INTERNATIONAL SCIENTIFIC E-CONFERENCE "MODERN TENDENCIES OF DIGITAL EDUCATION AND WAYS OF IMPLEMENTING THEM IN THE EDUCATIONAL PROCESS" – Brno, Czech

29 TH May, 2024

STUDY OF THE EFFECT OF THE ADDITION OF SECONDARY RAW MATERIALS OBTAINED DURING THE EXTRACTION OF BIOLOGICALLY ACTIVE SUBSTANCES FROM COMMON CHESTNUT ON THE QUALITY INDICATORS OF BREAD

Isakova Sh.Kh., Normatov A.M., [Babaev I.D.]

Tashkent Institute of Chemical Technology

E mail: Sahnozai220@gmail.com

Abstract: In the final stage of our research, experiments were conducted to study the effect of the secondary raw material obtained during the extraction of biologically active substances from common chestnut fruit on the quality indicators of bread, and the results of the experiment and the methodology for conducting the experiment are described in this work.

Keywords: Salt, loaf of bread, moisture, porosity, weight, dough, bread volume.

The moisture level was determined by placing 5 grams of first-grade flour in a hygrometer, the process was carried out 2 times:
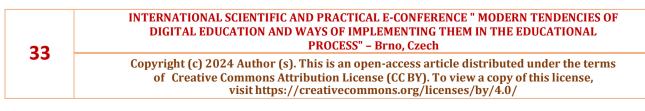
13.44% -4.334 grams in sample 1.

13.66% in sample 2 - 4.316 grams.

13.44+13.66=27.1/2=13.55 average moisture level of flour.

After determining the average moisture level of the flour, when checking the results obtained through the table of the state standard standard (TSS) 27669-88, from the products in this standard, Flour 1111 grams, Water 614 grams, Salt 15 grams, Sugar 30 It is indicated that it is necessary to use grams, and we used 5% protein (55.55 grams) for the bread we are making. A total of 3 doughs are left. 1st control bread, 2nd protein is added. Add protein to 3.

Using an analytical scale, I measured salt, flour, water and flour in 3 containers. Pressed rubber according to TSS was used. Drozjas were put in a steamer for 20 minutes to rise with warm water.

After 20 minutes, I put the risen dough and salt, water, flour and protein on the work table and prepared it for kneading the dough. 2 different measured proteins were added to the flour in 2 containers and mixed to a uniform mass.

Mix the salt in water and knead the dough in 3 bowls one after the other.

The weight of the dough was monitored by weighing it using a scale.

Control 1 dough 1796 grams.

2-1-protein dough 1769 grams.

3-2-protein (secondary raw material obtained from the extraction of biologically active substances from ordinary chestnut fruit) dough 1831 grams.

Then I put the doughs in a proofing machine to cover them and rise. After 40-45 minutes, I took the doughs out of the proofing machine, punched them lightly again, and put them back in the proofing machine.

After another 40-45 minutes, I took the risen doughs out of the proofing machine and measured their weight after rising using a scale and recorded it.
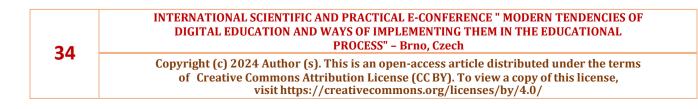
Control 1 dough 1754 grams.

2-1-protein dough 1754 grams.

The dough with 3-2-protein (secondary raw material obtained during the extraction of biologically active substances from ordinary chestnut fruit) turned out to be 1822 grams.

The doughs measured on the scale were divided into 3 equal parts and weighed again on the scale. When I divided the control dough into 3 parts, it turned out to be 590 grams. When I divided the dough with 1-protein into 3 parts, it turned out to be 584 grams. When I divided the dough with 2-protein (secondary raw material obtained during the extraction of biologically active substances from ordinary chestnut fruit) into 3 parts, it turned out to be 607 grams. The doughs measured on the scale were carefully processed by hand, and each dough was divided into 2 loaves and one round loaf. The shaped loaves were measured and recorded for height and width using a ruler.

Control 1: The loaf was 16 cm long, 10 cm wide, and 4 cm high. The round loaf was 16 cm wide and 4 cm high.

2-1: The loaf with added protein was 17 cm long, 8 cm wide, and 6 cm high. The round loaf was 15 cm wide and 4 cm high.

3-2: The loaf with added protein (a secondary raw material obtained during the extraction of biologically active substances from ordinary chestnut fruit) was 17 cm long, 8 cm wide, and 6 cm high. The round loaf was 16 cm wide and 4 cm high.

I lightly greased the loaf molds and placed the processed dough in the molds. I also placed the round loaves on the oven tray and put them in the proofing apparatus to rise. After 20 minutes in the proofer, the loaves were placed in the oven to bake at 220° C for 30-32 minutes.

After 30 minutes, the baked loaves were removed from the oven and left to cool for 1-2 hours.

a

Figure. Bread samples obtained as a result of experimental testing and their weight indicators at the time of baking

The length and width of the baked loaves were measured using a ruler.

Control 1 loaf - length 16 cm. Width 11 cm, height 8 cm.

2-1 loaf with protein - length 15 cm, width 11 cm, height 7.5 cm

3-2 loaf with protein (secondary raw material obtained from the extraction of biologically active substances from ordinary chestnut fruit) - length 15 cm, width 11 cm, height 9 cm.

After the loaves cooled, the analysis began.

Analysis 1. I determined the moisture content of the bread using a hygrometer. 5 grams of 3 different loaves were weighed and placed in the hygrometer.

Control 1 loaf had a moisture content of 34.97% - 3.252 grams.

The moisture content of bread with added protein 2-1 is 35.16%-3.242 gr.

The moisture content of bread with added protein 3-2 (a secondary raw material obtained during the extraction of biologically active substances from ordinary chestnut fruit) is 32.89%-3.352 gr.

References:

1. Hamdamova N.B. Bobaev I.D., Normatov A.M., Yusupov N.Oʻ., Isxaqova Sh.X. Kashtan m e vasining ichki poʻstidan m e lanin olish biotexnologiyasi Международной научной недели «Зелёная химия и устойчивое развитие»- Ташкент. - 2023. - С. 200.

2. Bobaev I.D., Otajonov A.Sh. Xo'jamshukurov N.A., Normatov A.M. Kashtan daraxti pektindan biot e xnologik maqsadlarda foydalanish. "Ekologiya va atrof-muhitni muhofaza qilish hamda biotexnologiyaning zamonaviy muammolari" Xalqaro ilmiy-amaliy anjuman. - Toshkent. 2022. – B. 774.

3. Исакова Ш.Х., Бобаев И.Д., Норматов А.М., Нурмухамедова В.З., Элова Н.А. Пробиотическая активность водорастворимых полисахаридов почки каштана конского обыкновенного. «Universum: химия и биология» Межд. Журн. – Москва. – 2023. - часть 2. – №. 12 (114). – С. 14-17.

4. Куркин В.А., Белов П.В. Флавоноиды почек каштана конского обыкновенного (*Aesculus hippocastanum* L.) // Химия растительного сырья. 2020. №3. С. 123–129. DOI: 10.14258/jcprm.2020036330.

5. Bobaev I.D., Iskhakova Sh.Kh., Normatov A.M., Khujamshukurov N.A. Component Composition of Essential Oil of Common Horse Chestnut Flowers (Hippocastanum) Growing in Tashkent Region. Analytical journal of education and development. Scince box. - 2021. - Vol. 01. – Issue. 06. - P. 358-365.