

ЗООТЕХНИЯ

ФАКТОРЫ ПРОСТРАНСТВЕННОЙ БЛИЗОСТИ И ОЦЕНКА ИХ ВЛИЯНИЯ НА МОЛОЧНУЮ ПРОДУКТИВНОСТЬ КОРОВ

Г. Ф. МЕДВЕДЕВ, К. М. ЕМЕЛЬЯНОВА

18.06.2025)

Ключевые слова:

Based on our developed method for identifying factors determining proximity (social interaction) in dairy cattle, the frequency of spontaneous formation of small groups of cows, their stability depending on the factor, and the impact of proximity on milk productivity were determined during milking periods on the Karusel, Yolochka, and Parallel milking parlors. The presence or absence of spatial proximity in cows was recorded during each milking. After 13 were identified using the following factors: animal age; close parturition period (within 28 days); close insemination dates (within 25 days); total 2) milkings and the degree of correlation between this indicator and the closeness factor. The influence of closeness on milk productivity was determined by the amount of one-time milk yields before group formation, during the period of closeness and after its cessation. It was found that the above characteristics of the last three factors complement the essence of the other two factors ("degree of completion of postpartum uterine involution" and "functional and morphological state of the gonads"), revealed during clinical examination of animals. During the analysis of social interaction between cows, groups of cows were identified that constituted 47.0; 61.2; 26.1 and 52.1 % of the total number of animals in the herd. Of all the groups, 90.9 97.9 % were pairs, 2.1 8.7 % were "triangles", and groups of 4 6 cows constituted about 1 %. Using each of the three factors, the number of identified groups ranged from 1.5 % to 11.6 % of the herd. The stability of closeness was most pronounced due to close insemination and calving times. Average single-milk yields of cows in groups formed under the influence of these factors during closeness were variably higher (70%), almost the same (20 %), or lower (10 %) compared to their milk yields before group formation. After the end of closeness, milk yields decreased in 66.6 % of cases, remained approximately the same in 11.1 %, and increased in 22.2 %.

Key words: cow, age, reproductive status, closeness, group, milk productivity.

Введение

[2].

I. Hansson at al

c

49-

,

[7].

Основная часть

1

(47,0

25

Число и величина выделенных групп близости коров в различных стадах при доении на различных доильных установках

	n, %)		n, %)			
			n = 3	n = 4	n = 5	n = 6
1	264 (100)	240 (90,9)	23 (8,7)	1 (0,4)		
2	376 (100)	345 (91,7)	26 (6,9)	3 (0,8)	1 (0,26)	1 (0,26)
	95 (100)	93 (97,9)	2 (2,1)			
	493 (100)	455 (92,3)	35 (7,1)	3 (0,6)		

6

2)

,2 %)

R= -

()).

Величина и устойчивость групп близости коров в различных стадах

					R)			
					1	2		
					1	2	364	946
					561	614	364	946
					264	376	95	493
					2 10	2 10	2 7	2 7
					-0,03	-0,03	-0,03	-0,03
Различие:								
0,5 4	(213/251/71/)*	2 10	2 10	2 6	-0,03	-0,08	0,12	
0,5 10	(232/270/77/)*	2 9	2 10	2 6	-0,02	-0,09	0,28'	
1 21	(21/35/10/12)*	2 9	2 8	2 4	2 5	0,20	0,08	0,32'
1 28	(27/39/13/14)*	2 9	2 8	2 5	2 5	0,09	0,08	-0,08
0 7	(26/15/ 2/05)*	2 6	2 7	2 3	3 5	-0,25'	-0,23	-0,20
0 12	(34/31/ 4/11)*	2 6	2 7	2 3	3 5	-0,30'	0,13	-0,63"
0 17	(41/44/ 6/13)*	2 6	2 7	2 3	3 5	-0,12	0,16	-0,14
0 25	(65/53/11/15)*	2 9	2 7	2 4	3 5	-0,04	0,08	-1,00"
0 7	(24/14/02/)*	2 6	2 7	2 3		0,42'	-0,29'	
0 12	(31/29/04/)*	2 6	2 7	2 3		0,35'	0,10	0,52'
0 17	(38/41/06/)*	2 6	2 7	2 3		0,17	0,25'	0
0 25	(60/49/11/)*	2 9	2 7	2 4		0,13	0,01	-0,35'

*

1 2

7

R = 0,25).

R

0,33

2).

(II) (III) (I)

1

Величина разового удоя коров выделенных групп до установления пространственной близости, в период ее проявления и после прерывания

		(I/II/III)	I			II			III		
			n	$\bar{\pm m}$	R	n	$\bar{\pm m}$	R	n	$\bar{\pm m}$	R
Карусель («К1»), декабрь 2023 г.											
1	11	0/2/2				48		-0,30'	48		0,04
2	11	2/2/0	44		-0,26	44		0,12			
3	29	2/2/2	121		-0,28	122		-0,18	120		-0,15
Карусель («К2»), декабрь 2024 г.											
1	8	0/3/3				50		-0,28'	53		-0,14
2	8	3/3/0	48		-0,14	48		-0,09			
3	7	3/3/3	42		0,04	42		-0,31'	42		-0,04
Елочка, июль 2024 г.											
2	2	2/2/0	6		-0,18	8		0,24			
3	6	2/2/2	24		-0,18	19		0,24	22		-0,02
Параллель, февраль 2024 г.											
1	38	0/3/3				233		0,08	229		0,08
2	35	3/3/0	206		0,05	212		0,09			
3	14	3/3/3	81		-0,02	90		0,07	88		0,02
4	20	0/3/0				126		0,09			

: n

На доильной установке «К1»

r

I

II

I

I II

II

III -

I III

- -

,

(2)

-

r

-

r

I

II

r=-

10,43

I

r=-

I II

-

II III

0,26'

I III

-

На доильной установке «Елочка»

-

- -

I

-0,18

.3

II

+

I II

+0,98

II III

-

I

-0,18.

(r=0,24).

На доильной установке «Параллель» 1-

(r=0,08
R=0,08)

II

(r=0,05). II I

r=0,09).

I

Заключение

(1 2),

47,0 61,2 %,

97,9 6

70 (II)

(I) (III)

1 29

I II +0,16 , II III -0,26 -0,13

0,18; -0,1 - I III -0,28 -

1 2

1. Sebastian, O. Impact of Group Management and Transfer on Individual Sociality in Highland Cattle (*Bos taurus*) / O. Sebastian / *Frontiers in Veterinary Science*, 2019. P. 1 16.

2.

38.

3.

4. Hansson, I. Cow characteristics associated with the variation in number of contacts between dairy cows / I. Hansson, A. Silvera, K. Ren, S. Woudstra, A. Skarin, W. F. Fikse, P. P. Nielsen . *Journal of Dairy Science*, 2023. Vol. 106. P. 2685 2689.

5.

66

6.

65 69.

7. Veissier, Isabelle. *Short communication*: Early modification of the circadian organization of cow activity in relation to disease or estrus / Isabelle Veissier, Marie-Madeleine Mialon, Karen Helle Sloth. *J. Dairy Sci.*, 2017. P. 100:3969 3974. <https://doi.org/10.3168/jds.2016-11853>.