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Seasonal Features of Route of Chukotsky Deer in the Turvaugin Nomadic Community

Tarabukin PA, Machakhtyrova VA*, Vladimirov LN, Machakhtyrov GN, Nifontov KR and Popova NV

Federal State Budgetary Educational Establishment Yakutsk State Agricultural Academy Yakut Scientific Research Institute of Agriculture, Russia

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***Corresponding author:** Machakhtyrova VA, Federal State Budgetary Educational Establishment Yakutsk State Agricultural Academy, Yakut Scientific Research Institute of Agriculture, Russia

Annotation

Nizhnekolymsky district is one of the largest and leading areas in reindeer herding, occupying the second place in the number of reindeer population in the RS (Y) with a population of 12.2% of the total number of reindeer in the region. A distinctive feature of reindeer herding in this area is the fact that out of all the reindeer herding areas of Yakutia, only here the aboriginal Chukchi breed - Khargin is bred, which belongs to the tundra deer. Therefore, reindeer herding in this area has a certain specificity of use for the annual cyclical nature of reindeer grazing, the vast territory of the region from the forest-tundra zone to the seacoast.

At the same time, the reindeer herders of the region make up a grazing route in advance, considering the degree of availability of pastures in different seasons of the year. These figures vary annually within certain limits depending on the climatic conditions of a particular year. In addition, the climatic factors of the region are considered when drawing up routes. Thus, the average annual temperature in the Nizhnekolymsky district for the 5 years under consideration from 2013 to 2017 was -7.6 °C, with an absolute maximum of +30.2 °C and an absolute minimum of -43.8 °C. The number of days with frost averaged 245 days. The steady snow cover was established at the end of September - from the 25th to the 30th and went down on June 10-15, in 2017 the last snow came down on June 30. Thanks to the rational and careful use of natural land of the Agricultural Production Cooperative of the Turvaurgin nomadic tribal community (APC NCC Turvaurgin) of Nizhnekolymsky District of the Sakha Republic (Yakutia) unique Chukchi deer breed is preserved.

Keywords: Nomadic tribal community; Deer; Chukchi breed; Route

Introduction

Reindeer breeding is the main branch in the traditional economy of the peoples of the North, including the indigenous peoples of the Sakha Republic (Yakutia). The experience of domesticated reindeer breeding is deeply rooted in the ethno-cultural traditions and lifestyle of northern small peoples [1]. In addition, the technology itself of domestic reindeer husbandry, including the breeding of aboriginal breeds of deer and dogs, together with other industries, is a unique way to rational nature management and the development of vast northern and arctic territories unsuitable for other types of farm animals.

Of the four breeds of reindeer in the farms of the Republic of Sakha (Yakutia), Even, Evenk and Chukchi breeds (Khargin) are bred. The main breed of deer in this region is the Even and Evenki breeds, occupying respectively 63% and 24% of the total deer population of the republic. However, these breeds refer more to breeding in the mountain taiga zone [2]. The Chukchi breed - Khargin belongs to the tundra reindeer, respectively, they are grazed on the larger territories of the tundra zone of the Nizhnekolymsky district, most of which belong to the coastal zone of the East Siberian Sea. On the territory of the Russian Federation, this breed is bred in the Chukotka and Koryak Autonomous Districts, as well as in Nizhnekolymsky district of Yakutia. At various times, the Khargins were brought to Anabarsky, Ust-Yansky, Srednekolymsky and Bulunsky districts of the republic for the purpose of their further breeding, however, the breed did not find their wide distribution for several objective reasons. One of the main ones is the adaptation of the Khargin to the vegetation of the tundra and forest-tundra zones.

In this regard, the technology of breeding tundra deer has certain features, closely intertwined with the culture and special way of life of the local nomadic tribal communities of Nizhnekolymsky district, and also depends on climatic factors and forage reserves [3], from deposits and mining of natural resources, from environmental impacts [4]. The aim of the study

of the characteristics of route grazing of Chukchi deer depending on the seasons of the year in the Turvaurgin agricultural production cooperative of the nomadic tribal community of the Nizhnekolymsky district (Agricultural production cooperative of nomadic clan community, APC NCC). The materials for research and analysis served as statistical, archival data, the results of the assessment, collected undergraduate during practical training in Nizhnekolymsky district in 2017-2018. Meteoclimatic indicators are taken according to Chersky station from the yearbooks of the Department of Hydrometeorology and Environmental Monitoring from 2013 to 2017 [5]. Animals were measured and weighed using generally accepted zoo technical methods, and statistical processing was carried out using methods of variation statistics.

The Republic of Sakha (Yakutia) is the third largest region of the Russian Federation in terms of the number of livestock of domestic reindeer, with 154.6 thousand heads in 2017, after the Yamalo-Nenets and Chukotka Autonomous Districts. In Yakutia, the main leading areas for reindeer herding are Ust-Yansky (14.5% of the total deer population of the republic), Nizhnekolymsky (12.7%), Eveno-Bytantaysky (10.0%), Anabarsky (9.8%), Bulunsky (7.9%) and Momsky (6.9%) districts [6]. In the Nizhnekolymsky district, 5 tribal communities are mainly engaged in reindeer herding, consisting mainly of hereditary reindeer herders, transferring their knowledge and skills on the technology of breeding tundra deer from generation to generation. The leading farm in the region is an agricultural production cooperative, the nomadic clan community "Turvaurgin", in which the main herd of reindeer of the region is bred - more than 13 thousand heads, which is 66% of the total reindeer herd(http://sakha.gks.ru/wps/wcm /connect /rosstat_ts /sakha /ru /statistics). In the agricultural production cooperative, the nomadic clan community of the indigenous peoples of the north "Olerinsky" breeds about 5 thousand heads or 24.5% (Figure 1).

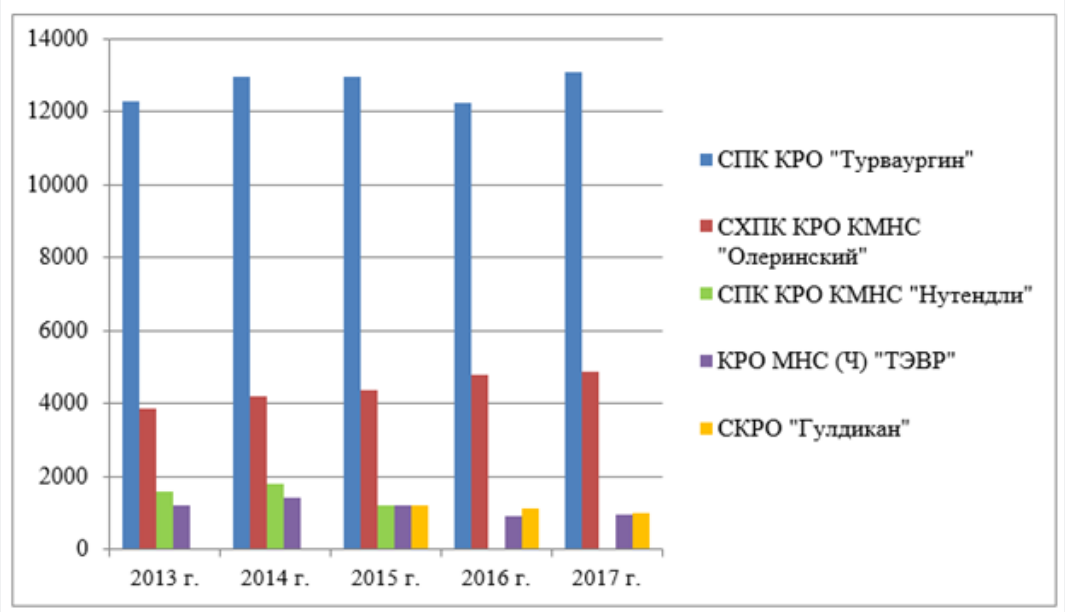

Figure 1: Dynamics of the number of deer in the nomadic tribal communities of the Nizhnekolymsky district, goal.

In three communities - in the Nutendli agricultural production cooperative the nomadic clan community of the indigenous peoples of the north in the Tevr nomadic clan community of the indigenous minorities of the north (Chukchi) and in the Guldikan agricultural nomadic clan community only about 10% of the reindeer in the region is contained. In addition to the deer-breeding tribal communities, in the Nizhnekolymsky district there are 3 agricultural production cooperatives of the small-numbered indigenous peoples of the north-Nizhnekolymsky, Pokhodsky, Pensioner- are engaged in other folk crafts and economic activities, mainly catching aquatic biological resources. Also, there are 32 farms registered that are engaged in other agricultural areas, in particular the breeding of chickens and other animal species. On the territory of the Nizhnekolymsky district there are 138 personal subsidiary farms (PSF). For grazing herds of deer, working teams are formed, which monitor herds round the clock. The number of workers in one reindeer herding brigade is 7 reindeer herders, including 1 reindeer breeder, 1 - zoo specialists, 5 - herdsmen reindeer breeders, and 1- house worker. In the Turvaurgin APC NCC there are 6 reindeer-breeding brigades, on average, one brigade has a herd of 2180 heads of deer. In the Olerinsky APC NCC of small-numbered indigenous communities - 3 reindeer-breeding brigades with an average herd size of 1630 goals, and in the three other communities have one brigade.

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Due to the continuity of generations of reindeer herders, the difficulties and challenged of breeding deer in the coastal and forest-tundra zones of the territory of the region are solved by applying the same technologies, knowledge and skills that have been used for centuries. It should be noted that the technology of grazing tundra deer, to which the Chukchi breed (Khargin) belongs, has its own distinctive features and belongs to the category of regulated grazing along the routes of winter and summer pastures prepared in advance. This technology is best adapted to the fragile and vulnerable nature of the tundra zone and does not allow the degradation of forage lands by carefully constructing the grazing route of numerous herds of deer, precluding the grazing of forage plants on pastures. The total land area of the Nizhnekolymsky district is 8,711.7 thousand hectares, including municipalities: Chersky settlement- 9.2 thousand hectares, Pokhodsky settlement- 2162.4 thousand hectares, Khalarchinsky nasleg , which includes the APC NCC Turvaurgin occupies 3001.9 thousand hectares, Olerinsky suktul settlement- 3 538, 2 thousand hectares. Lichen tundra and to some extent shrubs are widespread in the Nizhnekolymsky district. Lichen tundra predominate over moss, lowland marshes prevail. The East Siberian tundras, located near the Kolyma River, are characterized by the development of swamps and tuscan tundras. The pastures of the area are divided into open with tundra vegetation, which are represented by lichen, moss, shrub tundra and some peat bogs, as well as forested pastures, which in the western regions are represented by spruce forests and birch forests. The farms of the region divide pastures into certain territories, depending on the number of their northern domestic reindeer, in order to pasture with the expectation of approaching the same area for a period of 4-5 years, as the vegetation recovers for good deer feeding. For many generations of reindeer herders, both summer and winter reindeer grazing routes in the region are planned and lined up in such a way that the same herd route runs only strictly for 4-5 years. Then there is a change of route along a different trajectory, which makes it possible to save the used pastures by reducing the load of reindeer grazing and the possibility of involving new pastures. This scheme allows proper distribution of natural lands for their more rational use and provision of "rest" for restoration of forage moss in the tribal community. At the same time, the pasture change along the route with the migrations of the pastures takes place depending on the number of reindeer herds, the state of the pasture on average is every 3-4 days. Such careful use of natural pastures allows preserving the reindeer capacity of pastures, reducing overloading and relatively quick recovery in a relatively short period during the "rest" for several years (Figure 2).

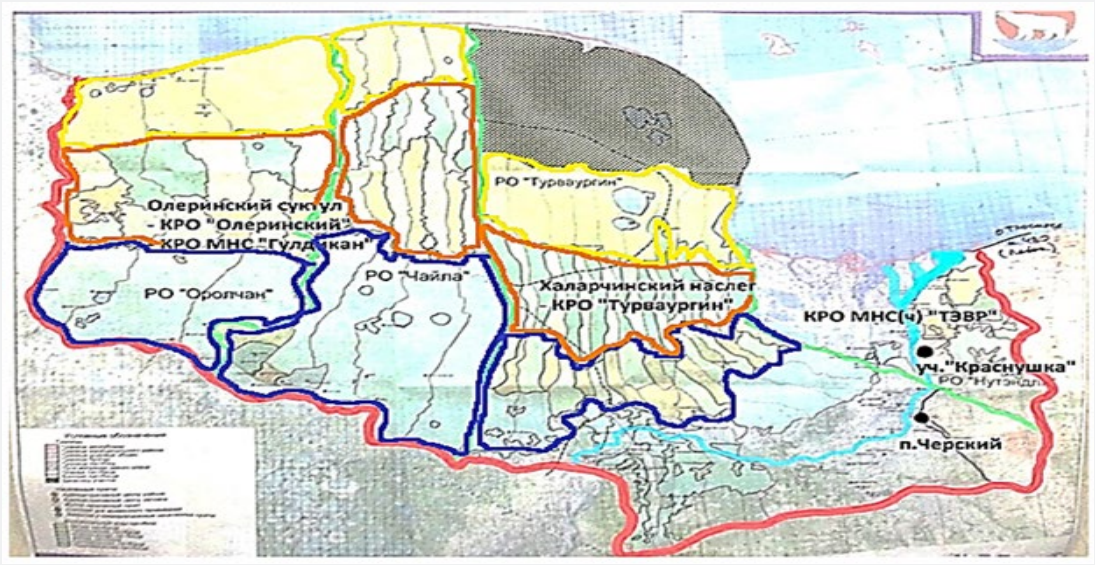

Figure 2: The route map of herds of reindeer from clan communities of Nizhnekolymsky district: blue pastures are marked with winter pastures (forest tundra zone), orange - spring and early summer, with yellow - summer pastures, shaded - reserve pastures on restoration.

With the increase in the number of northern domestic deer in the ulus, a certain grazing organization is used. There are seasonal migrations of domestic reindeer of the Chukchi breed, which have been developed over the centuries. Thus, summer, transitional and winter habitats of tundra reindeer (Kharginov) in the Nizhnekolymsky region were formed. In the spring (from April 20-25 to June 15-20) and in the first half of summer (from June 15–20 to July 5–10) domestic reindeer are grazed near the forest of the Arctic tundra, as this is facilitated by favorable warm weather during this period, necessary development and preservation of newborn calves. Then, closer to the middle of summer (from 10–15 July), when the mass of various blood-sucking insects begins,

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the herds migrate closer to the seacoast. Windy weather prevails here, providing reindeer with relatively calm herding without insects, which improves the work of reindeer herders until the end of summer (August 20-25). In the first half of the autumn period (from 25–30 August to 15–20 September) with a gradual decrease in plant nutrition, amid changes in forage diversity, in the tundra, deer is distilled into autumn pastures located in the southern side of the tundra, where tundra forests grow, with developed grass and shrub vegetation, where herds graze until the end of the autumn period (until October). In winter, reindeer herds with an increase in snow cover up to 74 cm on average are distilled to winter forest-tundra pastures, which in turn harbor deer from strong snowstorms, often observed in open areas of the tundra. Ensuring deer herding in natural areas with a good level of feeding undoubtedly affects the general condition of the deer. One of the main problems in tundra reindeer husbandry is the indicator of unproductive waste of reideer, which in recent years has increased in the region to 15%. These are losses, mainly due to grass and reindeer losses.We compared the data of reindeer measurements based on the results of the appraisal carried out in the Turvaurgin nomadic clan community in Nizhnekolymsky district in 2017 with the figures of the Nizhnekolymsky state farm in 1982 (Table 1).

Table 1: Data of measurements of fertile male and female reindeer of Nizhnekolymsky district of 1982 and 2017, cm.

No	Measurements	1982*		2017**	
		Male	Female	Male	Female
1	Live weight, kg	115,7	87,0	119,8±0,42	89,8±0,51
3	Height at withers	107,0	100	107,3±0,3	104,7±0,50
4	The length of the trunk	114,5	108	114,1±0,55	107,5±0,81
5	Breast width behind the shoulder blades	27,2	23,6	32,9±0,87	30,8±0,87
6	Chest depth	46,4	40,3	47,3±0,30	45,9±0,28
7	Chest for shoulder blades	129,0	120	133,6±0,95	124,2±0,30
8	Pastern Girth	13,4	10,8	14,4±0,50	11,9±0,27

* - according to AD Kurilyuk [7].

** - according to the production practice of 2017 in the APC NCC Turvaurgin

The Chukchi reindeer has a specialization in meat productivity; therefore, the animals are characterized by meat body type, reindeer are low, but have a strong and rounded knit body. For the Chukchi breed, such properties as early maturity, a high degree of feeding and baiting in the summer-autumn period are also inherent [7]. Live weight of deer is the most important indicator of the economic qualities of deer [8]. According to the results of appraisal in 2017, the live weight of male reindeer-producers is 4.1 kg (3.5%), and for females it is 2.8 kg (3.2%) more than in 1982. Indicators of measurements of deer in the years under consideration are also somewhat different. So, if the bulls practically do not differ in height at the withers, in 2017, the female in the year were 4.7cm (4.7%) higher than their 1982 peers. It should be noted that a significant difference was noted mainly in the development of the chest of animals. So, males became more wide-bodied - by 5.7cm (20%), important ones - by 7.2cm (27%). The relative width of the breast behind the shoulder blades affected the indicators of chest girth - respectively, in males more by 4.6cm (3.5%), in important babies - by 4.2cm (3.5%) than in 1982. In general, animals of the Chukchi breed are notable for their short stature and relatively low live weight relative to Even and Evenki breeds, but they are distinguished by well-developed wide-body and rather high slaughter rate in adult deer - 53-55% Consequently, for 35 years of breeding deer of the Chukchi breed, the Turvaurgin nomadic clan communityof the Nizhnekolymsky district have seen thatin terms of the main indicators of the exterior and live weight exceeded the data of deer of the same breed of 1982, which indicates good quality of the deer content. It should be noted that on the territory of the Turvaurgin nomadic tribal community for the entire 35 years or more, the same pastures are alternately used during seasonal transitions along the reindeer herding route.

Remarkable is the fact that despite the scientific and technical development of the modern world, the northern people are still actively using the fact that their ancestors used it for many centuries, while almost unchanged. Currently, nomadic community reindeer herders, like most reindeer herders of other regions of the republic, live in yarangs (dwelling) of poles and deer skins, each family has yarangas in the winter and summer versions. When crossing the herding of reindeer herds, yarangs are indispensable, as they have a light weight and a collapsible-prefabricated structure that all members of the community can cope with, regardless of age or gender. After all, it is very important to construct yaranga in a very short period, especially in winter. As winter clothing and footwear, only traditional national clothing is used, made entirely from reindeer skins. Such clothes are indispensable in the harsh conditions of the northern tundra winter, which saves the reindeer breeder or hunter from hypothermia, even with the strongest snowstorms. The feeding habits of the northern nations also differ from other

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representatives of other peoples in that the main products of daily consumption are venison, its processed products and fish prepared in different ways. From plant foods can be found wild berries, mushrooms and various herbs. Thus, in the conditions of the intensively developing modern world, the northern tundra reindeer breeding is one of the most important life-supporting factors of the lifestyle of the indigenous minorities of the North. This is indicated by the state and prospects of development of the reindeer farming agricultural production cooperative of the nomadic clan community Turvaurgin of the Nizhnekolymsky district, which has its own specifics of the maintenance of the Chukchi breed of deer, thanks to the rational use of the fragile nature of the northern and arctic territories, which allows them not only to develop, but also to preserve the heritage for future generations unchanged.

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