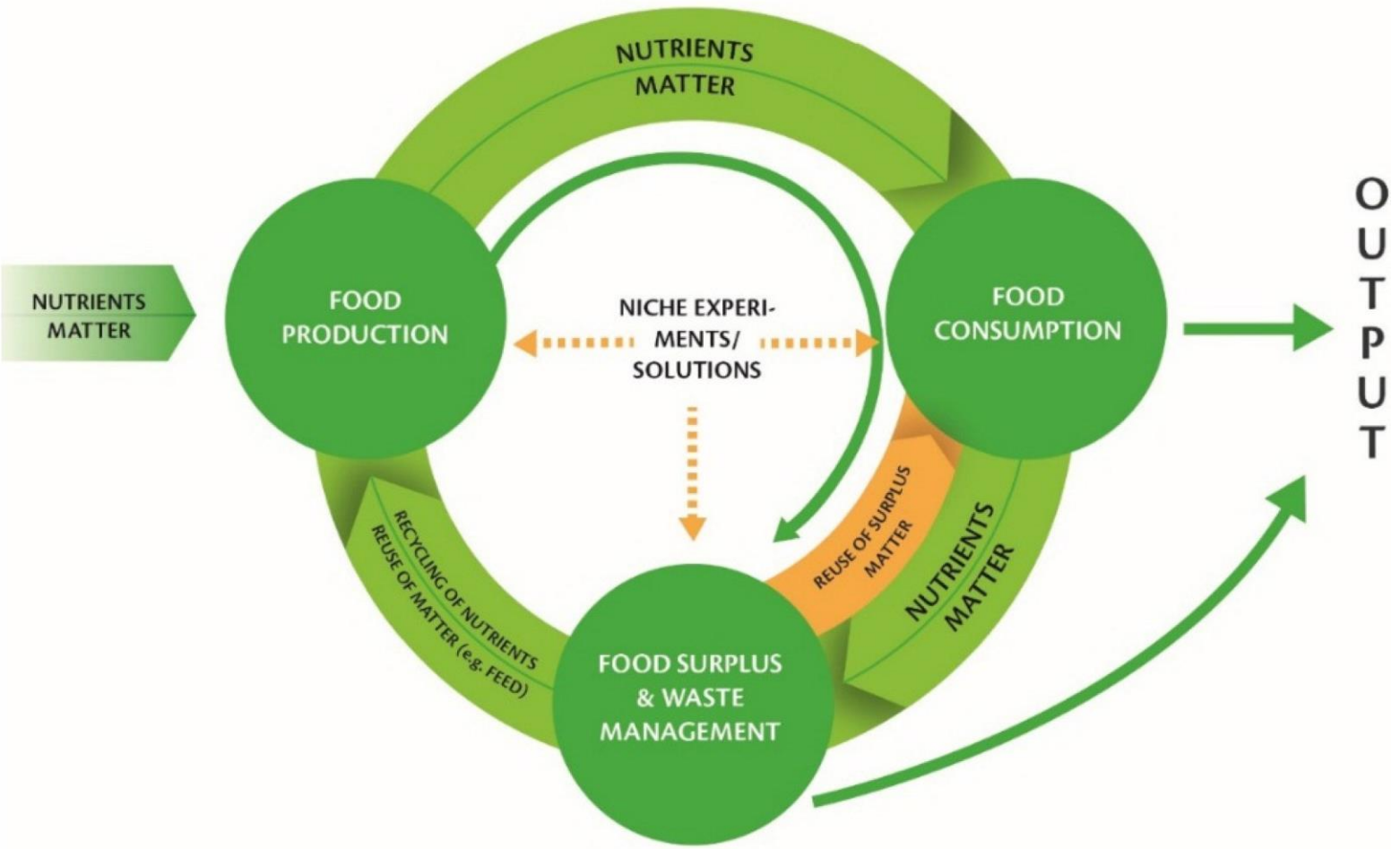
22. SILAGE PRODUCTION

23. THE MECHANICAL RECOVERY OF MEAT

24. RECOVERY FROM EFFLUENTS

25. UTILIZATION OF FOOD WASTE IN PET-  
FOOD INDUSTRY

26. CANNING AND FOOD PROCESSING WASTES  
AS FEEDSTUFFS AND FERTILIZER







**E-WASTE**



**METAL**



**ORGANIC**



**Different waste recycling categories. Garbage bins.**

**PAPER**



**GLASS**



**PLASTIC**

