

System For Carcass Grading In Meat Industry
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In the reimbursement with the suppliers regarding the weight and quality of the produced meat it is necessary to establish a system for carcass grading in the meat plants. The input data of the system will be the carcass weight, fat thickness and lean meat thickness. The meat/fat ratio also could be determined by the solution of a given equation when we have the measurements at some points. The equation for meat/fat measurement has to be actualized for the given country or region in order the coefficients be corrected. The system is designed for process automatization and for avoiding human factor in value determination in the reimbursement.

The system is based on the following technical devices:
- instrument for measurement of fat thickness and lean meat thickness;
- electronic scale;
- computer PC-XT and similar to this equipment.

There are different models of electronic scales, which are used by many companies, therefore, we shall not discuss them. The problems are connected with the computer interface and the way of presentation of the input data.

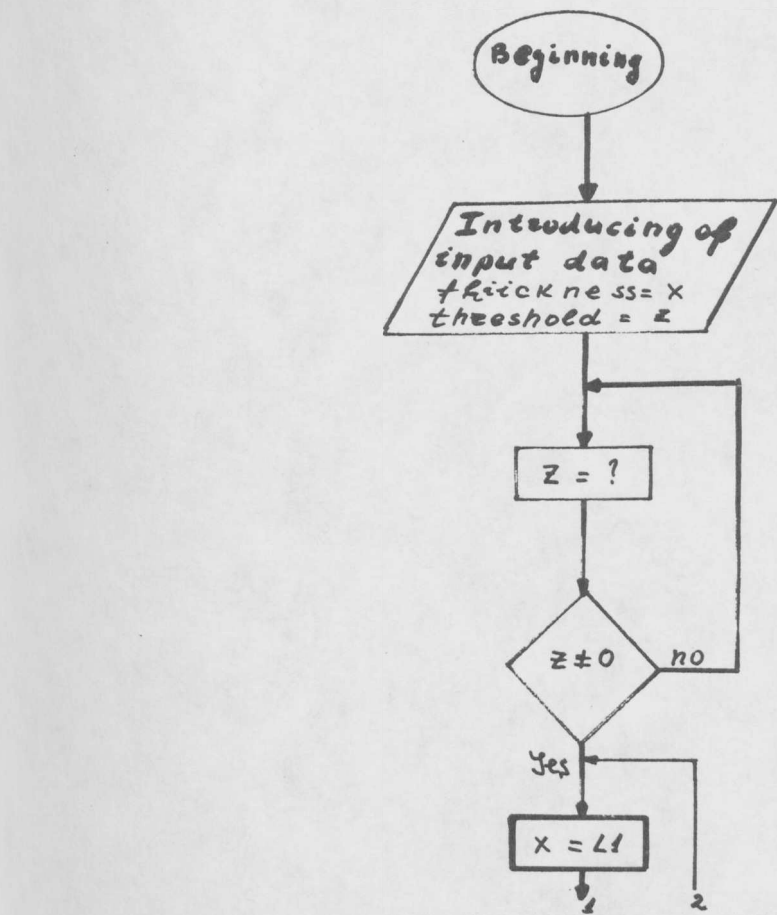
The instrument for fat thickness measurement is developed in most economical way. Its mechanical form is a pistol with an awl. The electrical part is simple as many of the functions could be solved by one machine program in the computer.

Signals are transmitted from the instrument to the computer which carry on information about thickness and threshold of the processing. An equipment is developed for the instrument taring regarding the meat from the animals in the countries where it is applied.

The taring is maximum simplified and it is reduced to element change in the instrument. The interface connecting instrument with the computer is a standard Bulgarian production and allows the switching on of 16 instruments in one computer. Electrical signals for input program data are: fat thickness and lean meat thickness and fat/meat ratio. The work of the machine program is presented on the block-scheme of fig. 1, where D1 - fat thickness, D2 - lean meat thickness, N/C - fat/meat ratio, MP - program for meat/fat ratio measurement, X - value of the electrical signal, L1, L2, L3 - distance in mm, M - processing threshold

which is determined in taring. The data obtained for the weight and fat thickness and lean meat are the input of the program system - meat yielding. The program package carry out the whole processing in the accountant's reading in department - meatyielding.

With the system implementation full automatization of the process of the readings in meatyielding could be achieved.



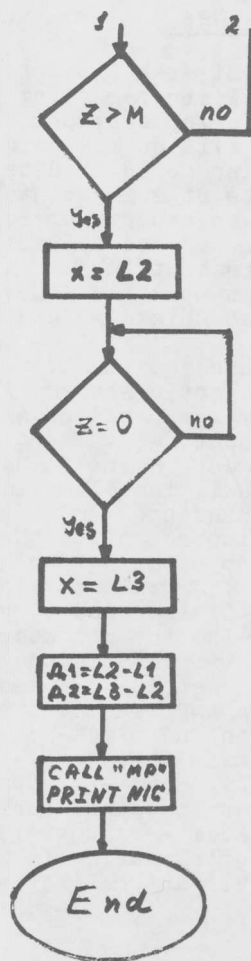


fig. 1