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«Assessment of the quality of temperature measurements at the input control of meat raw materials»

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Problem statement

- A system based on the HACCP principles represents an effective tool for poultry processing. This system provides risk identification and corrective actions for it reducing.
- MSA method for measurement assessment of CCP in poultry production is recommended.
- The metrological analysis of CCP for technology process is developed
- The measurement method is important, that's why for reducing the measurement deviation it is recommended to change the method or choose another measuring instrument.

Solution methods

- In accordance to HACCP principles the worksheet for poultry meat processing is created. For metrological CCP assurance for poultry production process the list of measurement instruments is composed (Table 1).

Operation	CCP number	Controlled parameter	Criterion limit	Corrective action	Measurement instrument
Feed preparation	CCP1	Meat temperature: cooled frozen	$(0 \pm 1)^{\circ}\text{C}$ $(2 \pm 2)^{\circ}\text{C}$	Improper feed isolation	«Zamer-1»
Feed defrostation	CCP2	Room temperature	$(5 \pm 1)^{\circ}\text{C}$	Cooling equipment check-out	ITR 2605
		Meat temperature	$(2 \pm 2)^{\circ}\text{C}$		ITR 2605
Anatomical cutting of meat	CCP3	Meat temperature	$(2 \pm 2)^{\circ}\text{C}$	When temperature is more than 5°C , raw material will be placed in cooling camera and then will be processed	«Zamer-1»
Frosting	CCP4	Product temperature	No less than -12°C	To inspect the cooling equipment operation in order to eliminate temperature abuse	«Zamer-1»

Conclusions

Metrological supervision of food production process - is the main criteria for safety and quality control. The suggested method of measuring process acceptability provides the factors detection which effect on measuring deviation.

For cooled and frozen poultry production process the measuring instrument for temperature content should be changed. The incoming material control have to be provided.

Over the meat freezing the characteristics for stable process should be increased. The storing parameters should be controlled.

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