Technologies for meat & meat products

भाकृअनुप
ICAR

National Research Centre on Meat

(Indian Council of Agricultural Research)

Chengicherla, Hyderabad - 500 092, A.P.

NRCMeat

हर कदम, हर डगर
किसानों का हमसफर
भारतीय कृषि अनुसंधान परिषद

Agrisearch with a human touch

Package of practices for hygienic slaughter and dressing of food animals

NRC on Meat has established a model experimental abattoir for slaughtering of sheep and goat with animal restrainer, stunner, overhead rail, chilling, deboning and cold storage facility. The experimental abattoir serves as model for entrepreneurs who want to establish small and medium scale Units. Further this unit is also utilized to impart hands on training to students of Veterinary and Food Science subjects on slaughter of food animals. Regularly Institute is conducting hands on training and demonstrations on clean meat production to various stakeholders viz. Butchers, entrepreneurs, municipal health and veterinary officers.

Value added meat products processing technology

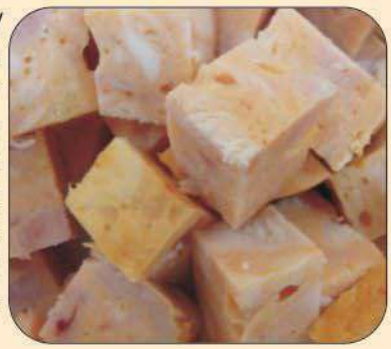
A state-of-the art products processing facility with meat slicer, mincer, bowl-chopper, planetary mixer, vacuum tumbler, blade tenderizer, multi needle brine injector, batter applicator, automatic patty making machine, sausage stuffer etc. has been established for research, entrepreneurial training and new product development.

✪ Technology for emulsion meat products

Small scale technologies with low cost machinery and locally available ingredients and culinary practices have great relevance in Indian situation for large scale adoption. Meat emulsion technology is a relevant technology for quality meat products production utilizing tough meat and by-products from old (spent) animals. A variety of products such as nuggets, patties, kababs, meat balls, sausages, meat idli, slices, etc. could be produced utilizing simple appliances even on cottage scale. Many tested formulation utilizing various locally available ingredients like binders, extenders have been standardized for transfer to commercial production.

✪ Technology for restructured meat products

Restructured meat products are meat products that are partially or completely disassembled and then reformed into the same or different form. Processing technologies for protein rich restructured meat blocks, slices, cubes and restructured bites biryani enriched with soya proteins have been developed.



✪ Technology for enrobed meat products

Enrobing is the process of making "further processed products" by applying edible coating to the products. It includes two important steps, i.e, breading and battering. It improves the texture of the product, consumer acceptability and remarkably reduces the product cost. Enrobing also contributes other benefits like preserving the nutritive value, reducing moisture and weight loss, and improving juiciness and tenderness. These improvements are brought about by coating ingredients that act as sealants and also prevent high oil uptake during frying of products. The technology for production of succulent, attractive enrobed meat products utilizing locally available ingredients has been standardized.

✪ Technology for cured and smoked meat products

Cured and smoked meat products particularly pork products are very popular worldwide and form a considerable proportion of processed meats. In India among various meats, chicken and mutton are having higher acceptability. Hence, cured and smoked chicken legs, chicken breasts and mutton ham were developed as variety and value added products. The technology could be utilized for commercial production and is important both for minimizing adverse effects of imports and for promoting domestic sector prospects. Suitable packaging technology for preserving quality and extending shelf life was also standardized.

✪ Technology for speciality meat products with health and nutritional benefits

Functional foods and natural health products encompass a wide range of food ingredients, with a variety of bioactive responsible for their efficacy in health promotion and disease prevention. Value added convenience meat products with different natural ingredients like dietary fibres have been developed. In addition, meat products can be enriched with fibre to produce low fat and low cholesterol product.

✪ Technology for value added emu meat products

Science based information on emu slaughtering, carcass characteristics, meat quality, composition, packaging, chilling and freezing has been generated and published which is helping many emu farmers for better marketing emu meat. Processing technologies for value added emu meat products viz, emu meat nuggets, patties, sausages, restructured emu meat cubes, enrobed emu meat products have been developed and provided hands-on training to emu meat processors.

✪ Technology for chicken-gongura pickle from deboned chicken frames

Chicken carcass frames after manual deboning carries considerable quantity of lean meat. These frames can be profitably utilized for making nutritious chicken pickles. Ready to eat chicken meat pickle with good taste and shelf life at ambient temperature can be very well made utilising the meat from deboned chicken frames. Gongura, the fondest green leafy vegetable of Andhra Pradesh, is a rich source of iron, vitamins and anti-oxidants. Green gongura paste or dried powder can be utilized for preparation of gongura chicken pickle as a complete/ partial replacement for acidifying agents.

✪ Technology for production of flakes from lamb rumen meat

Rumen constitutes major portion of ruminant's stomach and is being used locally in some parts of India for preparation of few specialty products. Technology was developed to prepare shelf stable, nutritious and tasty flakes from sheep rumen. These flakes can be stored at room temperature for about one year. These ready to use flakes just need frying before consumption at consumer level.

✪ Technology for processing probiotic chicken sausage with health benefits

Fermentation process is a complex phenomenon andcurd was usedas an alternative source of probiotic processing of meat product having detrimental effects on the quality. Viable lactic bacterial cells were sufficient in numbers to destroy other pathogenic microorganisms. Many small bioactive peptides produced in fermented sausage during proteolysis originated both the sarcoplasmic and myofibrillar proteins which can exert the health benefits to the consumers'.

Packaging Technologies

✪ Retort pouch technology for shelf stable meat products

In developing countries like India lack of cold chains and frequent power failures are major constrains in the preservation, distribution and marketing of highly perishable meat products. Economically viable technologies are needed to preserve the