

AGRO-PROCESSING OF POULTRY

Introduction to the General Principles of Agro-Processing:

Faced with the current economic realities, farmers worldwide are searching for new options of surviving, as well as expanding their business. One of the many opportunities to grow markets, turnover and profits, is by adding value to farm produce through further processing. Most value-added food products available to consumers have been processed in some way or other, even if the processing is as simple as cleaning produce before it is packed in plastic or net bags. Two types of processing methods may be performed on raw materials:

- **Primary Processing:** this type of processing includes the simplest of processes such as washing, peeling, chopping, ageing, the milling of wheat for flour production, and the processing of sugarcane;
- **Secondary Processing:** this type of processing involves the conversion of primary processed products into more complex food products and includes procedures such as mixing, depositing, layering, extruding, drying, fortifying, fermentation, pasteurisation, clarification, heating etc.

Agro-Processing of Poultry:

Chicken is among the most widely accepted muscle foods available, and because of its high-quality protein and comparable low fat content, continuous development of new products and favourable feed conversion, it is a high-demand food product in the market. Turkey, along with chicken, dominates the world market in the poultry industry due to its increased popularity. Turkey is valued for its nutrition and healthy image as well as the variety of convenient forms in which it is available.

Poultry is prepared for canning using the following processes:

- a) Slaughter;
- b) Scalding;
- c) De-feathering;
- d) Evisceration;
- e) Chilling;
- f) Packaging, if the canning operation is not carried out in conjunction with a fresh poultry-processing plant.

The canning of poultry is usually carried out in conjunction with a fresh poultry-processing operation, which enables the canning operation to proceed without delay. However where canning operations is not carried out in conjunction with the fresh poultry-processing plant, or in order to ensure a readily available supply of poultry, the canning plant usually receive eviscerated, frozen carcasses, which is then thawed by soaking in running water.

The water temperature is approximately 21°C and the soaking operation is carried out for a period ranging between 1 and 2 hours, depending on the size of the carcass. Furthermore, it is important that the pre-cooking process should immediately follow the thawing operation.

As poultry meat is very perishable and canned poultry is an excellent medium for the growth of heat-resistant organisms, special precautions must be taken during the preparation and processing and processes capable of destroying heat-resistant organisms must be employed in order to prevent spoilage. These precautions include:

- a) Not holding the filled, unprocessed cans for more than 30 minutes prior to processing;
 - b) If processing lines are moving too slowly in order to fill a retort in 30 minutes, each crate must be processed as it is filled;
 - c) Strict sanitation must be maintained throughout the canning operation in order to keep bacterial build-up and contamination as low as possible.
- **Turkey Products:**
 - **Canned Boned Turkey:** Canned boned turkey products are used in the preparation of poultry salads, poultry pies, poultry casseroles, as well as sandwiches.



Left: Canned roasted chicken **Above:** Potted turkey

- **Chicken Products:**

Boned Chicken: Canned and boned chicken is a popular product in the preparation of chicken a la king, chicken salad, chicken casseroles and pies, as well as in sandwiches.

Canned Chicken A La King: Canned chicken a la king is very similar to creamed chicken in its appearance, with the exception that green peppers, pimientos and mushrooms are added to the ingredients. As with boned chicken, special precautions must be taken during the preparation and processing and processes capable of destroying heat-resistant organisms must be employed in order to prevent spoilage.

Canned Chicken and Noodles: Chicken and noodles is often canned in collaboration with roast chicken, where the large chicken pieces are used in the canning of roast chicken and the smaller pieces are then canned with noodles. As with all chicken products, special precautions are required during processing to prevent spoilage.

Canned Whole Chicken: The canning of whole chickens consists of canning the dressed and drawn chicken together with the gizzard, heart and liver in a jelly in cans with size 404 x 700.

Further Processing Options:

The products discussed above are only a small sample of the many processing methods and products available to the poultry processor. Other options also include canned chicken in jelly, canned roasted chicken, canned stewed chicken, potted chicken, canned roasted turkey, canned turkey in jelly and potted turkey.

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The manual on the Agro-Processing of Poultry contains complete information on the products discussed above as well as many other processing methods and products available to the poultry farmer and processor. The manual is available from the ARC – Institute for Agricultural Engineering.

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