



EFFICIENT FEATHER PROCESSING

The Alliance Masters Group of Companies together with Perro-Pro LLC have developed the feed and food raw materials processing technologies. The hydrolysis of chicken feathers has been developed with the production of the total digestible proteins. The main advantages of the new process:

1. The duration of thermal processing of raw materials is reduced 400 times from 12 hours to 3.0 minutes.
2. The continuous processing of raw materials goes without accumulating raw materials cuts the production area.
3. The yield of digestible protein is increased by 1.5 times compared with the regular methods.
4. The content of essential amino acids is more than 85% in the product and meets the EU requirements for feed quality.
6. The process does not use chemicals.
7. Within 10 seconds, industrial sterility of the processed raw material is achieved.

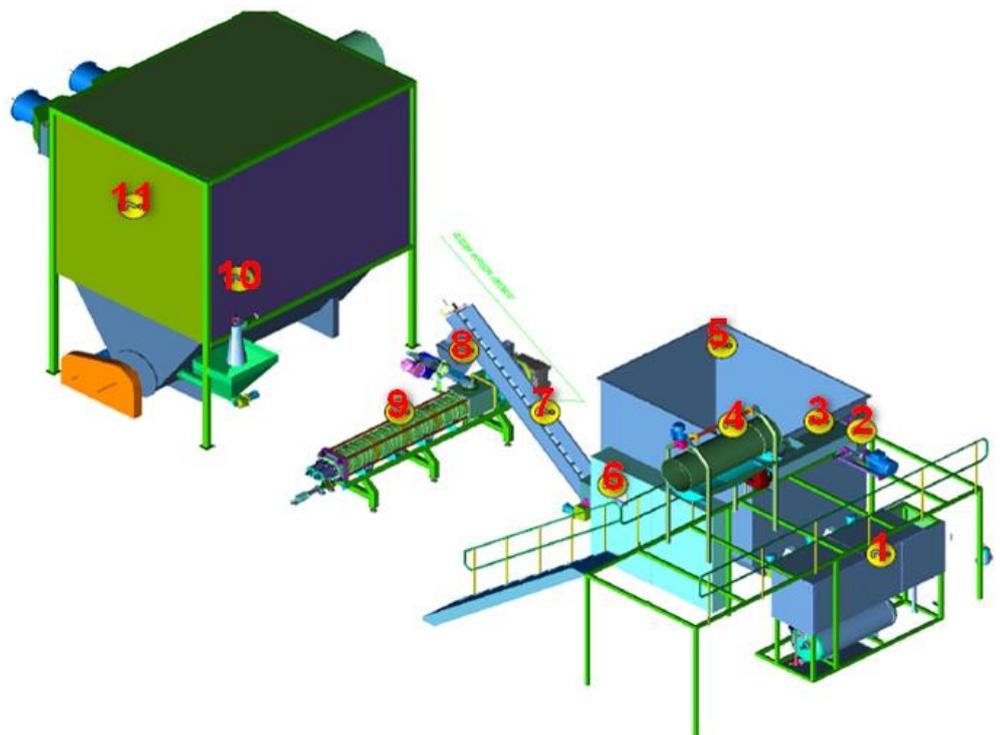
For 15 years, this technology has been developed by Poultry Technology Institute on the basis of a poultry farm in the city of Sergiev Posad. During the period of operation of the line, the entire volume of the feather was processed using the new technology and the hydrolyzed flour from the feather was fed to the whole population of broilers. At the same time, there was an increase in the meat smell and taste of broiler meat. Studies have been carried out on laying hens and fur-bearing animals (improving the quality of fur). High and stable quality of hydrolyzed flour was confirmed by studies of domestic and foreign testing centers.

Using our own raw materials obtained from the processing of broilers, you can replace 60 - 70% of fish meal in the poultry diet. In addition, the formation of stinking compounds and other harmful emissions is excluded.

(Video <https://www.youtube.com/watch?v=IpLmWNCi1V4>)

We have upgraded the process equipment, increased its performance and reliability. An automated process control system was introduced, which made it possible to improve the stability of the quality of the product. The Alliance Masters Group of companies offers poultry producers an affiliate program for the joint production of hydrolyzed flour from a feather and using the obtained flour as an additive in mixed feed.

1. Thermal oil boiler
2. Shredder
3. Screw press
4. Separator
5. Storage hopper
6. Operation control
7. Screw
8. Feeder dispenser
9. Hydrolyzer
10. Cyclone
11. Dryer



EFFECTIVE RENDERING OF MEAT-BONE BYPRODUCTS"

The conventional rendering systems have been utilized only 60% of the animal protein in edible products while remaining 40% goes to waste.

A significant proportion of protein in the by-products of poultry and farm animals is collagen.

The role of collagen in human nutrition was underestimated. In essence, the collagen is the body skeleton (each muscle bundle is in the collagen membrane, each muscle is attached with tendons to the bones, bones and joints are formed on the basis of collagen, as well as the skin and blood vessels of the body's circulatory system). Cardiovascular diseases and diseases of bones and joints are directly attributed to a lack of collagen in the diet.

Mineral compounds constitute a significant proportion of human bones, almost the entire table of D.I. Mendeleev. Moreover, macro and microelements are in the form of organic compounds, the absorption of which is over 80%, while of inorganic compounds, this indicator is 17-30%.

In the meat industry there were ways of processing a small part of this raw material for food purposes. They were based on discrete many-hour processes in cooking broths. With a significant concentration of enterprises for slaughter and processing of poultry and farm animals, such processes are not able to ensure the processing of the entire volume of raw materials. This requires continuous short-term processes and technology for their utilizing.

A new short time continuous rendering of waste meat-bone materials is developed for the production edible paste enriched with digestible minerals.

A universal meat-bone rendering equipment has been developed that allows the production of a range of food products, both nutritious, with increased digestibility, and functional purpose. Collagenase is absent in the digestive juices of animals and humans; therefore, preliminary hydrolysis of collagen is necessary to transfer it to a highly digestible state.

Using the hydrolyzer for waste from meat and bone raw materials, you can get 4 types of products:

- protein and mineral paste (the technological process of making paste allows almost all gutted poultry carcass to be 100% consumed without loss);
- protein stabilizer (to create a structure of sausages, improve taste and smell, replace meat in minced products, replace imported protein additives);
- protein emulsion (used as a protein-fat emulsion in the preparation of stuffing products):
- animal protein concentrate (source of highly digestible collagen, a substitute for imported protein supplements)

As a raw material, fish species and fish processing wastes can also be used.

We invite interested organizations for the cooperation.

General view of the production area with ton per hour of finished products output.



Gyrolizer
Steam generator
Raw material preparation bunker
Metering pump

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