

# TECHNICAL SCIENCES

## STUDY ON THE EFFECT OF DIFFERENT BRAN ADDITION ON THE QUALITY OF PORK SAUSAGE

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**Introductions.** Low-salt and low-fat sausage are widely concerned because they are more beneficial to human health. Plant ingredients are increasingly used in sausages (such as starch, whole grain flour, fiber, edible fungi, edible glue, vegetables, etc.) [1-2]. Wheat is a gramineous plant widely cultivated around the world and Wheat is the main grain of Ukraine and China. Bran is a by-product of wheat flour, contains 40 percent fiber, 15 percent starch and 15 percent protein. Pork sausage contains adipose much, long-term edible has serious effect to disease of heart cerebral blood vessel.

**Aim.** Therefore, the purpose of research is to replace some of the fat and improve the taste of pork sausage with the characteristics of high-fiber and high-protein bran.

**Materials and methods.** The methodological basis of the research is a comprehensive approach both when setting tasks for the production of pork sausage with different bran addition, and when conducting research and analysis of results.

Mass fractions were determined: moisture - according to DSTU ISO 1442: 2005; protein was by the Kjeldahl method; fat was according to DSTU ISO 1443:

2005; mineral substances were according to DSTU ISO 936: 2008; Structural and mechanical preliminaries were carried out on a universal mechanical test machine "SANS" of the SMT series with the help of special attachments.

**Results and discussion.** Sausage making process [3], First, bran is crushed and sifted (80 mesh), and second, the pork with a ratio of 2 to 8 is processed into minced meat and seasoned with salt, spices and wine. Finally, 2%, 4%, 6%, and 8% bran are added to pork sausage and cooked to obtain the sausage product. The nutritional content of pork sausage with different bran is shown in Table 1.

**Table 1**

**Nutritional content (%) of pork sausage with different bran content**

Wheat bran added	Protein	Fat	Ash	Fiber	Moisture
0%	16.8	16.2	0.9	0.46	62.2
2%	17.1	16.0	0.96	0.61	61.8
4%	17.2	15.7	1.01	0.82	61.4
6%	17.5	15.5	1.09	1.04	60.9
8%	17.7	15.4	1.17	1.18	60.6

Texture profile analysis of bran pork sausage. The physical properties of pork sausage with different bran were shown in Table 2.

**Table 2**

**Effects of different bran contents on the physical properties of pork sausage**

Wheat bran added	hardness	elasticity	viscosity	Adhesion	Chewiness
0%	30.56	0.94	0.78	13.78	11.84
2%	34.78	1.02	0.62	13.89	12.62
4%	39.03	1.03	0.61	14.22	13.85
6%	45.22	1.03	0.58	15.01	14.67
8%	47.36	1.02	0.55	16.06	15.80

**Conclusions.** The results analysis show that Pork sausages made with bran at levels of 2%, 4%, 6%, and 8% have increased protein, fiber, and ash content, but decreased moisture content, and sausages with 6% bran have a better taste.

### References

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