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Popular Article

Value addition of meat and meat products

Pompi. R. Boro
ICAR-National Research Centre on Pig, Rani (ICAR-NRC), Assam 781131
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Abstract

Although muscle foods are the most frequently consumed parts of animals, meat by-products, including entrails and internal organs, are also prevalent in various diets. These by-products can be regarded as either expensive delicacies or waste, with their perceived value varying significantly across different cultures and countries. The range of products derived from animals encompasses skin, blood, bones, meat trimmings, fatty tissues, horns, hooves, feet, skulls, and internal organs, which can be utilized in human or pet food, as well as in processed materials for animal feed, fertilizers, or fuel. The industry is leveraging scientific advancements and innovation to enhance the value of animal by-products, extending their profitability beyond traditional uses. Regardless of the end use of these products, it is essential to utilize the latest and most effective methods to assess their nutritional properties and identify key active molecules, such as bioactive peptides, for applications in food safety (including antimicrobial peptides), medicine, cosmetics, and other sectors. This ongoing innovation aims to further advance the value-added potential of meat by-products.

Keywords: Value addition, Innovations

Introduction

Slaughterhouses as well as the processing of meats generate a significant amount of solid and liquid by-products. Wholesalers, retailers and renderers also produce large amounts of by-products. So, millions of tons of processing wastes are produced every day and the problem is the disposal of such wastes, which remains a huge problem for the processors. The disposal of processing by-products and wastes incurs considerable cost to processors for their treatment according to strict regulations. There are industrial systems to treat and reduce by-products but there is a growing awareness that most times these by-products are under-utilized and represent a valuable resource if treated in the correct manner. Adding value to meat by-products implies a degree of innovation that makes a by-product that could be considered as waste, to be used as raw material subjected to further processing into edible

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food items desirable to consumers or inedible products with economic profitability (e.g. plastics, pharmaceuticals, energy). In the case of edible items, meat by-products constitute an excellent source of nutrients like essential amino acids, minerals and vitamins. Such added value can be obtained in terms of shelf stability, improved technological functions (flavoring compounds, water bonding agents, emulsifiers), better sensory quality (color, texture, flavor) or even more convenience. Another alternative is to produce functional ingredients like bioactive peptides and antioxidants. Meat industry is using science and innovation to add value to animal by-products far beyond its usual profitability based on hides and internal organs. Appropriate research and development activity can help to convert animal by-products into key components (bioactive molecules) in scientific, medical, and technological advances. In summary, the processing of by-products can convert a product of low value, or even having relevant disposal costs, into a product capable of covering all the processing and disposal costs, and reducing the environmental damage.

Approaches in Value Addition

1. Innovation and Alternative Crops Innovation focuses on creating new processes, procedures, products and services or improving existing ones. Innovation also comes from research about alternative crops that can be grown successfully by producers to make a profit instead of growing traditional crops.
2. Industrial Innovation is the processing of traditional crops into non-food end uses. Industrial innovative activities use research to emphasise industrial and non-food uses of common agricultural products.
3. Coordination focuses on arrangements among people who produce and market farm products. Horizontal coordination involves the consolidation of individuals at the same level and vertical coordination includes contracting, strategic alliances, licensing agreements and ownership. Fundamental changes of coordination are altering traditional marketing relationships that link consumers, retailers, wholesalers, processors and producers. Coordinated effort of different skilled individuals is needed to increase market efficiency , thereby reduction of cost.
4. Vertical integration is the alignment and control of all the segments of the production and marketing system under single ownership. The factors controlled are price, quantity, quality, and terms of exchange. The total integrated system provides consistent quality from the field to the shelf, eliminates middlemen and saves money for consumers.
5. The low cost and efficient producers can only be able to survive and compete in the market. Cost minimization in production must be achieved before value added processing and

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marketing. The efficiency of production should be achieved through technology in producing value-added products. **6 Reasons for Developing Value-Added Products**

A. Increase in sales and profit by product diversity Product. Diversity offers a range of products that differ from one another to satisfy different market needs. Diversity may be achieved by changing the product in some way. Changes may just be in packaging or a change in advertising. The objective is to understand the customer's purchase decisions and how their needs are satisfied.
B. Opportunities for employment in various sectors A value-added product provides creative outlets that give people a chance to be involved in the business. The creativity of workers is utilized for good labelling, packaging and creating attractive new products.
C. Increase in Profitability Producers establish the price of value-added products with experience and analysis of the overall market. An artisan-made value-added product can be priced higher than the supermarket equivalent. People know that quality is worth the extra money paid for that product.

Conclusions

There is a large variety of applications of meat by-products. In addition to the usual applications like human and animal foods, rendered fat for cosmetics and chemicals and hides for leather, recent innovative proposals include the use of proteins for better technological or nutritional properties, the generation of bioactive and antimicrobial peptides or the use of animal fats for biodiesel production.

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