## C-57

## MEAT PRODUCT TECHNOLOGY

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At present there are about 100 million people suffering from diabetes. One of the methods in disease treatment and prophylaxis is diet therapeutics. That is why it is necessary to produce food products of antidiabetic trend.

We have studied experimental problems of diabetes prophylaxis by using plant additives in meat products. These additives are able to raise human organism tolerance to carbohydrates, to reduce glycemia level in pathology and to stabilise glycogen production function in liver, moreover they have anti-inflammation effect.

We have worked out new technology of meat products (emulsified sausages, Paris sausages, paté, hamburger) where vergetables were used as bioadditioves, for instance cultivated and wild herbs (haricot folds, blackberry leaves, sweetbrier and Jerusalem artichoke fruits, gallega grass) as they are rich in vitamins, glycosides, galegine, inulin, and other elements, which normalize organism metabolism status.

We have used beef liver, spleen, lungs, blood proteins, brains, soy bean proteins, cabbage, vegetable marrow, Jerusalem artichoke as meat product components. All above mentioned ingredients have the well-balanced amino-acid composition, they contain unsaturated fatty acid and rich in vitamins, mineral salts and elements which are necessary in digestion (cellulose, lignine, pectin), organic acids which help in assimilation of calcium, phosphorus and iron combinations. All these elements maintain acid-alkaline balance in body.

We have created recipes of meat products with plant collections of hypoglycemic effect in glucose metabolism normalization.

Sodium chloride, sodium nitrite content was reduced in meat product recipes; sugar was substituted by aspartam for better treatment effect.

We have researched some biochemical parameters for the full quality characteristics and treatment effect prognosis of meat products with plant additives.

The lack of insulin stops proteins synthesis in people suffering from diabetes. Negative nitrogen balance is the result of protein decay and intensive urea formation. That is why it is very important for food products to have large quantity of protein.

We have come to the conclusion that protein content in myosin extract from the stuff with plant additives is 2,5 % higher than in stuff without additives. It is necessary to indicate that this tendency is maintained even after thermal treatment. Protein content in myosine extract from processed product with plant additives is 7,1 % higher than in products without additives.

Glucose concentration raises by 44,8 % after thermal treatment in products without plant additives. It is possible due to polysaccharide decay, in particular, glycogen in stuff. Glucose concentration was reduced by 12,2 % after thermal treatment of products with plant additives.

Vitamin C (ascorbic acid) content increase is of great interest in connection with plant collection usage. Vitamin C addition into diet prevents avitaminosis, raises capacity for work and resistance to various diseases. Besides, Vitamin C strengthens blood vessels, making them more elastic and durable.

Experiments showed that vitamin C concentration in myosin extract from the stuffs with plant additives of 0.23 +(-) 0.01 mg%, that is two times higher than in stuffs without plant additives. During heat treatment of processed Paris sausages without plant additives Vitamin C concentration reduced by 33,3 % and with plant additives only by 13 %. Introduction of plant collections raises product nutritional value.

Thus, the presented quality and quantity biochemical analysis of myosin extract from meat products with medicinal plant additives made it possible to determine concentration of biologically important organic combinations and to reveal the character and level of thermal treatment influence.

Clinical testing of new products was carried out. Glucose content reduction in blood of people with hyperglycemia is observed. The worked out products can be recommended for hypercholesterolemia, obesity and diabetes prophylaxis.



NOTES

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BU Reference Dissection Method (Walarz and Merkus, 1995). The fram and the lointwere distributed (aubgitaneous far-relation and mismately, Carears joint, distributing, and subclustered, as weight of individual (at a distributing, and subclustered, as weight of individual (at a distributing, and subclustered, as weight of individual (at a distributing, and subclustered, as weight of the individual (at a distribution) (b) which as the compared of the compared of the compared of the individual compared of the second of the compared of the compared of the individual compared of the compa

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of breed states of the states weight, and halo have performed using the GLM program of the SAS statistical package (SAS, 1988). The fixed all of the states of bread states and halo have been and the states of the

Carcass least content (g/kg) 553.8" 527.6" 501.3" 550.2" 516.1 Morzzuberg ave et 102.89

proportion, carcare conformation and estimated lean contents. Habilitane genotype had a significant effect on folling-out proportion increased (0.8 %) and conformation visual coreas lean comean. In single currers of the haloflene, gene [Hal ] [diffice/out Staughter veright (from 94 to 110 Kg) had a positive expandent affect on stilling-out appointen, but carcases lean content, was not affected. Our results generally parce way Gibson et al. (1996) and Larmi et al. (1997) why observed increases of 0.5 mill 1.5 million out stilling-out proportion of carriers and heavy carcases

A submit an anterence between breeds were observed on ham and lon-proportions. The carcasses of LR breed had a higher proportion of long and lower proportion of ham than UV breed Aforeover, a significant bread affect on joint composition of the man outs was found on tean and his contents of the ham and loud. LV travel had a higher tern and lower fat contents respect LK.

The tatoffane genetize affected significatively the propertion of ham. Non earrier may had a lower proportion of ham breed affect carrier pays. Purtnermore the ham from non carriers carrasses had more bone than carriers. Recently, Leach et al. (1996) and Gibson et al. (1996) found a higher propertion of hum in hererozygeties pigs. This increase in hum proportion and changes, in visual conformation could indicate a redistribution of ham much that finally leads in a higher economic yield of carrier pigs in the spanish market we did not all defendes in weath distribution and composition at the proportion and changes, in visual

The halothness percepties had a summittant effect on pH45 and utimate electrical conductivity (OMu) in both muscles, LT and SM. Furthermore, the halothness general tected the subjective color of the Join. These results indicates a negative effect of the halothness gene connect quality forme on thereas Gale (1986) and Galeta Macias et al. (1996) have found similar results, indicating that the single connecting (\*\*) was more prome to modern PSE area than the non-garrier genotype. Overall, slaughter weight had only a gener former generating (\*\*) was more prome to modern PSE area than the non-garrier genotype. Overall, slaughter weight had only a gener forget on more quality for the results of Lergal et al. (1996). Pigs of the two breeds and also similar meet quality.