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PASTURE MODE FOR USE OF SUDAN GRASS

Abstract. The main task of fodder production in West Kazakhstan region is to provide the livestock industry with fodders stable in yield, balanced in nutritional value and low in cost. An important point is that the supply of green feed, especially during the summer depression, should not be interrupted. All these requirements are met by Sudan grass. Having high plasticity to growing conditions and unique drought resistance for fodder crops, it becomes an indispensable component of green conveyor. Sudan grass is used as grazing feed, to produce green mass and hay. A significant share of Sudan grass in feed crops is provided by its high nutritional value for farm animals. The research aim is to study the technology of Sudan grass cultivation to provide livestock with full feed. As a result of the carried out studies, the data on productivity and feed value of Sudan grass in conditions of West Kazakhstan region during cultivation in grazing mode were obtained. For the studies in 2018 and 2019 in total for 4 browsing Sudan grass provided collection of 87.06-107.44 c/ha green mass for use as feed to cattle.

Key words: sudan grass, grazing regime, green feed, browsing, yield, feed value.

Introduction. The main direction in agro-industrial complex of the Republic of Kazakhstan is animal husbandry. Increasing meat production is currently the most important task facing Kazakhstan's domestic livestock industry. In the coming years, agriculture is tasked with increasing export potential of the country through the supply of quality domestic meat [1,2,3,4]. In order to achieve these objectives, it is important to provide livestock production with high-quality fodder raw materials. Among many feed crops, Sudan grass deserves special attention [5].

Sudan grass is a universal feed culture, as it is used on green feed, hay, silage, and as a grazing plant. It is characterized by high exuberance, good mobile education capacity, abundant artisanal growth and rapid growth. The hay of Sudan grass is relatively rich in protein, which is the most valuable part of feed, and in this regard ranks first among all cereal one-year-old herbs cultivated in the North Caucasus, second only to legume crops. The hay of Sudan grass is also superior in quality to hay of perennial cereal meadow herbs. It is rich in mineral salts, especially phosphorus and calcium salts. The hay contains some, though insignificant, amount of carotene, which is provitamine A, which is of great importance for normal growth and development of animal body. In terms of amount of digested protein, the hay of Sudan grass stands above that of sorghum, mogar, and steppe herbs and is inferior only to the lucerne hay and vicoos mixture. The transportability of basic nutrients is quite high [6]. Sudan grass is of exceptional importance as grazing feed. Sudan grass gives fresh green food during any period of vegetation, even in July, August and early September, is characterized by high exuberance, good bathing capacity, abundant tilling capacity and rapid growth [7, 8]. Sudan grass is among the late grazing. To start pastries on Sudan grass is recommended when the plant is sufficiently rooted. It is not recommended to graze cattle on Sudan grass for a long time without changing the feed. Much less life-threatening cyanide compounds are formed in Sudan grass, compared to sorghum and Sorghum halepense. The formation of this acid is most common in Sudan grass which has been damaged by drought or any other adverse climatic conditions. The amount of cyanide acid is the largest in young plants [9].

Sudan grass is better than others to withstand grazing. According to Chkalovsky Institute of Meat and Milk Cattle Breeding. the amount of plants pulled out by cattle was at grazing on the pasture of Sudan grass in the phase of cutting 1%, and in the phase of complete stem elongation 0.3%. At the same time, in pastures. the number of plants pulled out by cattle increased by 13-16%. respectively. and in corn pasture to 29.4-43.25% of total herbal area. Sudan grass is also distinguished by the fact that it is better than other one-year-old fodder herbs carry trampling, which significantly increases the value of pasture. After the regrowth of Sudan grass, the growth of its seedlings comes from shoots of three types: developing from underground stem nodes. forming from underground stem nodes and growing from cut shoots, which have maintained a growth point. This bathing ability provides multiple mowings of Sudan grass during the year [10].

Sudan grass as a green feed can be used both by browsing by cattle to the root and by mowing green mass to the feed to animals in the stall. The latter method makes it possible to consume fodder mass more economically and to prevent crops from being pulled out by cattle. For grazing or green feed, Sudan grass begins to be used from the time its stem elongation, when plants grow at 30-40 cm height and take root [11].

The vegetative renewal capacity of Sudan grass after mowing is of great importance in increasing its productivity and lengthening its useful life, as well as in ensuring uniform feeding at different periods of vegetation. The timing of Sudan grass mowing depends on its emptiness, the magnitude of total crop, its distribution by bites and quality of feed [12].

M.G. Muslimov's study of the optimal timing of Sudan grass mowing for green mass showed that the best results on the yield of green mass and the yield of gross energy are provided by cleaning at the beginning of ear formation. A number of researchers have expressed themselves in favor of mowing use in the phase of ear formation beginning, considering the dynamics of accumulation of absolutely dry matter, leaf surface, sugar and other nutrients. When cleaning during this period the largest harvest was received in total for two mowings [13].

Other times (the end of stem elongation and full ear formation) were somewhat inferior to it, but if manufactured they can also be used [13, 14].

It is recommended that Sudan grass be mown for green feed from stem elongation to ear formation. Mowing during this period positively affects the intensity of forthputting and provides obtaining the maximum number of mowing, significantly increases the excretion and quality of fodder due to increase of nutrient content, subtlety and increase of leaf formation [15,16,17].

Research methods. The research is carried out on the experimental field of Zhangir Khan West Kazakhstan Agricultural and Technical University. (Republic of Kazakhstan, Uralsk).

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According to morphological characteristics of profile genetic horizons and agrochemical indicators of arable layer, soil of the test area is characteristic for dry steppe zone of West Kazakhstan. The area of divisions is 50 m2, the repetition is three-fold, and the location of the divisions is random. Agricultural machinery of Sudan grass cultivation is accepted for 1 zone of West Kazakhstan region. Brodskaya 2 zoned sort of Sudan grass grass was used in the experiment. Agricultural machinery of Sudanese grass cultivation accepted for West Kazakhstan region. Nitrogen (ammonium nitrate) and phosphorus (double superphosphate) fertilizers are added to the soil in recommended doses for West Kazakhstan region.

During field tests, accounting, observation of the beginning of phenological phases and growth of Sudan grass were carried out according to generally accepted methods [18]. Photosynthetic activity of Sudan grass crops was studied according to the generally accepted method [19]. Harvesting and registration of crops is performed by continuous method.

When using Sudan grass in grazing mode, the first browsing of plant formations was carried out by simulating in the interval of phases tillering - stem elongation. In the future, repeated browsing of plant formations of Sudan grass was carried out as the grazing vegeative mass grew to a height of 40-50 cm.

Based on the results of chemical analysis of green mass of Sudan grass, bioenergetic evaluation of the studied methods was carried out according to the accepted method [20]. Statistical processing of the study