

Original article

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METHODS FOR INCREASING THE PRODUCTIVITY OF SPRING SOFT WHEAT IN THE CONDITIONS OF NORTHERN KAZAKHSTAN

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Abstract. The use of flexible, adaptive varieties of spring wheat smoothes out the influence of weather factors on plants, and correctly selected sowing dates partly facilitate this process. The aim of the research is to develop methods for increasing the yield of spring soft wheat by introducing varieties of the early ripening group into the agro-industrial complex of Northern Kazakhstan. The studies were carried out in 2015-2017 in the dry steppe zone of Northern Kazakhstan, in the Shortandinsky district of the Akmola region at the field plot of the Scientific and Production Center of Grain Crops named after A. I. Barayev on the southern carbonate chernozem soils of heavy loamy granulometric texture. A comparative assessment of the early ripe spring soft wheat varieties Astana and Shortandinskaya 2012 and four sowing dates (May 5, May 15, May 25, June 4) of the spring soft wheat variety Shortandinskaya 2012 is given. The results of the conducted research have determined that the yield of the Shortandinskaya 2012 variety is 26% higher than that of the Astana standard variety. In years with high temperatures and low rainfall, the difference in yield increases to 47%. To improve the varietal agricultural technology of Shortandinskaya 2012 wheat under local conditions, the sowing dates were studied. The maximum productivity (yield – 21.0 c/ha, raw gluten – 28.6%) of marketable grain is formed when sown on May 25. To obtain seed material with high quality indicators, sowing on May 15 will be the most effective, when the quality indicators increase, but the yield decreases.

Key words: spring wheat; variety; sowing dates; yield; grain quality.

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DECORATIVE SPICE MIXTURES IN THE PRODUCTION OF SEMI-SMOKED SAUSAGES

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Abstract. In order to maintain consumer demand under the conditions of fierce competition, commodity producers resort to adjusting recipes by means of additional ingredients such as spices and condiments. In this regard, the aim of the research was to study the possibility of using a decorative mixture in the production technology of semi-smoked sausage products of category B “Tallinskaya”. The research objectives included: to develop a decorative mixture based on spices and dried vegetables; to create a model sample of a sausage product of category B “Tallinskaya” with the decorative mixture; to determine the organoleptic, physical and chemical characteristics of the finished product. Two model samples were created in the experiment: a control sample and an experimental one. The control sample was produced according to GOST 31785-2012. Spices were not added to the minced meat of the prototype, but a decorative mixture was used, which was applied to the surface of the product, adhering with aspic (gelatin). The average score according to the results of the tasting in the control sample was 4.4, in the experimental sample 4.9. The taste of the control sample was slightly spicy, moderately salty, with a pronounced flavor of smoked meat, spices and garlic. The taste of the prototype was sharp, moderately salty, with a pronounced flavor of smoking, spices and dry vegetables that are part of the decorative mixture. The physical and chemical parameters of the model samples were within the standard limits. The mass fraction of moisture was 41 % and 40 %, and the mass fraction of sodium chloride – 2.9 % and 2.8 %. Thus, the conducted research has proved the feasibility of using such technological solutions.

Key words: a mixture of spices; semi-smoked sausages; organoleptic properties; mass fraction of moisture; mass fraction of sodium chloride.

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DEPENDENCE OF LIFETIME MILK PRODUCTIVITY OF COWS ON THEIR LINES

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Abstract. The selection and breeding work aimed at improving dairy cattle has raised the issue of the effective use of animals. The research is devoted to the study of the influence of the linear distinctive features of cows on the level of milk productivity, and the usage duration of animals as a means of production in dairy cattle breeding. The studies established that the highest milk productivity was in the cows of Zabavniy 1142 line, which was 5975.8 kg. The difference between cows of other lines in terms of 305 days of lactation was from 0.02 to 3.39 %. The milk yield for the completed lactation was higher in the cows of Huxle 979317838 line, amounting to 6464.3 kg; the difference with the cows of other lines was from 75.3 to 80.1 kg. The cows bred from bulls of Huxle 979317838 line reached the highest milk yields by 6.12 lactation (they also had the highest productive longevity). At the same time the cows bred from bulls of Zabavniy 1142 and Mergel 2122 lines reached their maximum milk productivity by 4.94 and 3.92 lactation, respectively. Under intensive milk production conditions the life time was higher in the cows bred from Huxle 979317838 line and was 11.3 years, besides the lowest longevity was observed in the cows of Mergel 2122 line. The value of the duration of the economic use of cows was also reflected in the amount of products received during the life, so the cows of Huxle line exceeded the cows of Zabavniy and Mergel lines in terms of lifetime milk yield by 10765.26 and 18574.83 kg, respectively. They also produced more kilograms of milk fat during their life – 1510.75 and kilograms of milk protein – 1219.46, the difference with cows of other lines was from 28.7 to 48.4% in fat and from 28.3 to 48.2% in protein.

Key words: line; Simmental cattle; dairy productivity; productive longevity.

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